

## CHAPTER 5

### EXISTING ROAD NETWORK IN THE STUDY AREA

#### 5.1 ROAD NETWORK PATTERN AND ADMINISTRATIVE ROAD CLASSIFICATION

The following roads within the Study Area were selected for the Study and the road/bridge inventory survey was carried out:

National road	:	All national roads
Provincial road	:	All provincial roads
City road	:	Selected roads which are important in terms of road network formation
Municipal road	:	Not selected
Private road	:	Selected roads which are practically funding as public road.

Figure 5.1-1 shows administrative road classification of studied roads. Figure 5.1-2 shows the road network by hierarchy (or functional classification).

##### 5.1.1 Road Network Pattern

Due to different condition and intensity of urban development in Bacolod City and the rest of study areas, road network pattern is separately discussed for the Study Area as a whole and for Bacolod City.

###### Study Area

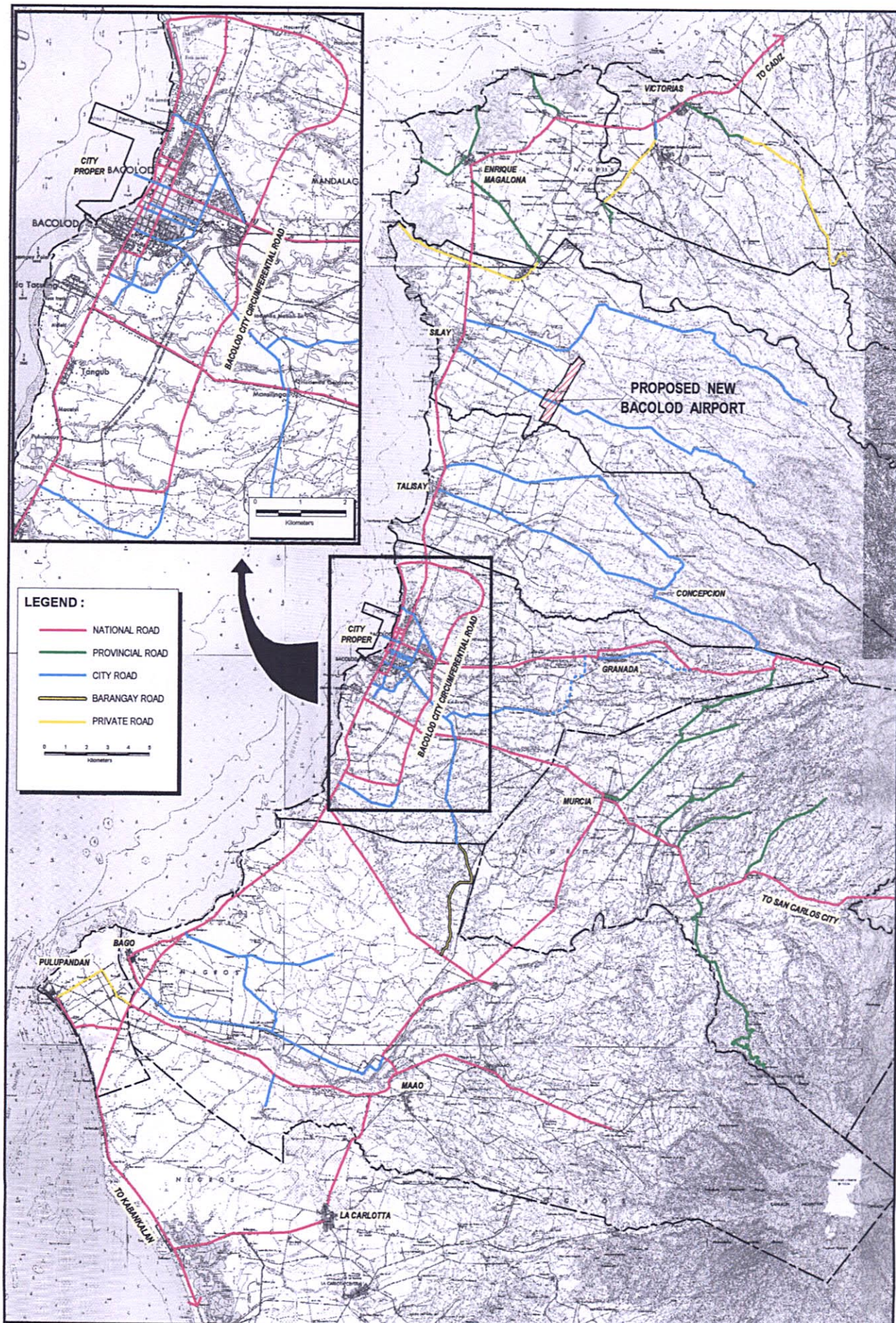
- A comb type of road network is formed. Along the coastal line, Bacolod Coastal Road (NS-1) runs in the north-south direction, which functions as a base of road network.
- Bacolod-Murcia-San Carlos Road which is the inter-city road connecting the west coast with the east coast in the Island branches off from NS-1.
- Another east-west direction roads branch off from NS-1, however, these are not connected with each other except by NS-1, therefore, all inter-city or inter-municipal traffic has to pass on NS-1.
- Road density is still very low.
- There are 5 sugar mills, 4 within the Study Area and 1 adjacent to the Study Area. Heavily loaded sugar trucks moving at slow speed travel on NS-1, thus affecting travel speed of other vehicles.

###### Inside Bacolod City Circumferential Road (BCCR)

- A mesh type road network is formed. Most of component roads of a mesh have 4-lanes.
- Roadsides have been densely built-up, thus possibility of further widening is less due to anticipated social impact.

Bacolod City identified three priority areas for urban development. Two areas are located along BCCR and the other is at outside BCCR, where a new road is required to guide the planned urbanization.





**FIGURE 5.1-1 EXISTING ROAD NETWORK BY ADMINISTRATIVE CLASSIFICATION**



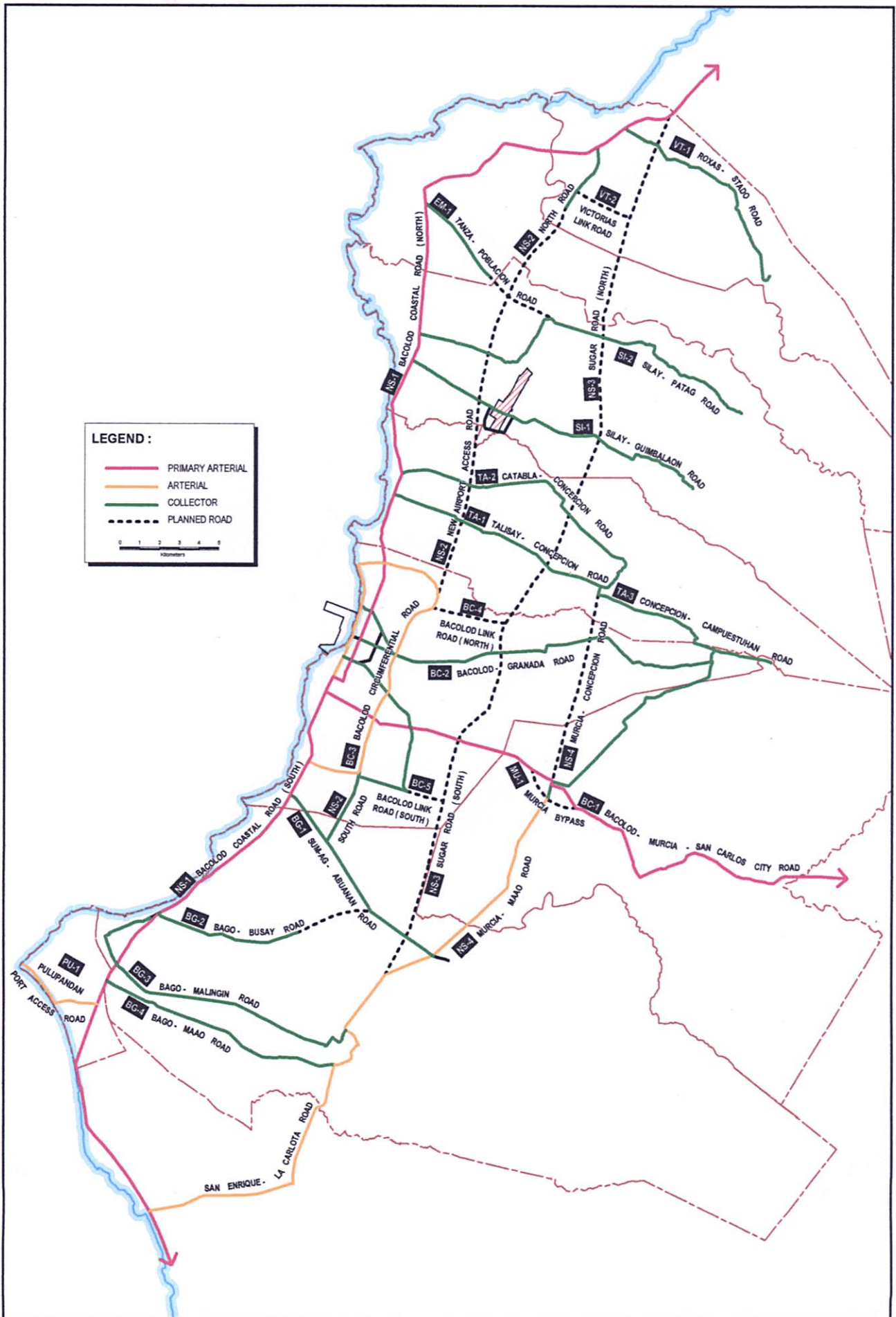


FIGURE 5.1-2 METRO BACOLOD PRESENT ROAD NETWORK BY HIERARCHY

## 5.1.2 Administrative Road Classification

Road length by administrative classification is shown in Table 5.1-1, and summarized below:

National road	:	208.50 km
Provincial road	:	43.90 km
City road	:	132.50 km
Barangay road	:	7.10 km
Private road	:	25.50 km
<b>Total</b>		<b>417.50 km</b>

**TABLE 5.1-1 ROAD LENGTH IN METRO BACOLOD**

City/Municipality	Area (km <sup>2</sup> )	Population (1,000)	Road Length by Administration(km)					Road Density (1)	Road Density (2)
			National	Provincial	City	Barangay /Private	Total		
Bacolod City	160.8	430.0	72.1	0.0	31.3	0.0	103.4	0.39	0.64
Talisay City	148.1	79.5	7.1	0.0	35.2	0.0	42.3	0.39	0.29
Silay City	214.8	107.2	7.5	0.0	36.0	3.5	47.0	0.31	0.22
Enrique Magalona	152.2	54.5	11.5	9.2	0.0	0.2	20.9	0.23	0.14
Victorias City	108.7	81.9	6.7	3.5	2.1	17.0	29.3	0.31	0.27
Murcia	306.7	59.5	29.5	31.2	0.0	0.0	60.7	0.45	0.20
Bago City	418.2	142.1	65.8	0.0	27.9	7.0	100.7	0.41	0.24
Pulupandan	21.2	25.9	8.3	0.0	0.0	4.9	13.2	0.56	0.62
<b>Total</b>	<b>1,530.7</b>	<b>980.6</b>	<b>208.5</b>	<b>43.9</b>	<b>132.5</b>	<b>32.6</b>	<b>417.5</b>	<b>0.34</b>	<b>0.27</b>

Note: Road Density (1) =  $L/\sqrt{P \times A}$  L=Road Length(km), P= Population(1000persons), A=Area(km<sup>2</sup>)

: Road Density (2) =  $L/A$  L=Road Length, A=Area

Source: Road Inventory of the JICA Study Team

## 5.2 ROAD CONDITIONS

### 5.2.1 Number of Lanes and Road Cross-Sections

Figure 5.2-1 shows number of lanes of the surveyed roads and summarized in Table 5.2-1.

