

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
OFFICE OF THE SECRETARY  
MANILA

**ARTERIAL ROAD NETWORK  
DEVELOPMENT PROGRAM  
IN THE  
PHILIPPINES**

26 JULY 1993

ARTERIAL ROAD NETWORK DEVELOPMENT PROGRAM  
IN THE PHILIPPINES

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## ARTERIAL ROAD NETWORK DEVELOPMENT PROGRAM

### 1.0 GENERAL

#### 1.1 TRANSPORT MODES

The transport system in the Philippines is multi-modal comprising of road, rail, sea and air transport. At present, however, it is a predominantly dualmode system, with road and sea transport basically complimenting each other.

Air transport has established a relatively distinct market for long-distance inter-island travel. On the other hand, rail transport is limited to the Bicol-Manila-(La Union) Corridor in Luzon.

The latest estimate on the extent of freight and passenger traffic each mode carry is shown in Table 1, below.

Table 1: Estimated National Mode Split

	Freight Ton-Km (Billion)	%Share	Passengers Pas-Km (Billion)	%Share
	-----		-----	
Road	22.00	53	83.00	89
Sea	19.00	47	8.00	9
Air	0.03	-	1.80	2
Rail	0.02	-	0.20	-
	-----		-----	
		100%		100%

Road transport in the Philippines is the dominant mode among the transport systems of the country accounting for about 22 billion ton-kilometers per year or 53 percent of the total domestic freight traffic and around 83 billion passenger-kilometers per year or 89 percent of the total domestic passenger traffic. Almost all intra-island traffic is carried by the road network and in some cases supplemented by ferry services.

## 1.2 EXISTING ROAD NETWORK

### 1.2.1 Extent

The public road network in the Philippines covers a total length of 160,596 kilometers consisting of about 26,504 kms (16.5%) of national roads which form the main trunkline system; 45,729 kms (28.5%) of provincial, municipal, and city roads; and 88,363 kms (55.0%) of barangay roads. The existing road length by class on a regional basis is shown in Table 2.

Only 17% of the total network or about 26,433 kilometers of intermittent road sections are paved. By type of pavement the network is made up of 13,320 kms (8.3%) concrete, 13,113 kms (8.2%) asphalt, 125,649 kms (78.2%) gravel and 8,513 kms (5.3%) earth. The existing road length by pavement type presented on a regional basis is shown in Table 3.

### 1.2.2 Classification of Road

#### a) Administrative Road Classification

Road classification in the Philippines has been established by a series of Executive Orders, Republic Acts and/or Presidential Decrees, of which the most fundamental was Republic Act No. 917 (the Philippine Highway Act) which provides four basic classification of roads as follows:

- National Primary and Secondary
- National Aid Roads
- Provincial and City Roads
- Municipal Roads

This classification was more clearly defined by Executive Order No. 113 issued in 1955. Since then, various amendments have been made including those shown below.

- "National Aid" roads no longer appear in Revised Philippine Highway Act, 1992 (Presidential Decree No. 17)
- A new class of road known as Barangay Roads was introduced by Presidential Decree No. 702, 1975.

Today the Department of Public Works and Highways (DPWH) classifies roads into the following five (5) groups:

TABLE 2: EXISTING ROAD LENGTH BY CLASS IN THE PHILIPPINES

27-Jul-93

	Land Area (km. 2) A	1991 Projected Population P	1991 Road Length by Class (km)					Total Length	Road
			National	Provincial	City	Municipal	Barangay		Density / (AP/1000):
:All Philippines	300,000.2	63,439,661	26,504.126	28,960.000	3,949.380	12,819.484	88,362.979	160,595.969	1.164
:NCR	636.0	8,329,378	903.060		1,273.741	554.339	271.286	3,002.426	1.304
:CAR	18,293.7	1,192,484	1,593.736	1,402.007	142.171	435.224	3,661.362	7,234.500	1.549
:Region I	12,840.2	3,710,187	1,494.721	1,783.467	167.549	1,079.626	8,002.495	12,527.858	1.815
:Region II	26,837.7	2,435,382	1,677.706	1,694.254		1,037.726	6,619.093	11,028.779	1.364
:Region III	18,230.8	6,514,455	1,698.466	2,365.661	258.468	1,008.300	7,770.784	13,101.679	1.202
:Region IV	46,924.1	8,743,370	3,962.941	3,866.658	292.757	1,390.067	8,906.423	18,418.846	0.909
:Region V	17,632.5	4,020,778	1,975.359	1,771.263	217.626	767.022	4,188.394	8,919.664	1.059
:Region VI	20,223.2	5,608,429	2,670.438	2,410.738	297.321	693.320	8,135.855	14,207.682	1.334
:Region VII	14,951.5	4,792,980	1,659.272	2,313.030	313.365	878.177	5,462.426	10,626.270	1.255
:Region VIII	21,431.7	3,136,006	2,095.453	1,405.385	70.595	701.271	4,304.403	8,577.107	1.046
:Region IX	15,997.2	2,552,049	934.307	1,608.342	121.523	812.785	5,755.495	9,232.452	1.445
:Region X	28,327.8	3,671,524	2,199.999	2,745.783	217.122	1,255.462	8,545.370	14,963.736	1.467
:Region XI	31,692.9	4,678,406	1,978.096	3,251.510	453.612	1,260.994	8,809.924	15,754.136	1.294
:Region XII	13,946.1	1,904,392	935.416	1,341.177	33.239	546.174	3,028.801	5,884.807	1.142
:ARMM	12034.8	2,149,841	725.156	1,000.725	90.291	398.997	4,900.858	7,116.027	1.399

TABLE 3: EXISTING ROAD LENGTH BY SURFACE TYPE IN THE PHILIPPINES

28-Jul-93

	1991 Road Length by Surface Type (km)					Road Density $\frac{L}{(AP/1000)}$	
	Concrete	Asphalt	Gravel	Earth	Total	Total Road	Paved Road
All Philippines	13,319.769	13,113.222	125,649.472	8,513.506	160,595.969	1.164	0.192
NCR	1,237.023	1,458.923	294.698	11.782	3,002.426	1.304	1.171
CAR	215.758	556.785	5,554.042	907.915	7,234.500	1.549	0.165
Region I	675.069	1,444.805	9,950.596	457.369	12,527.859	1.815	0.307
Region II	710.384	322.751	9,635.721	359.923	11,028.779	1.364	0.128
Region III	1,772.044	1,221.009	9,715.353	393.273	13,101.679	1.202	0.275
Region IV	1,657.615	2,410.081	13,688.988	662.162	18,418.846	0.909	0.201
Region V	1,272.952	980.988	6,170.478	495.246	8,919.664	1.059	0.268
Region VI	1,002.119	1,162.219	11,873.876	169.368	14,207.682	1.334	0.203
Region VII	552.790	1,265.099	8,418.820	389.562	10,626.271	1.255	0.215
Region VIII	1,435.901	551.062	6,260.891	329.253	8,577.107	1.046	0.242
Region IX	226.321	498.639	8,181.587	325.905	9,232.452	1.445	0.113
Region X	916.663	728.724	12,122.509	1,195.840	14,963.736	1.467	0.161
Region XI	863.647	263.465	13,114.393	1,512.631	15,754.136	1.294	0.093
Region XII	416.116	144.841	4,743.787	577.414	5,882.158	1.141	0.109
ARMM	365.347	103.831	5,923.633	725.863	7,118.674	1.400	0.092

- National Road
- Provincial Road
- City Road
- Municipal Road
- Barangay Road

Definition of each class is given below, Figure 1 shows the underlying concept.

National Roads - are all roads continuous in extent that form part of the main trunkline system; all roads leading to national ports, national seaports, parks or coast-to-coast roads.