**TABLE 5.2-1 NUMBER OF LANES OF SURVEYED ROADS**

Road Classification	Road Length By No. of Lanes (km)		
	4-lane	2-lane	Total
National	69.5 (33%)	139.0 (67%)	208.5 (100%)
Provincial	0 (0%)	43.9 (100%)	43.9 (100%)
City	15.8 (12%)	116.7 (88%)	132.5 (100%)
Barangay	0 (0%)	7.1 (100%)	7.1 (100%)
Private	0 (0%)	25.5 (100%)	25.6 (100%)
<b>Total</b>	<b>85.3 (20.4%)</b>	<b>332.2 (79.6%)</b>	<b>417.5 (100%)</b>

Source: JICA Study Team

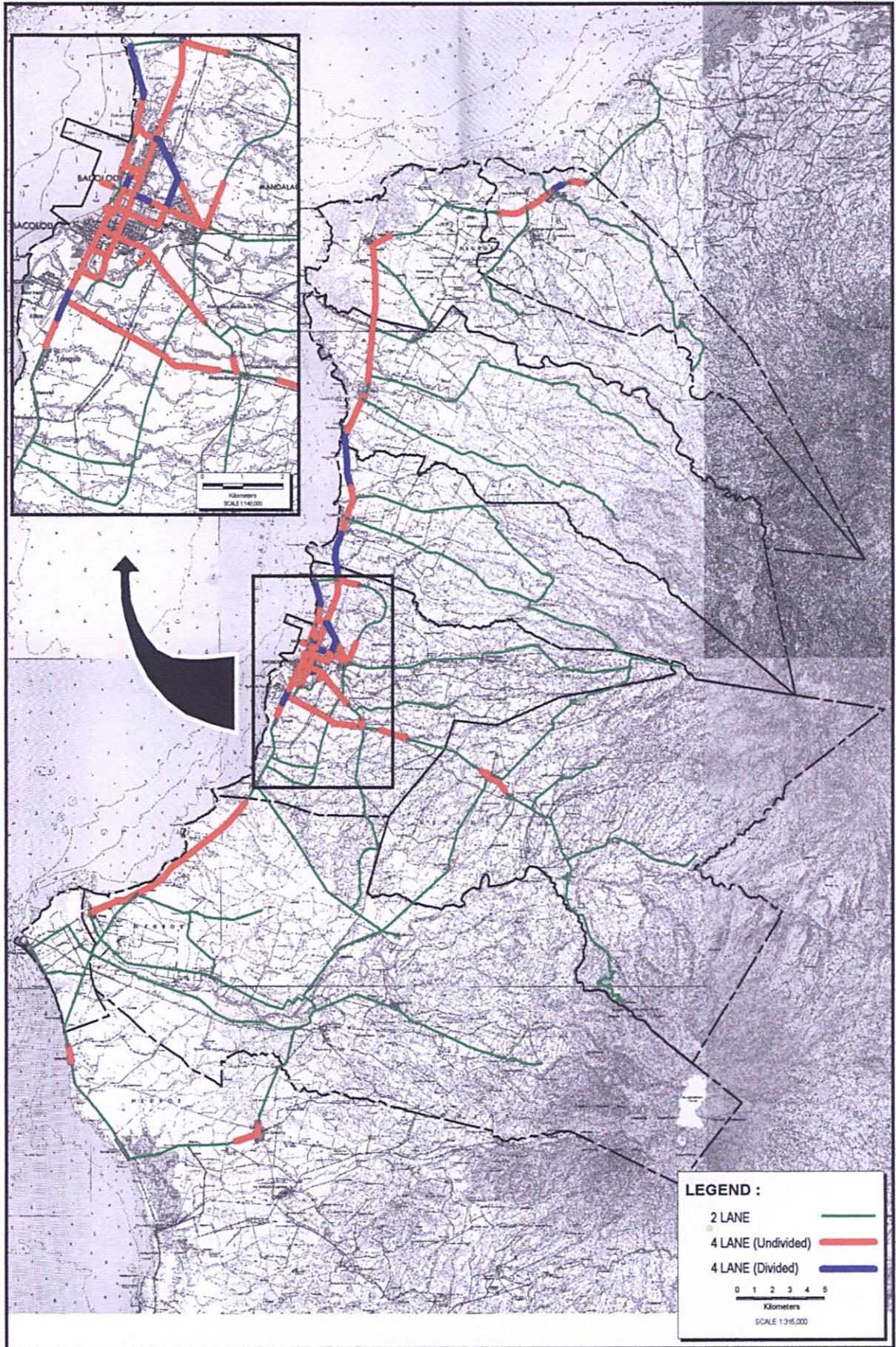
Existing road cross-sections in Bacolod City Proper area and its adjacent areas are shown in Figure 5.2-2.

Road cross-sections of major roads outside Bacolod City Proper area are presented in Appendix 5.2-1.

### 5.2.2 Pavement Conditions

Pavement conditions of Metro Bacolod is depicted in Figure 5.2-3, and by City/Municipality and by administrative road classification are shown in Table 5.2-2 and 5.2-3, respectively. Roads in Bacolod City have been mostly paved. National roads in the Study Area have high pavement ratio at 98%.





**FIGURE 5.2-1 NUMBER OF LANES IN METRO BACOLOD**



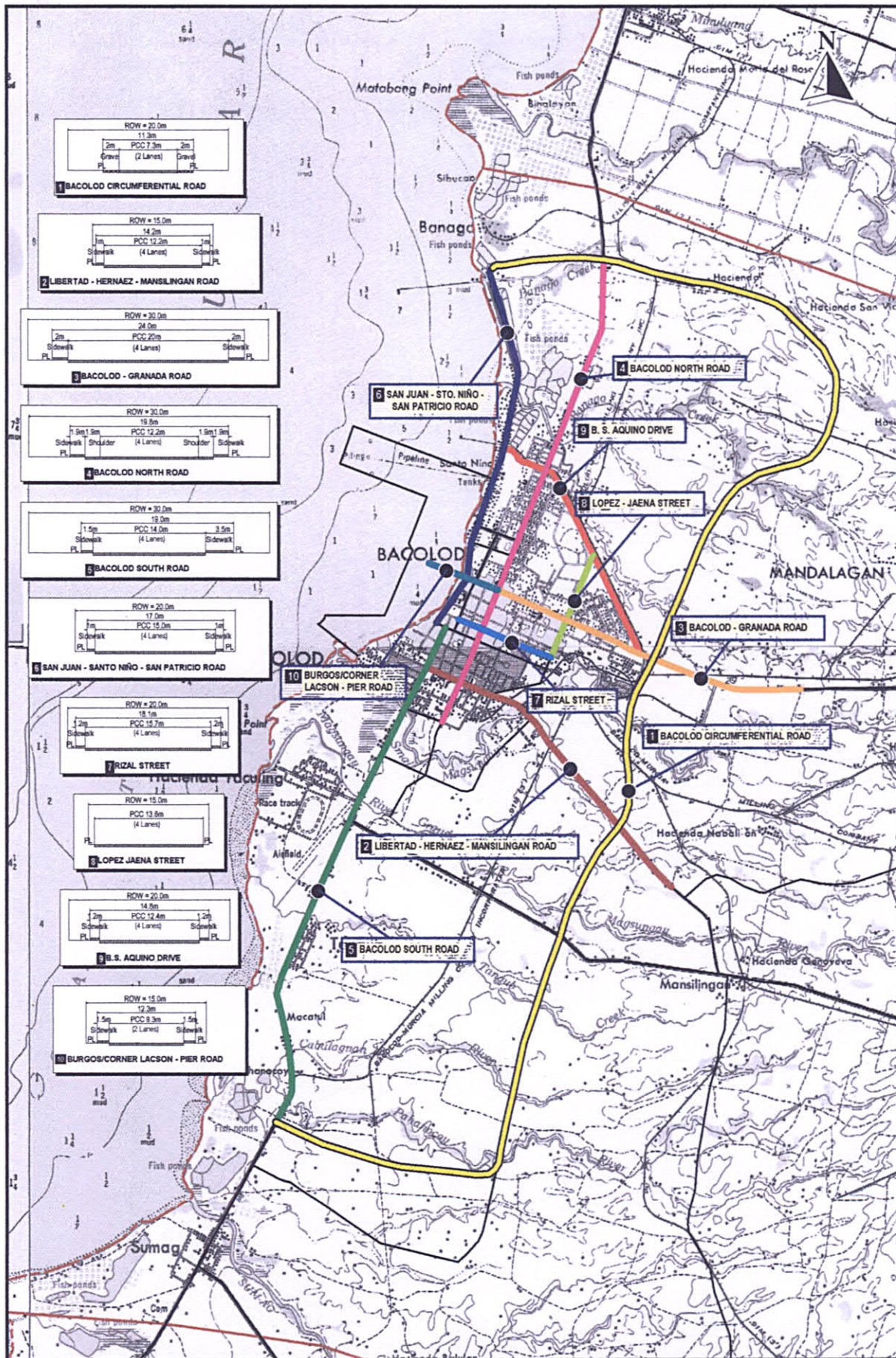
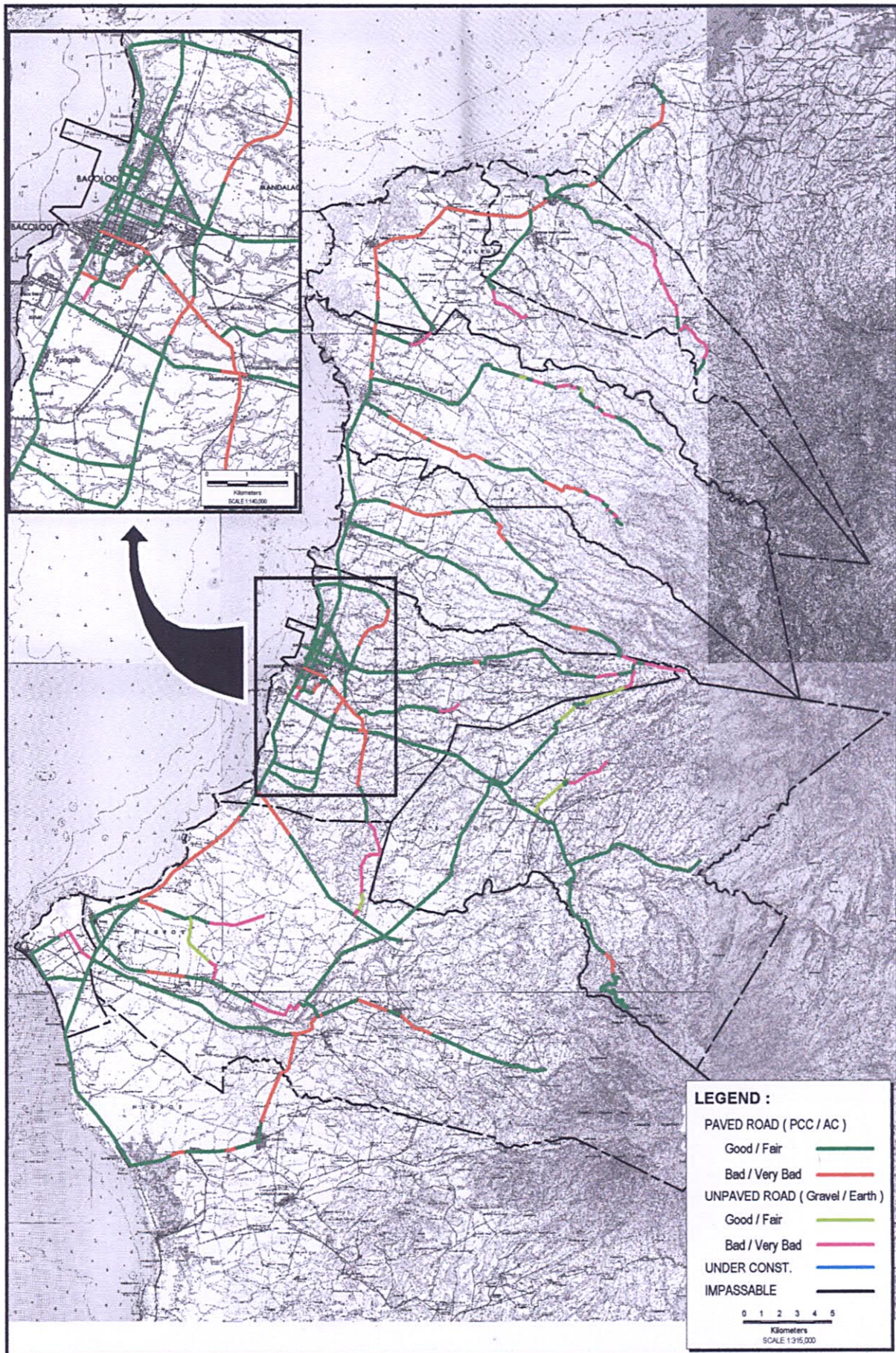