Provincial Roads - are those roads connecting one municipality, the termini to be public plazas; all roads extending from a municipality or from a provincial or national road to a public wharf or railway station; and any other road to be designated as such by the Sangguniang Panlalawigan.

City Roads - are those roads/streets within the urban area of the city to be designated as such by the Sangguniang Panglungsod.

Municipal Roads - are those roads within the poblacion area of a municipality to be designated as such by the Sangguniang Bayan.

Barangay Roads - are rural roads located either outside the urban area of a city or outside industrial, commercial or residential subdivision which act as feeder farm-to-market roads, and which are not otherwise classified as a national, provincial, city or municipal roads. Roads located outside the poblacion area of a municipality and those roads located outside the urban area of a city to be designated as such by the Barangay Council concerned.

The responsibility for planning, construction and maintenance of National Roads is with the Department of Public Works and Highways (DPWH). The provincial, city and municipal government units, all under the administrative supervision of the Department of Interior and Local Government (DILG), are responsible for provincial, city and municipal roads in their areas, through the Provincial, City and Municipal Engineers Offices, respectively.

Barangay Roads which used to be the responsibility of the DPWH, are now under the jurisdiction of Local Government Units (LGUs).



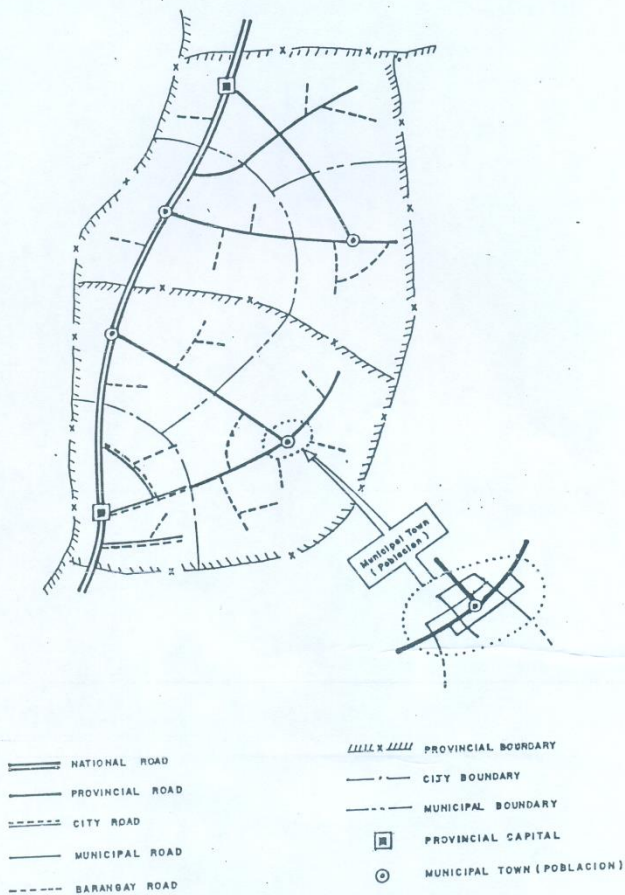


FIGURE 1 CONCEPTUAL ROAD NETWORK BY ADMINISTRATIVE CLASSIFICATION

## b) Functional Road Classification

Road Classification by the DPWH is mainly based on the administrative jurisdiction of the concerned agencies. This type of classification maybe helpful to identify the responsible agency regarding the funding, construction/improvement and maintenance of each class of roads. However, the administrative classification has been often misinterpreted particularly in terms of importance and character of service of the roads; a national road is not always of higher importance than provincial road.

Consequently, several functional road classification studies to rationalize the situation have been conducted.

In 1982, the IBRD - assisted Rural Road Development Program II classified roads into the following five (5) classes:

- Primary Roads
- Secondary Roads
- Tertiary Roads
- Farm-to-Market Roads
- Streets

The IBRD-assisted "Functional Road Classification Study" (FRCS-86), which was undertaken in 1986, classifies the roads as follows:

- National Primary Roads
- National Secondary Roads
- National Tertiary Roads
- Provincial Roads
- Feeder Roads

Definition for classification is presented in Table 4.

An ADB-assisted "Philippine Road Classification Study" (PRCS-91) which is currently being undertaken, tentatively proposes the following classification by revising FRCS-86.

- Primary Arterial
- Secondary Arterial
- Provincial Collector
- Municipal Collector
- Local Roads

TABLE 4 PREVIOUS FUNCTIONAL ROAD CLASSIFICATION

IBRD Assisted Functional Road Classification Study (DPWH), 1986	IBRD Assisted Rural Roads Development Program II (DLG), 1982
(1) National Primary Road Connect primary centers	(a) Primary Road Major inter-provincial roads or major intra-provincial trunk roads linking one or more municipal towns to the Provincial Capital
(2) National Secondary Road Connect secondary centers to one another and to National Primary Roads	
(3) National Tertiary Road Connect tertiary centers to one another to a National Primary or National Secondary road	(b) Secondary Road Roads (other than above) linking municipalities with each other or to the provincial capital or the primary network
(4) Provincial Road Connect cities and municipalities not classified as primary/secondary/tertiary center to a national road.	(c) Tertiary Road Roads linking barangays to the municipal towns and to the primary or secondary network
(5) Feeder Road Connect barangays, outside urban development areas as of a city or municipality, to one another and roads not classified as national or provincial	(d) Farm-to-Market Road Roads linking farm areas to their respective barangay centers or to higher level network
	(e) Street Roads within built-up population centers with essentially urban rather than rural functions

	Rating
• Primary Center (28)	National/Regional Capital...1
- either a national or regional capital	Provincial Capital .....2
- or base for a national base seaport	If combined .....0
- or base for an international airport	Sub-provincial Capital ....3
- or having a rating of 9 or less	National Base Seaport .....1
• Secondary Center (58)	International Airport .....1
- either a provincial capital	National Sub-base Seaport ..2
- or base for a national sub-base port	National Trunkline Airport..2
- or having a rating of 10 to 13 inclusive	National Seaport/Secondary Airport .....3
• Tertiary Center (14)	Feeder Port .....4
- either a sub-provincial capital	Population over 100,000 ....1
- or having a rating of 14 to 16	75,000 1000,000 .....2
	50,000 75,000 .....3
	If none .....5

As of now no concrete functional classification has been established as yet, and neither has any of the recommendation of the functional classification by past studies was adopted. It is likely, however, that the functional, classification under the ADB-assisted PRCS-91 will be the basis of the Philippine road system.

### 1.2.3 Growth of Road Network

As far back as 1961, the total road network in the Philippines was recorded to be about 49,605 kilometers. This increased at an average of 5.0% annually to a total of 77,951 kilometers in 1970. The network continued to increase, even dramatically during the 70's with the inclusion to the network of about 80,960 kilometers of barangay roads so that by 1980 the total inventory already stands at about 151,918 kilometers. From hereon, however, the network increased modestly at about 1.3% a year or a total of 161,867 kilometers as of 1985.

After that, the road length decreased slightly due to the latest inventory where some roads excluded from the list of national and barangay roads as they were not qualified as such.

In 1991 the total road network stands at 160,596 kilometers, consisting of 26,504 km (16.5%) of national roads; 45,729 km (28.5%) of provincial, municipal and city roads; and 88,363 km. (55.0%) of barangay roads.

Table 5 and Figure 2 show the growth of the network.

## 1.3 PRESENT STATE OF THE NETWORK

Major road improvement activities began in 1969 following the completion of the Philippine Transport Survey conducted with UNDP financial assistance which recommended the improvement of about 6,000 kilometers of national roads. Also giving impact on the road network development was the construction of the Philippine Japan Friendship Highway, on which construction was started in 1969 and completed in 1979 with financial assistance from Japan.