FIGURE 5.2-2 TYPICAL CROSS SECTIONS OF EXISTING ROADS IN URBAN AREA (BACOLED CITY)





**FIGURE 5.2-3 PAVEMENT CONDITION IN METRO BACOLOD**



**TABLE 5.2-2 PAVEMENT CONDITIONS BY CITY/MUNICIPALITY**

City/Municipality	Pavement Condition (km)						Total	Pavement Ratio
	Paved		Unpaved		Under Construction	Impassable		
	Good/Fair	Bad/V.Bad	Good/Fair	Bad/V.Bad				
Bacolod City	81.5 (79%)	16.2 (16%)	0.0 (0%)	5.6 (5%)	0.0 (0%)	0.0 (0%)	103.3 (100%)	95%
Talisay City	35.1 (83%)	6.1 (14%)	0.0 (0%)	1.2 (3%)	0.0 (0%)	0.0 (0%)	42.4 (100%)	97%
Silay City	29.8 (63%)	11.1 (24%)	0.8 (2%)	5.3 (11%)	0.0 (0%)	0.0 (0%)	47 (100%)	87%
E. Magalona (M)	7.4 (35%)	10.3 (49%)	0.0 (0%)	3.2 (15%)	0.0 (0%)	0.0 (0%)	20.9 (100%)	85%
Victorias (M)	16.8 (57%)	3.9 (13%)	0.0 (0%)	8.6 (29%)	0.0 (0%)	0.0 (0%)	29.3 (100%)	71%
Murcia (M)	48.5 (80%)	1.3 (2%)	6.4 (11%)	4.5 (7%)	0.0 (0%)	0.0 (0%)	60.7 (100%)	82%
Bago City	60.2 (60%)	22.2 (22%)	4.9 (5%)	13.4 (13%)	0.0 (0%)	0.0 (0%)	100.7 (100%)	82%
Pulupandan (M)	10.2 (78%)	0.0 (0%)	0.0 (0%)	2.9 (22%)	0.0 (0%)	0.0 (0%)	13.1 (100%)	78%
<b>Total</b>	<b>289.6 (69%)</b>	<b>71.1 (17%)</b>	<b>12.1 (3%)</b>	<b>44.7 (11%)</b>	<b>0.0 (0%)</b>	<b>0.0 (0%)</b>	<b>417.5 (100%)</b>	<b>86%</b>

Source: Road Inventory of the Study by the JICA Study Team

**TABLE 5.2-3 PAVEMENT CONDITIONS BY ADMINISTRATIVE CLASSIFICATION**

Unit:km

Administration	Paved		Unpaved		Pavement Total	Total
	Good/Fair	Bad/V.Bad	Good/Fair	Bad/V.Bad		
National	164.8 (79%)	40.0 (19%)	0.0 (0%)	3.7 (2%)	204.8 (98%)	208.5 (100%)
Province	28.7 (65%)	1.3 (3%)	6.4 (15%)	7.5 (17%)	30.0 (68%)	43.9 (100%)
City	83.8 (63%)	29.7 (22%)	4.0 (3%)	15.0 (11%)	113.5 (86%)	132.5 (100%)
Barangay	0.0 (0%)	0.0 (0%)	1.7 (24%)	5.4 (76%)	0.0 (0%)	7.1 (100%)
Private	12.3 (48%)	0.1 (0%)	0.0 (0%)	13.1 (51%)	12.5 (49%)	25.5 (100%)
<b>Total</b>	<b>289.6 (69%)</b>	<b>71.1 (17%)</b>	<b>12.1 (3%)</b>	<b>44.7 (1%)</b>	<b>360.7 (80%)</b>	<b>417.5 (100%)</b>

Source: Road Inventory of the Study by the JICA Study Team



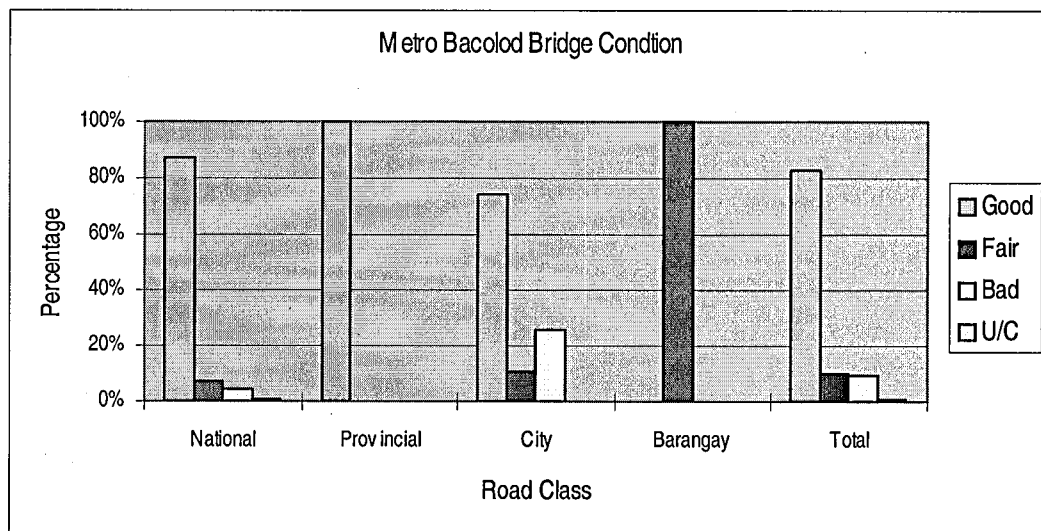
### 5.2.3 Bridge Conditions

Existing bridge locations are shown in Figure 5.2-4 and their conditions are summarized in Table 5.2-4 and Figure 5.2-5.

**TABLE 5.2-4 BRIDGE CONDITIONS IN METRO BACOLOD**

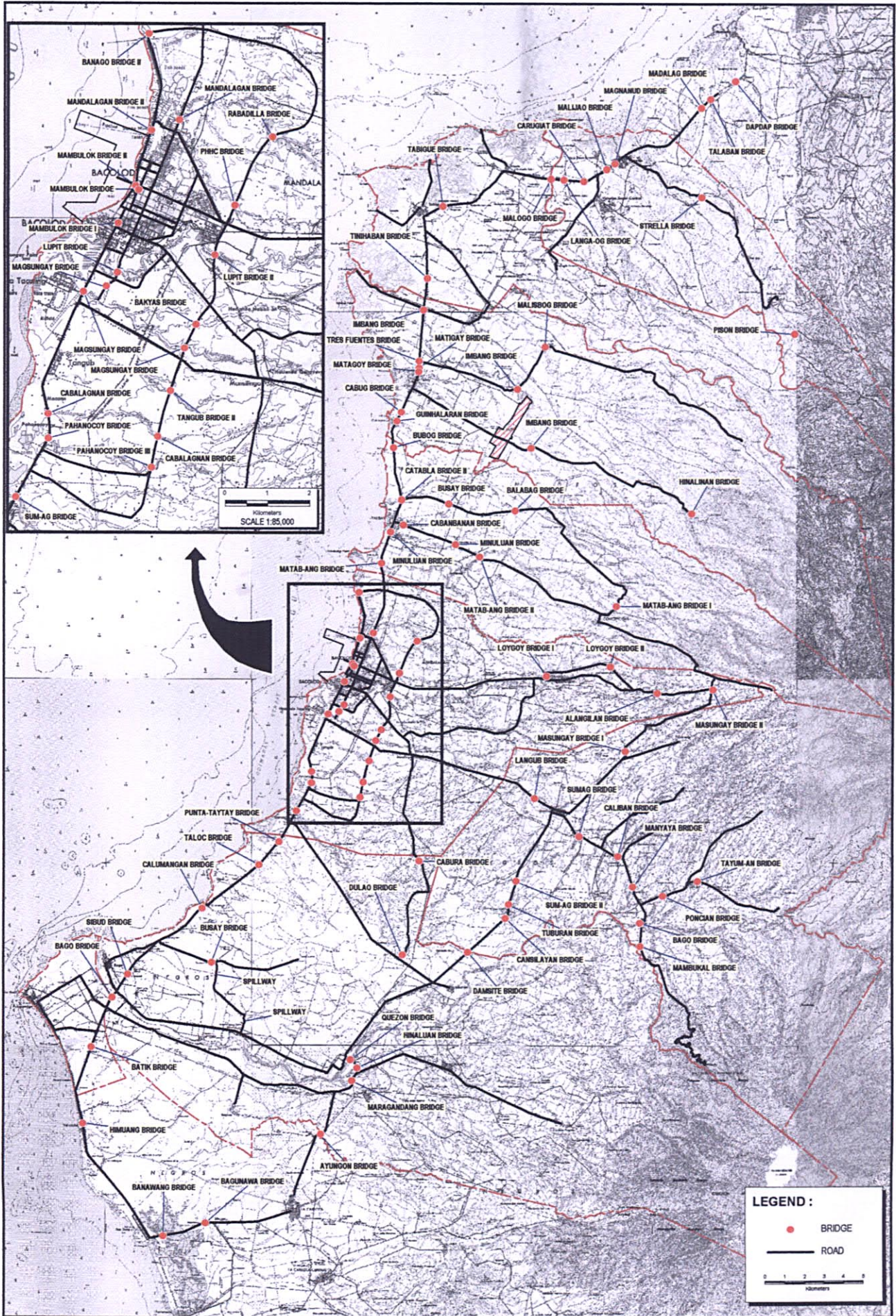
Road Classification	Number	Length (m)	Bridge Condition (No.)			
			Good	Fair	Bad	U/C
National	67	2,429.45	58	5	3	1
Provincial	5	249.70	5	0	0	0
City Road	19	538.60	14	2	5	0
Barangay Road	2	45.00	0	2	0	0
<b>Total</b>	<b>93</b>	<b>3,262.75</b>	<b>77</b>	<b>9</b>	<b>8</b>	<b>1</b>

Note: U/C: understruction



**FIGURE 5.2-5 METRO BACOLOD BRIDGE CONDITION**





**FIGURE 5.2-4 METRO BACOLOD EXISTING BRIDGE LOCATION MAP**



### 5.3 LEVEL OF SERVICE OF EXISTING ROADS

Level of service (LOS) of a road is well expressed by a travel speed. The Study Team developed criteria of LOS by referencing "Highway Capacity Manual 2000" (HCM2000 by TRB of the United States) as shown in Table 5.3-1.