Of the total road network of about 160,596 kilometers of road sections all over the country, about 16 percent or roughly 26,433 kilometers are paved with either cement concrete or asphalt materials. The rest of about 84 percent or 134,163 kilometers are gravel road sections, a big magnitude of which is in bad condition.

TABLE 5 GROWTH OF ROAD NETWORK (1961-1991)

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Year	National Road	Provincial Road	City Road	Municipal Road	Barangay Road	Total
1961	15,143	18,777	3,447	12,238	-	49,605
1962	15,223	20,055	3,755	13,595	-	52,628
1963	15,457	20,569	3,841	14,432	-	54,299
1964	15,677	20,878	4,064	14,672	-	55,311
1965	15,932	21,365	4,194	16,309	-	55,778
1966	16,187	21,421	4,613	15,332	-	57,555
1967	16,614	22,337	4,875	14,774	-	58,602
1968	17,434	22,588	5,006	15,498	-	60,526
1969	18,540	23,312	5,232	16,176	-	63,260
1970	19,198	25,217	6,734	16,855	10,425	77,991
1971	20,066	27,879	6,805	18,781	12,069	85,600
1972	21,315	28,103	6,714	18,636	13,714	88,482
1973	21,415	28,123	7,397	19,444	16,651	93,030
1974	21,516	28,144	8,340	21,361	18,769	98,330
1975	21,665	28,175	2,680	7,512	44,399	104,431
1976	21,776	28,186	2,726	7,902	52,271	112,881
1977	22,333	28,224	3,004	9,141	56,318	119,220
1978	22,790	28,243	3,133	9,524	61,445	125,135
1979	23,552	29,034	3,406	10,657	80,760	147,609
1980	23,641	29,753	3,692	11,445	83,337	151,868
1981	23,489	29,933	3,723	11,914	84,449	153,528
1982	23,783	29,544	3,741	12,142	85,264	154,474
1983	24,140	29,725	3,718	12,240	85,847	155,670
1984	25,117	28,826	3,876	12,432	86,868	157,139
1985	26,191	28,193	3,787	12,829	90,471	161,867
1986	26,230	28,334	3,887	12,841	87,107	158,499
1987	26,082	28,928	3,984	12,875	85,941	157,810
1988	26,070	29,174	3,782	12,626	85,595	157,447
1989	26,111	29,143	3,949	12,707	87,149	159,059
1990	26,261	29,136	3,949	12,820	88,363	160,549
1991	26,504	28,960	3,949	12,820	88,363	160,596

Source : 1. Monitoring and Statistics Division, PES, DPMH  
2. Bureau of Maintenance, DPMH

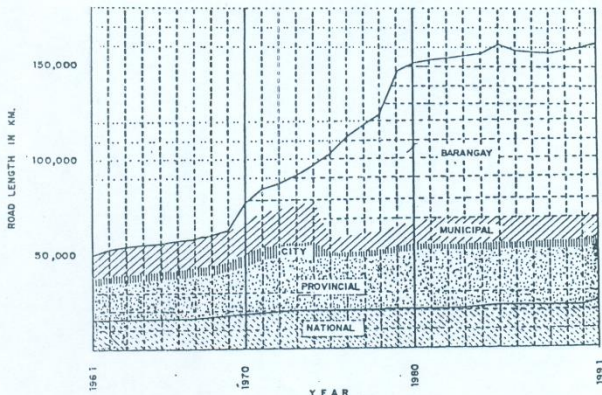


FIGURE 2 GROWTH OF ROAD NETWORK

On the paved road sections, however, there is a big disparity among the provinces. Figures 3 & 4 show that the pavement ratio of national roads varies from 95.5% (in Cavite) to only 2.7% (in Kalinga-Apayao) and the pavement ratio of provincial roads varies from 89.3% (in Southern Leyte) to zero (in Quirino, Maguindano, and Sultan Kudarat), respectively. Not only this, but even in terms of road density (km per sq. km of land area) disparity exists. Figure 5 shows the road density of the barangay roads which varies from 2.268 (in Lanao del Sur) to 0.157 (in Oriental Mindoro).