**TABLE 5.3-1 LEVEL OF SERVICE CRITERIA**

Level of Service	Travel Speed (km/hr)		Remarks
	Inside Iloilo City	Outside Iloilo City	
A	> 50	> 60	—
B	40 – 50	45 – 60	—
C	30 – 40	35 – 45	• Ideally maintained this level.
D	20 – 30	25 – 35	• Countermeasures should be planned and implemented in the near future
E	15 – 20	20 – 25	• Countermeasures immediately implemented.
F	< 15	< 20	• Countermeasures immediately implemented.

Source: JICA Study Team

Figure 5.3-1 shows the present level of service of roads in Bacolod City. Road sections under LOS E or D are as follows:

- LOS E : Short section of Coastal Road in the south City Proper
- LOS D :
- North and south extension of the above short section of Coastal Road
  - Bacolod Circumferential Road
  - Bacolod Granada Road
  - Roads in CBD of Bacolod

Other roads in the Study Area are still maintaining level of service of C or B.

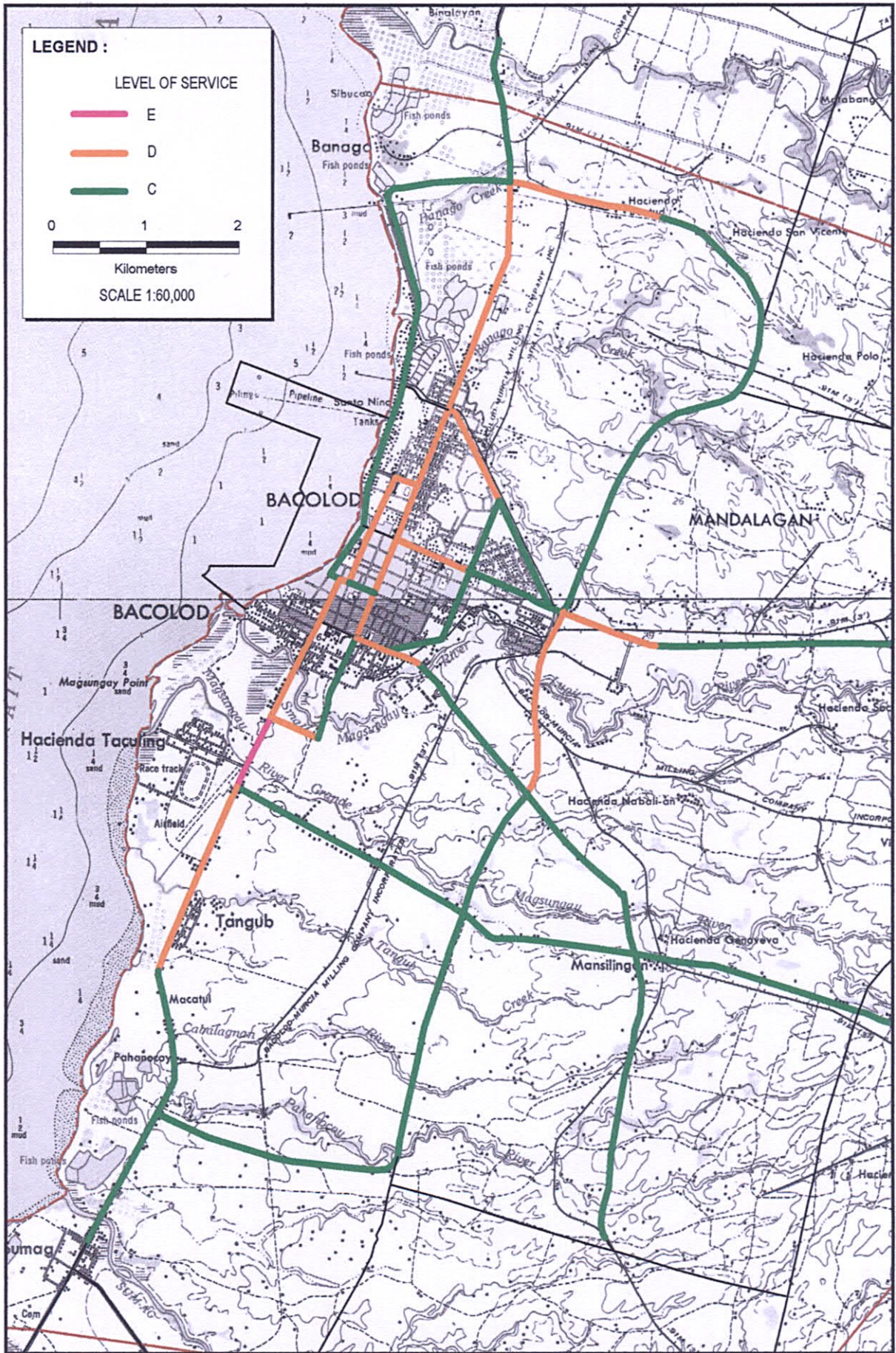


FIGURE 5.3-1 PRESENT LEVEL OF SERVICE OF ROADS IN BACOLOD CITY



## CHAPTER 6 ROAD MAINTENANCE

### 6.1 NATIONAL ROAD

#### 6.1.1 Maintenance Responsibility

A maintenance program is planned by District Engineering Office (DEO) by the Bureau of Maintenance of the DPWH Central Office. The various maintenance activities are implemented by the District Engineering Offices (DEO) under the supervision of the Regional Engineering Offices (REO). In the Study Area, the following DEOs under the Region VI of REO are in charge of road maintenance for national roads.

**TABLE 6.1-1 DISTRICT ENGINEERING OFFICE (DEO) IN METRO BACOLOD**

District Engineering Offices	Location of Office
Negros Occidental First	Talisay
Negros Occidental Sub	Bago City
Bacolod City	Bacolod City

*Source: REO, Region VI*

Table 6.1-2 shows the summary of roads and bridges for maintenance by respective DEO.

**TABLE 6.1-2 MAINTENANCE RESPONSIBILITY OF DEO IN METRO BACOLOD**

District	Road Length (km)				Bridge	
	PCC	AC	Gravel	Total	Numbers	Length (m)
Negros Occ. First District	84.0	180.5	133.0	397.5	82	2811.3
Negros Occ. Sub-District	48.1	40.7	55.0	143.7	33	1678.8
Bacolod City	57.4	11.1	2.2	70.6	25	672.0
<b>Total</b>	<b>189.5</b>	<b>232.2</b>	<b>190.2</b>	<b>611.9</b>	<b>140</b>	<b>5162.1</b>

*Source: DPWH Regional Office VI*

#### 6.1.2 Maintenance Budget

Road maintenance budget and allocation to the Regional Offices and DEO/CEO are determined by Equivalent Maintenance Kilometer (EMK) system. The EMK is as follows;

$$\text{Maintenance Budget} = \text{Basic Cost} \times \text{EMK}$$

Basic Cost: Cost per one equivalent – maintenance – kilometer for one year

EMK: Equivalent – Maintenance- Kilometer to be determined by a physical length multiplied by EMK factors. EMK factors are determined for type of pavement, width of roadway and traffic volume.

The based cost in 2003 is 82,000 peso/km.

Maintenance budget is released to the respective DEO/CEO every quarter. Five percent (5%) of the total maintenance budget allocated for each region is set aside for the maintenance for roads which are newly converted to or taken over as national roads for the current year. In addition, to provide a ready fund for emergencies, another five percent (5%) of the budget is retained at the Regional Offices as Immediate Response Fund (IRF). This fund is used for the immediate repair of roads and bridges damaged by natural calamities, or for emergency activities.

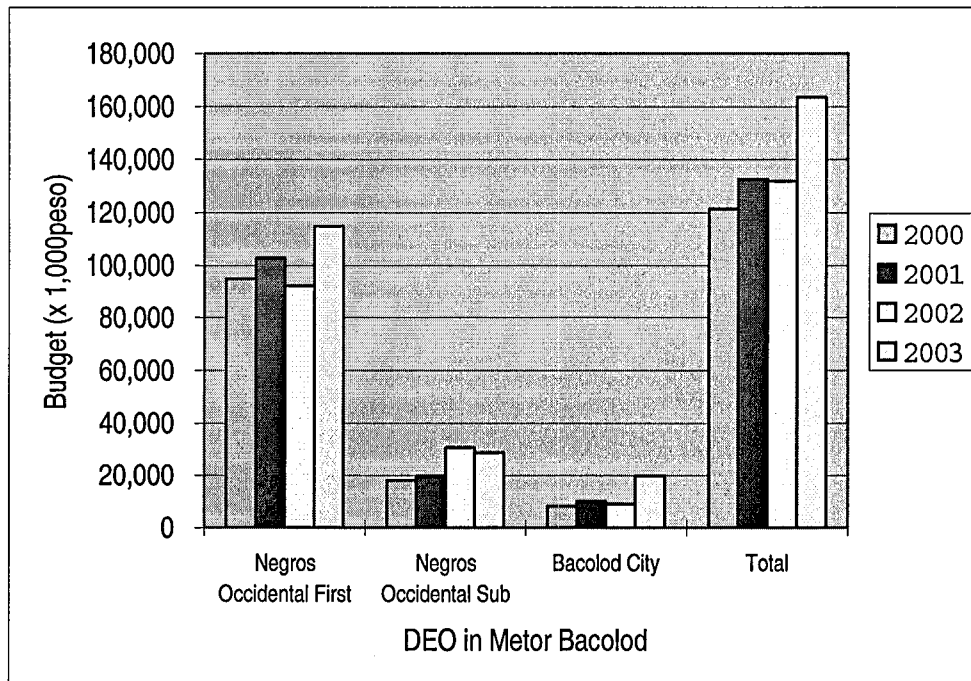
### 6.1.3 Maintenance Budget Allocation

Table 6.1-3 and Figure 6.1-1 shows maintenance budget allocated to each DEO in Metro Bacolod in the last four years (2000 to 2003).

**TABLE 6.1-3 MAINTENANCE BUDGET ALLOCATION TO DEO IN METRO BACOLOD**  
(in Million Peso)

District	Budget / Year				
	2000	2001	2002	2003	Total
Negros Occ. First	94.815	102.678	92.150	114.752	404.395
Negros Occ. Sub District	18.062	19.762	30.725	28.778	97.327
Bacolod City District	8.437	10.227	9.057	19.797	47.518
<b>Total</b>	<b>121.314</b>	<b>132.667</b>	<b>131.932</b>	<b>163.327</b>	<b>549.24</b>

Source: DPWH Regional VI Office



**FIGURE 6.1-1 MAINTENANCE BUDGET ALLOCATION (2000-2003)**



#### 6.1.4 Maintenance Activity

Table 6.1-4 shows the definitions of maintenance activities by frequency.

**TABLE 6.1-4 MAINTENANCE ACTIVITIES**

Activity	Definition	Frequency
Routine maintenance	Maintenance is regularly performed throughout the year and includes roadway and related features, road side maintenance, traffic services, etc.	Regular and daily base
Periodic Maintenance	Maintenance that is more extensive than routine maintenance and planned using long-term intervals. It includes resurfacing unpaved roads; bituminous surface treatment, redecking timber bridge decks, and repainting steel bridge members, etc.	Based on annual plan.
Special Maintenance	Small improvement work like installation of new culvert, construction of concrete lined canal, slope protection works, etc.	Based on road inspection
Preventive Maintenance	Works that is more expensive than routine maintenance and helps to prevent (a) undue road way deterioration, (b) increase routine maintenance requirements, and (c) vehicular accidents.	Based on plan

Source: DPWH

#### 6.1.5 Maintenance Operation

There are two types of maintenance operation; Maintenance by Administration (MBA) and Maintenance by Contract (MBC). Table 6.1-5 shows the definition of MBA and MBC.

**TABLE 6.1-5 DEFINITION OF MBA AND MBC**

Operation Category	Agent	Scope of Work
MBA	Force account, in-house staff and equipment of DPWH District Office	Other than MBC
MBC	Maintenance Contractor	Work of which quantity and unit of measurement are determined

Source: DPWH

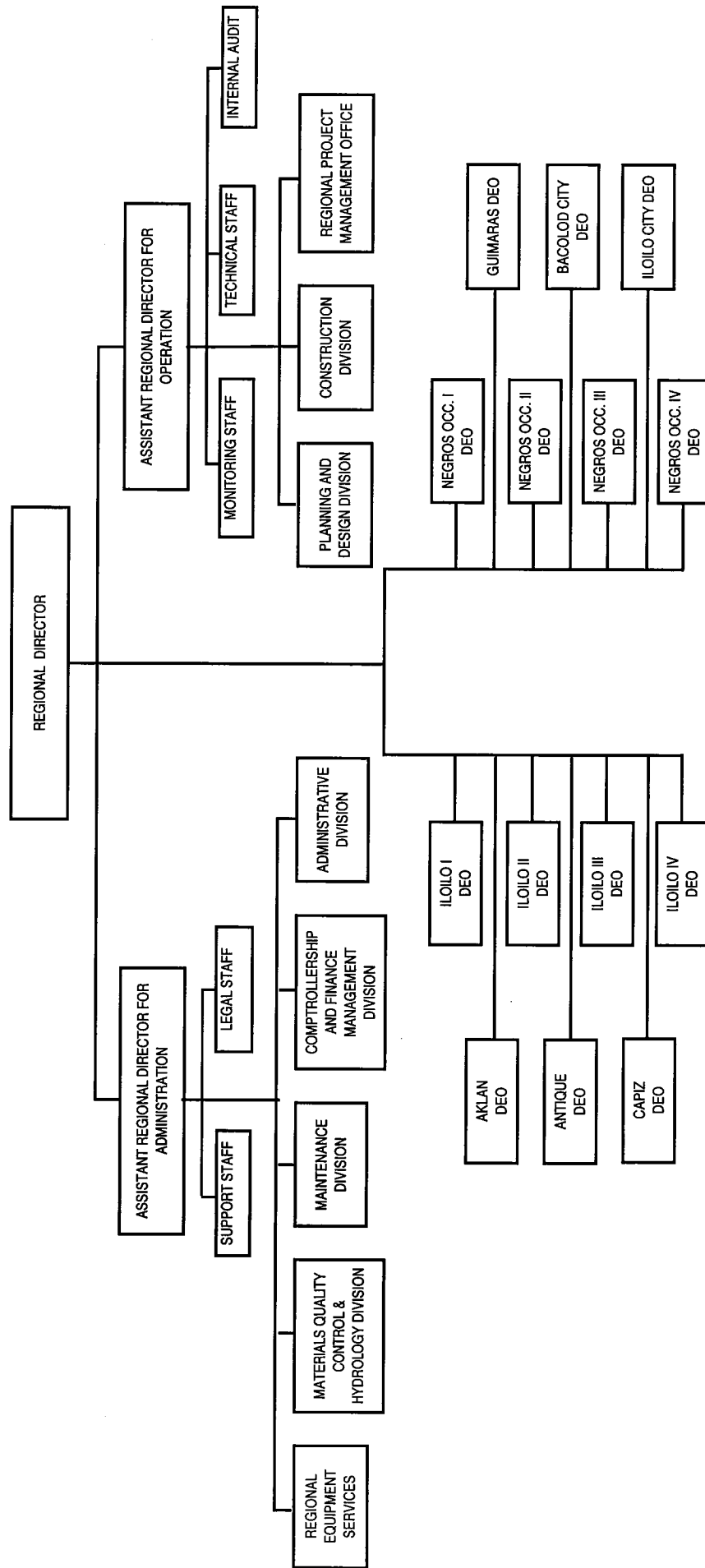
For the past three years (1999 to 2001), 70% of the total maintenance allocation to budget is allotted for MBC and the remaining 30% for MBA.

#### 6.1.6 Organization

Figure 6.1-2 shows the organization chart of the Regional Engineering Office in Region VI. Typical organization chart of DEO is shown in Figure 6.1-3.

Part-C (Metro Bacolod)

**DPWH REGION VI, WESTERN VISAYAS  
Organization Chart**



**FIGURE 6.1-2 ORGANIZATION CHART OF DPWH REGION VI**



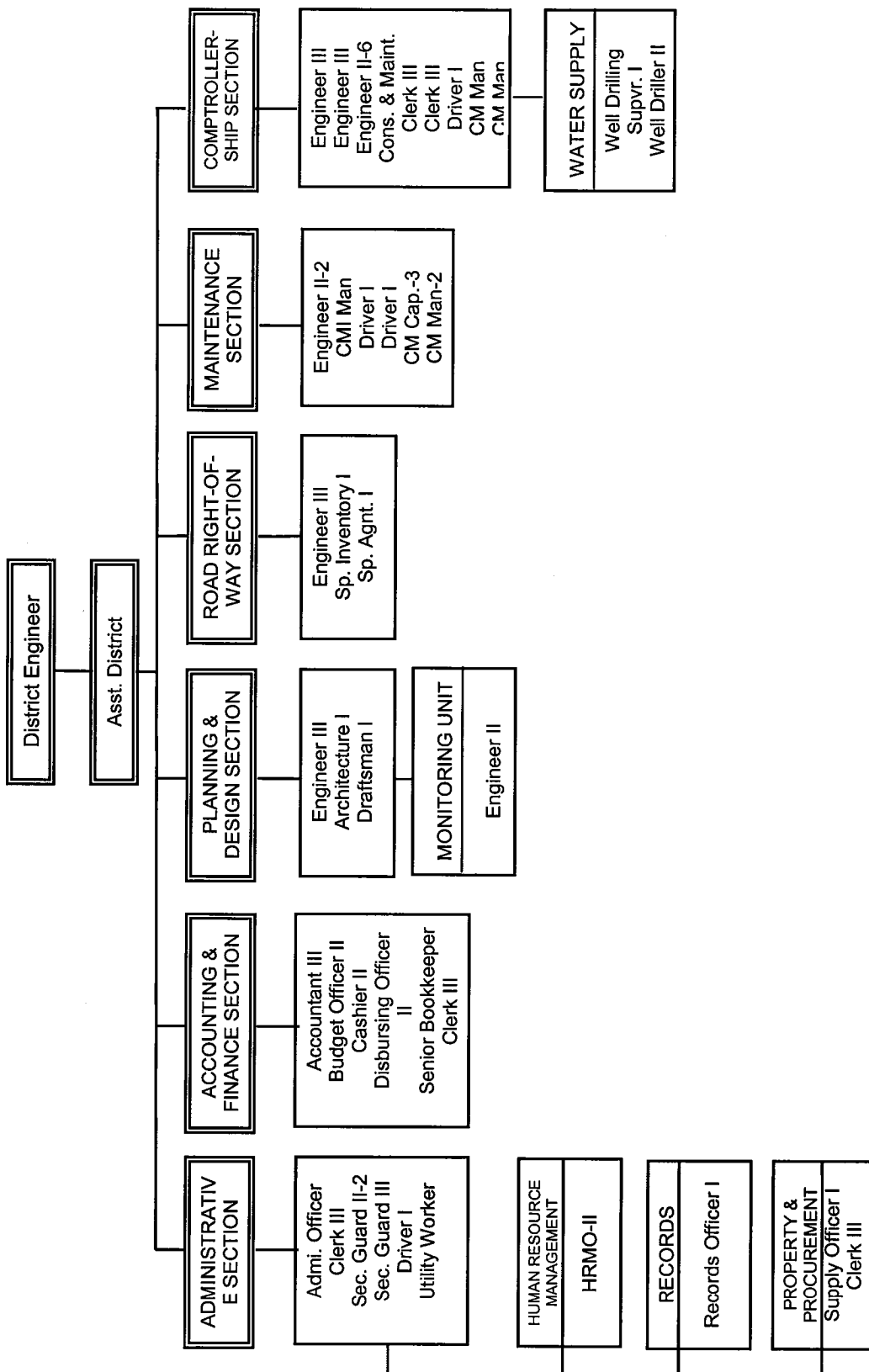


FIGURE 6.1-3 TYPICAL ORGANIZATION CHART OF DPWH BACOLOD CITY ENGINEERING OFFICE

## 6.2 LOCAL GOVERNMENT ROADS

### 6.2.1 Maintenance Responsibility

#### 1) Provincial Roads

Maintenance of provincial roads is under the responsibility of the Provincial Engineer's Office (PEO), of which the name and location, and the summary of provincial roads by type are shown in Table 6.2-1 and Table 6.2-2, respectively.

**TABLE 6.2-1 PROVINCIAL ENGINEERS OFFICE FOR ROAD MAINTENANCE**

Metro Bacolod	
Name	Location
Negros Occidental Provincial Engineer's Office	Bacolod

**TABLE 6.2-2 MAINTENANCE RESPONSIBILITY OF PROVINCIAL ROADS IN METRO BACOLOD**

District	Road Length (km)				Bridge	
	PCC 1)	AC	Gravel	Total	No.	Length (m)
Negros Occidental Provincial Engineer's Office	136.89	-	285.72	422.61	68	1,909

*Source: Land Use Plan*

*Note: This figure includes AC.*

#### 2) City and Municipality Roads

Maintenance of City and Municipal roads belong to the responsibility of the City Engineer's Offices (CEO) and the Municipal Engineer's Offices (MEO), respectively. The list of name and location are shown in Table 6.2-3.

**TABLE 6.2-3 CITY AND MUNICIPAL ENGINEER'S OFFICE FOR ROAD MAINTENANCE**

Metro Bacolod	
District	Location
Bacolod City Engineer's Office	Bacolod City
Talisay City Engineer's Office	Talisay City
Silay City Engineer's Office	Silay City
E. Magalona Municipality Engineer's Office	E. Magalona Municipality
Victorias City Engineer's Office	Victorias City
Murcia Municipality Engineer's Office	Murcia Municipality
Bago City Engineer's Office	Bago City
Pulupandan Municipality Engineer's Office	Pulupandan Municipality

Maintenance of Barangay road is under Barangay Unit. However, the PEO and CEO assist all Barangays in maintenance works, because they are facing with lack of budget equipment and human resources in the Barangay Unit.



Road and bridge under responsibility of each CEO and MEO are shown in Table 6.2-4.

**TABLE 6.2-4 ROAD LENGTH AND BRIDGES UNDER RESPONSIBILITY OF CEO AND MEO**

CEO/MEO	Road Length (km)			Total	Road Length (km)	Bridge
	PCC	AC	Gravel	AC	PCC	AC
Bacolod City Engineer's Office 1) (Barangay Road)	225.2 (127.46)	9.1	173.66 (166.95)	407.96 (294.41)	8 (10)	251.75 (188.25)
Talisay City Engineer's Office	23.05	15.6	12.5	51.15	NA	
Silay City Engineer's Office	34.52	17.42	46.48	98.42	NA	
E. Magalona Municipality Engineer's Office	5.9	11.3	0	17.20	NA	
Victorias City Engineer's Office	15.55	6.7	8.0	30.25	NA	
Murcia Municipality Engineer's Office	41.3	0.24	0.18	41.72	NA	
Bago City Engineer's Office	53.2	27.8	226.71	307.71	NA	
Pulupandan Municipality Engineer's Office	5.7	4.5	2.6	12.80	NA	
<b>Total</b>	<b>404.42</b>	<b>92.66</b>	<b>470.13</b>	<b>967.21</b>	<b>NA</b>	

Source: Land Use Plan and review by the road inventory of the study

#### 6.2.2 Maintenance Activity

Maintenance activities are the same focused on National roads.

#### 6.2.3 Maintenance Operation

All LGUs adopts MBA method.

#### 6.2.4 Maintenance Budget

##### 1) Province

Maintenance budgets of Negros Occidental PEO is shown in Table 6.2-5.

**TABLE 6.2-5 MAINTENANCE BUDGET OF NEGROS OCCIDENTAL PEO**

Metro Bacolod	Budget Allocation for Road Maintenance				
Province	Item	2000	2001	2002	2003
Negros Occidental	Maintenance	41,860,000	46,900,000	46,040,000	39,240,000
Province Engineer's Office	Construction	3,100,000	3,100,000	22,950,000	36,500,000

Source: PEO

## 2) City and Municipality

Budget for road construction and maintenance of CEO and MEO of Metro Bacolod are shown in Table 6.2-6.

**TABLE 6.2-6 MAINTENANCE BUDGET OF CEO AND MEO IN METRO BACOLOD**

Metro Bacolod City/ Municipality	Budget Allocation for Road Maintenance			
	2000	2001	2002	2003
Bacolod City Engineer's Office	4,792,620	5,584,911	8,660,371	9,093,588
Talisay City Engineer's Office	-	-	-	-
Silay City Engineer's Office	-	-	1,998,000	-
E. Magalona Municipality Engineer's Office	-	-	-	-
Victorias City Engineer's Office	-	-	226,452	-
Murcia Municipality Engineer's Office	-	-	1,877,106	-
Bago City Engineer's Office	-	-	-	-
Pulupandan Municipality Engineer's Office	-	-	-	-

Source: PEO

### 6.2.5 Organization and Staffing

Table 6.2.-7 presents summary of staffing by Province, City, and Municipality.

**TABLE 6.2-7 SUMMARY OF STAFF AND ORGANIZATION**

Category	Bacolod City	Silay City	Talisay City	Bago City	Victorias City	E. Magalona Municipality	Pulupan Dan Municipality	Mun. of Murcia	Province of Negros Occidental
<b>Planning</b>									
Career Prof.	22	8	-	17	4	6	4	1	23
Supporting Staff	4	12	-	0	1	0	0	2	24
<b>Sub-Total</b>	<b>26</b>	<b>20</b>	<b>-</b>	<b>17</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>47</b>
<b>Construction</b>									
Career Prof.	82		-	129	13	4	6	2	-
Supporting Staff	85		-	87	8	0	0	18	-
<b>Sub-Total</b>	<b>167</b>	<b>5</b>	<b>-</b>	<b>216</b>	<b>21</b>	<b>4</b>	<b>6</b>	<b>20</b>	<b>-</b>
<b>Total</b>	<b>193</b>	<b>25</b>	<b>-</b>	<b>233</b>	<b>26</b>	<b>10</b>	<b>10</b>	<b>23</b>	<b>47</b>

Technical capabilities for planning as well as for engineering services vary across LGUs in the Study Area. Provincial offices usually keep permanent skilled staff and equipment capable of dealing with the majority of small to medium size projects. Any special needs require the assistance of larger government agencies such as DPWH, DILG, etc.



## 6.3 MAINTENANCE PROBLEMS

### 6.3.1 National Road

#### 1) Maintenance Problem

The Study Team conducted an interview survey with the Maintenance Engineers in Bacolod 1<sup>st</sup> District Engineering Office.

The maintenance problems for national roads identified by the Bacolod 1<sup>st</sup> DEO field offices are summarized by the Study Team in Table 6.3-1.

**TABLE 6.3-1 MAINTENANCE STATUS IN DEO**

Maintenance issues and Problems	Opinion
Maintenance Budget and Cost	(i) Maintenance budget allocated in Metro Bacolod has gradually increased since 2000. (ii) Maintenance cost of gravel roads is much higher than paved roads, because during rainy season the gravel roads erodes. The gravel roads run in the mountainous areas and rushing water washes away frequently. The gravel roads are vulnerable to the weather. (iii) For the paved road, heavy trucks, such as 30 to 40 ton trailers, transporting sugar canes to the sugar factories damage PCC pavement badly because of excessive loading and due to insufficient paved design.
EMK Allocation	The EMK budget allocate the same amount for newly constructed roads as old roads.
Road Inspection	(i) There are inspections from the central office every three months. In the field, DEO inspects all roads once a week. Maintenance Engineer makes rotation schedule for their daily inspection. (ii) All Area Engineers and foremen are provided with government vehicles for inspection and maintenance work.
Maintenance Operation	(i) The DEO adopts MBA, not MBC. (ii) Five Area Engineers are assigned with foreman (Capatas) for maintenance work and supervision.
Equipment	All serviceable equipment: Dump Truck: 10 units    Bull dozer: 3 units    Pay Loader: 2 units Motor Grader: 5 units    Road Roller: 8 units    Hydraulic excavator: 4 units Service Vehicle: 7 units    Light Truck: 6 units    Miscellaneous: 3 units
MBC	No MBC is adopted in DEO under permission of central office due to the following reasons; (i) In rural roads, many erosions and landslides occur. The area is prone to natural calamity. Emergency work should be done by MBA, not MBC. (ii) The DEO has comparatively enough equipment.
Utilization of Maintenance Budget	Unpaved road (90km) 25% Paved road (300km) PCC 38%, AC 37%
Priority	Repair of cracks of paved roads to prevent more damage developing potholes. Surface conditions maintenance Vegetable control for ditch cleaning Keeping bridge clearance Preservation of Landslide due to volcanic soil Beautification project in 2003 including tree plantation, flower pot, km post
Maintenance problems	Delay of Budget release Inadequate equipment

Source: Interview of DEO by the Study Team

## 2) Specific Maintenance Problem in Metro Bacolod

Many arterial roads are damaged by sugar cane trucks. In particular the Bacolod circumferential road has big transversal cracks on PCC surface due to heavy overloaded trucks that passed this route because of prohibiting the heavy traffic to enter central city routes. Road maintenance of Bacolod must take the traffic of sugar cane trucks into account.

### 6.3.2 Local Government Road

Maintenance problems of local government roads by PEO and Bacolod CEO are summarized in Table 6.3-2.

**TABLE 6.3-2 MAINTENANCE PROBLEMS OF PEO AND CEO**

	Negros Occidental Province Engineer's Office	Bacolod City Engineer's Office
Barangay Road	No.	Yes. Maintenance of roads and bridges.
Road/ Bridge Inventory	Yes	Yes.
Planning Division	7 staffs for roads and bridges	
Construction Division	Area I : 35 staffs Area II: 32 staffs Area III : 35 staffs Rock crusher Section: 30	Engineering Division 20 Staffs
Maintenance Division	Included in the above division	Highway Maintenance Division 39 Staffs - Truck Team collected gravel material from the river and sell to the construction and maintenance team.
Motor Pool Division	45 staffs	23 staffs
Road Maintenance		
Maintenance manual	Yes	Yes. Draft manual prepared by Aust-aid, but not yet completed.
Road inspection	Weekly	Quarterly and as per request or complain
Maintenance Activity List	NA	NA
Maintenance program	Annual	Request base. Daily Schedule is submitted to the City Mayor Office for its check.
Maintenance Operation	MBA only	MBA. Maintenance materials (asphalt) are procured by bidding. Construction of bridge also by MBA. Required equipment, piling crane was rented from the private company.
Equipment	Dump truck: 40 units (3 under repair) Bull doze: 3 units (2 under repair) Pay loader: 8 units (7 under repair) Motor Grader: 6 units Road Roller: 6 units Trailer: 3 units Hydraulic excavator: 9 units Service Vehicle: 13 units (2 under repair) Rock Crushing Plant: 1unit	Dump truck: 10 units (2 unserviceable) Pay loader: 2 units (1 unserviceable) Motor Grader: 4 units Road Roller: 3 units (1 unserviceable) Hydraulic excavator: 4 units Service Vehicle: 7 units Light Truck: 5 units (2 unserviceable) Concrete mixer: 7 units (5 unserviceable) Miscellaneous: 5 units
Problems	(1) Bad Weather causing heavy damages (2)Government System on procurement of construction materials and spare parts miss optimal timing.	(1) Limited budget for maintenance needs. (2) Lack of equipment's spareparts

Source: PEO and CEO



## CHAPTER 7

### LOCAL GOVERNMENT SYSTEM

#### 7.1 LOCAL GOVERNMENT UNITS

##### 7.1.1 Levels of Government

The four levels of local government units (LGUs) in the Philippines, in terms of political corporate entities, are as follows (in hierarchical order):

- a) Provinces,
- b) Cities,
- c) Municipalities, and
- d) Barangays.

A detailed explanation on the characteristics of each level of local government is given in Part B Section 7.1.1. Furthermore, the responsibilities and functions of the LGUs are described in detail in the Local Government Code of 1991.

##### 7.1.2 Income Classification

The LGUs are classified based on their income, which is used, among others, as basis for fixing the maximum tax ceiling imposable by the LGU, for determining administrative and statutory aids, financial grants and other forms of assistance to LGUs, and for the implementation of salary laws and administrative issuances on allowances and emoluments for local government officials and personnel. The recent income classification for LGUs nationwide is shown in Table 7.1-1.

**TABLE 7.1-1 INCOME CLASSIFICATION OF LOCAL GOVERNMENT UNITS, 2001 <sup>1/</sup>**

LGU Level	Classification	Average Annual Income <sup>2/</sup>
Province	1 <sup>st</sup>	P 255 M or more
	2 <sup>nd</sup>	P 170 M or more but less than P 255 M
	3 <sup>rd</sup>	P 120 M or more but less than P 170 M
	4 <sup>th</sup>	P 70 M or more but less than P 120 M
	5 <sup>th</sup>	P 35 M or more but less than P 70 M
	6 <sup>th</sup>	Below P 35 M
City	Special	Per Presidential Decree No. 465
	1 <sup>st</sup>	P 250 M or more
	2 <sup>nd</sup>	P 155 M or more but less than P 250 M
	3 <sup>rd</sup>	P 100 M or more but less than P 155 M
	4 <sup>th</sup>	P 70 M or more but less than P 100 M
	5 <sup>th</sup>	P 35 M or more but less than P 70 M
Municipality	1 <sup>st</sup>	P 35 M or more
	2 <sup>nd</sup>	P 27 M or more but less than P 35 M
	3 <sup>rd</sup>	P 21 M or more but less than P 27 M
	4 <sup>th</sup>	P 13 M or more but less than P 21 M
	5 <sup>th</sup>	P 7 M or more but less than P 13 M
	6 <sup>th</sup>	Below P 7 M

<sup>1/</sup> DOF Dept. Order 32-01 of November 20, 2001 (Amending Department Order 94-97 of March 26, 1997)

<sup>2/</sup> Income in pesos for the last 3 calendar years

Source: Philippine Standard Geographic Code (PSGC)

Each LGU may maintain their organization structure and offices necessary to carry out their government's functions. The typical officials within each structure are listed in Part B Chapter 7 (refer to Table 7.1-2).

## **7.2 THE LOCAL GOVERNMENT CODE OF 1991**

The enactment of the Local Government Code of 1991 paved the way for local autonomy of communities within the hierarchy of the local government units. Basically, the law is founded on the principle of decentralization focusing on devolution. By definition, devolution is the creation or strengthening – financially or legally – of subnational units of government, the activities of which are substantially outside the direct control of the central government. Under devolution, local government units are autonomous and independent, and their legal status makes them separate or distinct from the central government.<sup>1</sup>

The Code is divided into four books, to wit:

- 1) Book I - General Provisions
- 2) Book II - Local Taxation and Fiscal Matters
- 3) Book III- Local Government Units
- 4) Book IV- Miscellaneous and Final Provisions

The Code has several sections that are relevant to the development of roads. These are enumerated and explained in the Part B Chapter 7 (Section 7.1) of this report and outlined below as follows:

- 1) Section 3 on Operative Principles of Decentralization.
- 2) Section 17 on Basic Services and Facilities.
- 2) Section 18 on Power to Generate and Apply Resources.
- 3) Section 19 on Eminent Domain.
- 4) Section 37 on Local Pre-qualification, Bids and Award Committee.
- 5) Section 155 on Toll, Fees and Charges.
- 6) Section 287 on Local Development Projects.
- 7) Section 296 on Policy for Credit Financing.
- 8) Section 297 on Loans, Credits and Other Forms of Indebtedness of LGUs.
- 9) Section 300 On Inter-Local Government Loans, Grants, and Subsidies.
- 10) Section 301 on Loans from Funds Secured by the National Government from Foreign Sources.
- 11) Section 302 on Financing, Construction, Maintenance, Operation and Management of Infrastructure Projects by the Private Sector.
- 12) Section 324 on Budgetary Requirements.

## **7.3 RELEVANT AGENCIES FOR THE DEVELOPMENT OF LOCAL ROADS**

The Code provides a clear delineation of functions across levels of government but not in the area of public works. The LGUs are tasked with the primary responsibility for the construction and maintenance of local roads but the Department of Public Works and Highways (DPWH) continues to undertake similar activities. DPWH implements public works and infrastructure projects and other facilities, programs and services funded by the national government under the Annual General Appropriations Act, other special laws, pertinent executive orders, and wholly or partially funded from foreign sources.<sup>2</sup>

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<sup>1</sup> Bautista, Arnell, "Rules and Regulations Implementing the Local Government Code of 1991," 1993, p 403.

<sup>2</sup> Rosario G. Manasan, Fiscal Decentralization: the Case of the Philippines, 2002.



With the implementation of the Code, all local roads were devolved to the corresponding level of LGU. The responsibility of DPWH was focused on national roads. However, other NGAs such as DA, DAR, DENR, and NIA still continue developing/providing roads relative to their programs. On the LGU level, the Provincial Engineer's Offices (PEOs), the City Engineer's Office (CEO) and the Municipal Engineer's Office (MEO) are mainly responsible for the maintenance of local roads. When deemed necessary, DPWH provides technical assistance to PEOs.

## **7.4 LOCAL GOVERNMENT FISCAL MANAGEMENT**

### **7.4.1 Local Fiscal Administration**

LGUs, with the exception of the barangays, maintain two types of funds. These are the General Fund and the Special Fund. Within the General Fund, the following accounts are maintained:

- a) public utilities and other economic enterprises;
- b) loans, interest, bond issues, and other contributions;
- c) development projects funded from the share of the internal revenue allotment (IRA); and
- d) other special accounts created by law or ordinance.

The Special Fund, on the other hand, consists of the following:

- a) Special Education Fund, which is the share in the proceeds of additional tax on real property; and
- b) Trust Fund, which consist of private and public monies that officially came into the possession of the LGU as trustee, agent, or administrator to be used for a specific purpose.

All LGUs have their Local Finance Committee composed of the Planning and Development Officer, Budget Officer, and the Treasurer. Among others, their functions are to determine the income projected as collectible for the ensuing fiscal year, recommend appropriate tax and other revenue measures, recommend the level of annual expenditures, recommend proper allocation of expenditures, recommend the amount allocated for capital outlay for infrastructure projects, and conduct semi-annual review and general examination of cost and accomplishment against performance standards applied in undertaking development projects.

The LGU Budgeting procedure is undertaken in four (4) phases, namely: (a) budget preparation, (b) budget legislation or authorization, (c) budget execution or implementation, and (d) budget accountability or review. Budget preparation starts with the determination of budgetary policies and activities guided by the LGUs development plans, with ceilings and constraints imposed by available revenues.

Among the documents contained in the budget are the following:

- a) the actual income and expenditures during the immediately preceding year,
- b) the actual income and expenditure of the first two quarters and estimates of the same for the last two quarters of the current fiscal year;

- c) the estimates of income for the ensuing fiscal year from existing laws and ordinances,
- d) the estimated expenditure necessary to carry out the functions, projects, and activities of the LGU for the ensuing fiscal year,
- e) all essential facts regarding to bonded and other long-term obligation and indebtedness, if any,
- f) summary statement of all statutory and contractual obligations due, and
- g) other financial statements and data which are deemed necessary.

#### **7.4.2 Revenues and Expenditures**

Revenues of the LGUs are basically composed of the locally generated income and the Internal Revenue Allotment (IRA) from the national government. The IRA is a system of sharing national internal revenue collections received by the Bureau of Internal Revenue with the LGUs. A predetermined formula (referred to as the CODAL formula in the Code) is adhered to for the distribution of the IRA. An explanation on the distribution formula is presented in Part B Section 7.4.2 of this report.

The locally generated income comes in various types of taxes and levies allowed by different levels of government. These taxes and fees are listed in Table 7.4-1 of Part B of this report.

Based on the review of financial resources of LGUs in the ADB-assisted Rural Roads Development Project, LGUs are highly dependent on IRA with the provinces turning out as the most dependent. It has been found that cities have the greatest opportunity to raise local revenues. On the whole, LGUs have not maximized their revenue raising powers.

The expenditures of LGUs are basically reported in many forms. One is by service (general, economic, and social services) in the Statement of Fund Operation and the Status of Appropriations. Another is a dichotomy of personal services and maintenance and other operating expenses in the Certified Statement of Income and Expenditures, which is supported with reports by office and functional category.

#### **7.4.3 Local Borrowing and Credit Financing**

The Code provides that LGUs may enter into indebtedness (Section 297). However, LGUs should maintain depository accounts with banks (preferably GFIs) located within their respective jurisdiction (Section 311). GFIs that benefited from this requirement are the Land Bank of the Philippines, the Development Bank of the Philippines and the Philippine National Bank<sup>3</sup>. However, for instances that LGUs have no access to any GFIs, “depository accounts may be opened with a bank duly designated as government depository by the Bangko Sentral ng Pilipinas (BSP) upon prior authority of the *Sanggunian* and approval of the chief executive.” With such limitation, relationships between LGUs and private banks have not been promoted.

There are two major controls on LGU borrowings. One is the borrowing limitation provided by Section 324 of the Code at 20% of their regular income. Another is

<sup>3</sup> The PNB has been privatized recently but has been able to secure a BSP authorization allowing it to keep deposits from LGUs provided that there exists a creditor and debtor arrangement between the bank and the LGU.

the loan application requisite of funding institutions for the Certification of Borrowing Capacity issued by the Bureau of Local Government Finance (BLGF), which specifies the amount LGU is capable of paying.

There were previously two methods of determining the borrowing capacities of LGUs; one for the income generating projects and another for the non-income generating. However, BLGF simplified the computation in 2002 to only one method, which is applicable to any type of project. This employs the following computations:

$$\text{Debt Service Ceiling} = (\text{average local source income for 3 years} + \text{IRA for year 2003}) \times 20\%$$

$$\text{Net Debt Service Ceiling} = \text{Debt Service Ceiling} - \text{loan amortization for 2003}$$

$$\text{Borrowing Capacity} = \text{Net Debt Service Ceiling} \times \text{annuity factor for loan}$$

The Net Debt Service Ceiling is the amount a LGU has available to pay a loan in a year with due consideration made as to the limitation imposed by Section 324 of the Code. The Borrowing Capacity is the total amount of a loan a LGU can avail. The current annuity factor used is 6.194, which is computed based on the MDF interest rate of 12% for a loan period of 12 years with 3 years grace period (on principal only). The BLGF-determined borrowing capacity is valid only for the year computed and has to be updated yearly.

For the BLGF computation, the LGUs are required to submit various documents (as listed in Section 7.4.3 of Part B Report) after which a Certification of Borrowing Capacity is issued.

Another source of funding is credit financing through bond floatation or build-operate-transfer schemes. However, LGUs cannot be expected to borrow, issue bond, or tap other forms of credit financing due to the following constraints:

- The general perception that LGUs are “high risk” credits as the limited tenure of elected local chief executives connotes probability of discontinuity in local programs;
- Knowledge of the securities market and available credit instruments at the local level are inadequate;
- The absence of institutional assistance to explain and inform LGUs and the general public of available facilities;
- The absence of local credit rating system for information on creditworthiness of LGUs and absence of local staff resources for management of credit financing; and
- The absence of adequate incentives to invest in long-term securities.



## 7.5 AVAILABLE FUNDING MECHANISMS

There are a number of existing funding mechanisms employed for infrastructure projects for LGUs, including the provision of roads. Among these are the Municipal Development Fund, the Congressional Fund, borrowing from Government Financial Institutions, and the recent funds generated under the Motor Vehicle Users Charges. These are described in detail in Part B Sections 7.5.1 to 7.5.4 of this report.

## 7.6 CAPABILITIES OF METRO BACOLOD LGUS FOR ROAD IMPROVEMENT

### 7.6.1 Administrative Profile of LGUs in Metro Bacolod

There are nine LGUs covered in the study area of Metro Bacolod. They are listed in order of income classification<sup>4</sup> and administrative coverage in Table 7.6-1.

**TABLE 7.6-1 INCOME CLASS AND ADMINISTRATIVE COVERAGE OF LGUs IN METRO BACOLOD**

Local Government	Income Class <sup>1/</sup>	2002 Gross Income (P 000)	Land Area (sq. km.)	Population 2000	No. of Barangays
1. Bacolod City <sup>2/</sup>	1 <sup>st</sup>	557,658	156.10	430,029	61
2. Bago City	1 <sup>st</sup>	290,018	402.10	142,056	24
3. Silay City	2 <sup>nd</sup>	225,926	214.80	107,238	16
4. Talisay City	5 <sup>th</sup>	179,509	173.40	79,545	27
5. Victorias City	5 <sup>th</sup>	195,014	133.90	81,865	26
6. Mun. of Murcia	2 <sup>nd</sup>	54,274	284.55	59,510	23
7. Mun. of E.B. Magalona	3 <sup>rd</sup>	44,068	113.32	54,492	23
8. Mun. of Pulupandan	4 <sup>th</sup>	31,359	23.00	25,881	20
Subtotal		1,577,826	1,501.17	980,616	220
Province of Negros Occidental	1 <sup>st</sup>	929,829	7,926.07	2,570,361	661

1/ Based DOF Dept. Order 32-01 Effective November 20,2001

2/ Independent City

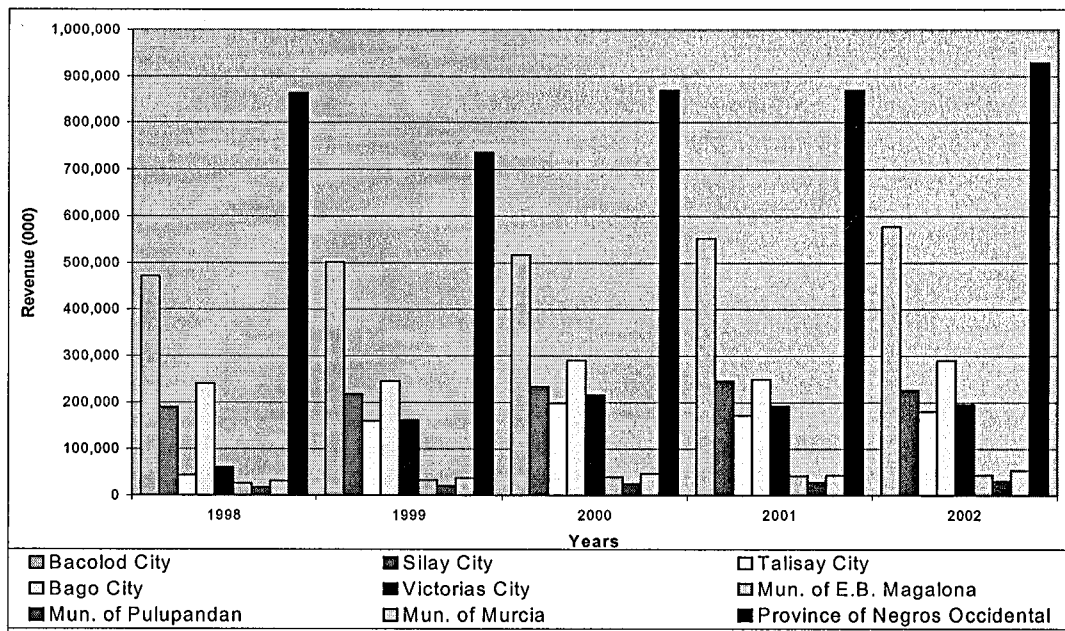
Sources: NSO 2000 for population and Province of Negros Occidental Profile 1998 for land area

The organizational chart of each LGU in Metro Bacolod is compiled in Annex 7.1 for reference. As with all LGUs, the organization is headed by a governor (for provinces) or a mayor (for cities or municipalities) as the executive officer and the *Sanggunian* as the legislative body.

### 7.6.2 Assessment of Financial Capabilities

Revenues of LGUs in Metro Bacolod have also shown a generally upward trend for the five fiscal periods covering 1998 to 2002 (refer to Figure 7.6-1). Unlike Metro Iloilo, those LGUs in the Metro Bacolod area exhibited a propensity for generating higher incomes since they are comprised of five cities and only three municipalities. As it is already mentioned, cities generally have more ways of increasing their income.

<sup>4</sup> The latest income classification of LGUs by the Department of Finance is as of November 2001.



Source: Accomplished Questionnaire by the LGUs.

**FIGURE 7.6-1 REVENUE HISTORY OF LGUs IN METRO BACOLOD**

Similar to Metro Iloilo, the revenue profile of LGUs in Metro Bacolod area is varied but with one distinct feature; all LGUs rely heavily on IRA. The provincial government of Negro Occidental showed the highest dependence on IRA with percentage shares to total revenues of 86% in 2001 and 92% in 2002.

**TABLE 7.6-2 REVENUE PROFILE OF LGUs IN METRO BACOLOD AREA, 2002**

LGU	Share in Total Revenue (%)								
	Tax Revenues			Non Tax Revenues			Allotments (IRA)		
	2000	2001	2002	2000	2001	2002	2000	2001	2002
1. Bacolod City	25.3	29.1	30.5	8.7	8.1	8.7	66.0	62.8	60.8
2. Bago City	9.1	9.8	11.4	4.4	6.6	5.8	86.5	83.6	82.8
3. Silay City	12.5	11.8	11.7	3.2	4.6	4.6	84.3	83.5	83.7
4. Talisay City	7.9	8.5	8.6	7.8	2.6	2.5	84.3	89.0	88.9
5. Victorias City	10.5	16.9	17.3	17.0	8.0	8.2	72.5	75.1	74.5
6. Mun. of Murcia	8.3	13.5	8.6	4.8	4.6	7.3	87.0	81.9	84.1
7. Mun. of E.B. Magalona	8.8	7.3	10.0	10.6	18.8	6.2	80.6	74.0	83.8
8. Mun. of Pulupandan	12.3	13.6	9.8	11.5	12.4	16.9	76.3	74.0	73.3
Province of Neg. Occ.	3.4	3.2	2.3	6.6	7.5	3.1	85.6	85.8	92.1

Source: Report on Revenues and Receipts and Certified Statement of Income of LGUs.

The average growth rate of revenue items of LGUs is shown in Table 7.6-3. On the whole, the cities in the study area, except for Silay City, posted modest growth in their income. Three municipalities, on the other hand, registered strong growths due to huge increases in their IRA. The provincial government posted an overall slight growth of 7% for the five-year period.

As to expenditures, the overall financial performance of LGUs reflected how well they could operate within its income without going over. However, the amount of surplus it retains is not a reliable gauge as to its efficiency in financial resource use but rather an indication of conservative fiscal management (see Table 7.6-4).

**TABLE 7.6-3 AVERAGE GROWTH RATE OF INCOME, 1998 TO 2002**

LGU	Average Growth Rate (%)			
	Tax Revenue	Non-Tax Revenue	IRA	Total Revenue
1. Bacolod City	5.3	-1.7	5.3	4.5
2. Bago City	16.6	4.3	4.1	5.1
3. Silay City	-4.5	10.9	-2.6	-2.4
4. Talisay City	0.8	-2.7	3.4	3.0
5. Victorias City	13.0	7.6	2.3	4.1
6. Mun. of Murcia	-0.4	17.8	16.0	13.7
7. Mun. of E.B. Magalona	20.7	-2.7	14.8	13.2
8. Mun. of Pulupandan	0.8	23.8	17.7	15.7
Province of Neg. Occ.	-4.9	-11.5	7.7	6.6

Source: Calculated based on Report on Revenue and Receipts and Certified Statement of Incomes of LGUs

1/ Based on FY 2000 to 2002 only.

2/ Based on FY 1999 to 2002 only.

**TABLE 7.6-4 TREND OF LGUS' FISCAL PERFORMANCE; 1998 TO 2002**

₱ 000

LGU	1998			1999			2000			2001			2002		
	Income	Expenditures	Surplus/ (Deficit)	Income	Expenditures	Surplus/ (Deficit)	Income	Expenditures	Surplus/ (Deficit)	Income	Expenditures	Surplus/ (Deficit)	Income	Expenditures	Surplus/ Deficit
1. Bacolod City	471,871	472,538	-667	501,799	491,045	10,754	516,960	535,994	-19,034	552,953	528,768	24,185	577,658	514,210	63,448
2. Bago City	239,906	219,188	20,718	245,672	214,802	30,870	290,876	242,621	48,255	249,354	260,201	-10,847	290,018	250,352	39,666
3. Silay City	189,268	159,673	29,595	217,416	216,662	754	233,538	226,454	7,084	245,566	245,564	2	225,926	225,920	6
4. Talisay City	43,621	45,496	-1,875	160,297	107,665	52,632	197,812	182,832	14,980	171,748	178,112	-6,364	179,509	145,740	33,769
5. Victorias City	60,414	66,203	-5,789	162,120	174,022	-11,902	215,355	181,792	33,563	192,435	163,365	29,070	195,014	131,329	63,685
6. Mun. of Murcia	31,779	34,180	-2,401	38,174	35,607	2,567	46,706	44,804	1,902	43,394	45,032	-1,638	54,274	47,548	6,726
7. Mun. of E.B. Magalona	26,538	25,462	1,076	33,985	27,828	6,157	39,905	34,711	5,194	42,699	38,117	4,582	44,068	36,882	7,186
8. Mun. of Pulupandan	17,551	17,262	289	21,358	20,429	929	26,019	25,189	830	28,634	28,634	0	31,359	27,040	4,319
Province of Neg. Occ.	863,661	934,781	-71,120	736,537	701,633	34,904	869,183	797,279	71,904	869,292	956,802	-87,510	929,829	885,979	43,850

A review of the various forms of financial reports and records maintained by LGUs in the study area revealed that the improvement, development and maintenance of roads are not continuing items in their expenditures. This indicates that funding is not regular and that special allocation is made only when deemed necessary. As such, it is difficult to decipher the actual amount spent on these activities. Most instances point to periodic and often small allocations made in the Annual Development Fund of 20% of Revenue for new road construction or for road improvement. Even smaller allocations in the same fund are allocated for road maintenance.



### 7.6.3 Borrowing Capacities of LGUs

As calculated by the study team, the realization of the road network envisioned for Metro Bacolod entails a huge investment. To explore possibility of LGU funding, the borrowing capacities of LGUs in the study area were determined with the assistance of the BLGF-DOF. Resultant computations are shown in Table 7.6-5.

**TABLE 7.6-5 BORROWING CAPACITIES OF METRO BACOLOD LGUs, 2003<sup>1/</sup>**

₱ 000

LGU	Local Source Income	IRA	Annual Regular Income	Maximum Debt Service Capacity	Annual Amortization of Existing Loan	Net Debt Service Ceiling 2003 (P 000)	Net Borrowing Capacity (P 000)
1. Bacolod City	190,267	366,764	557,031	111,406	-	111,406	690,050
2. Bago City	52,002	251,077	303,079	60,616	3,367	57,249	354,599
3. Silay City	27,726	185,616	213,342	42,668	-	42,668	264,288
4. Talisay City	20,000	166,371	186,371	37,274	3,277	33,997	210,579
5. Victorias City	38,707	151,624	190,331	38,066	6,070	31,996	198,184
6. Mun. of Murcia	6,526	47,736	54,262	10,852	470	10,382	64,309
7. Mun. of E.B. Magalona	5,566	38,777	44,343	8,869	-	8,869	54,932
8. Mun. of Pulupandan	6,946	22,206	29,152	5,830	871	4,959	30,719
Province of Neg. Occ. <sup>2/</sup>	50,564	782,254	832,818	166,564	7,935	158,629	982,548
<b>Total</b>	<b>398,304</b>	<b>2,012,425</b>	<b>2,410,729</b>	<b>482,145</b>	<b>21,990</b>	<b>460,155</b>	<b>2,850,208</b>

<sup>1/</sup> Indicative amounts calculated by BLGF as some LGUs did not submit certification of outstanding/absence of loan.

<sup>2/</sup> Year 2002 calculation of BLGF.

Source: Bureau of Local Government Finance, Department of Finance

## 7.7 ANALYSIS OF TECHNICAL CAPABILITIES

The staffing complement of each planning and engineering offices of each LGU in Metro Bacolod is shown in Section 6.2.5 of Chapter 6. Metro Bacolod holds five cities that are capable of undertaking their own road maintenance and small scale to medium scale road construction. The municipalities of E.B. Magalona, Murcia and Pulupandan, on the other hand, rely heavily on the provincial government for these tasks. Fund constraint and equipment breakdowns are the common cited problems of their operations.

## 7.8 LGU INITIATIVE FOR ROAD NETWORK DEVELOPMENT

Unlike Metro Iloilo, the Metro Bacolod area has no known LGU clustering. Each LGU pursue their own programs and projects confined within their own boundaries. It is the provincial government that takes the lead in any borderless project in coordination with LGUs concerned. A major road infrastructure project formulated by the province is the "Sugar Road", which basically connects the sugar milling companies in the study area. This has been considered by the study team in drawing up the road network of the metropolis.