The national road network extending to about 26,504 kilometers provide the main trunkline system in the overall road network of the country which, therefore, cater for most of the traffic in the rural and urban areas. These national road sections suffers from a number of deficiencies including basic geometric standards, riding surface, drainage capacity and road furniture for safety and efficient road operation/utilization.

## 2.0 DEVELOPMENT STRATEGY FOR THE NATIONAL ROAD NETWORK

### 2.1 DEMAND REQUIREMENTS

The requirements to put the road network into standards of the developed countries in the world could be achieved through a long term program considering the pervading economic constraints vis-a-vis the huge capital outlay requirements which could not be sustained in the short term. Obviously, therefore, there is a need to formulate a "well-thought off" strategy of development in the medium and long term.

Let alone the national road network, the requirements run beyond the available resources in the medium-term. The development strategy adopted for the network is to focus on a system that could address the vital requirements necessary to support the current national objectives.

Out of the 26,504 kilometers of national roads only about 7,565 kilometers are already improved. The remaining 18,939 kilometers of road sections have yet to be improved to bring them to standard levels. This will involve an outlay of about P127.3 Billion.

Table 6 shows the national road development program. Figures 6, 7, & 8 show in the maps the network for Luzon, Visayas and Mindanao, respectively.

FIG. 3 PAVEMENT RATIO: NATIONAL ROAD (PROVINCIAL LEVEL)

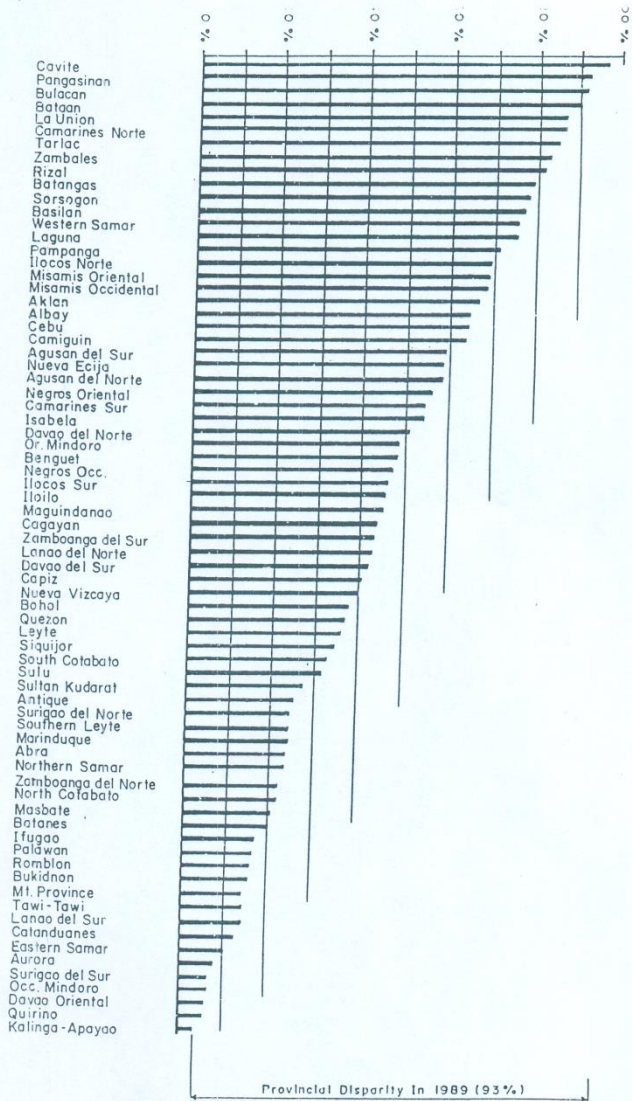


FIG. 4 PAVEMENT RATIO: PROVINCIAL ROAD (PROVINCIAL LEVEL)

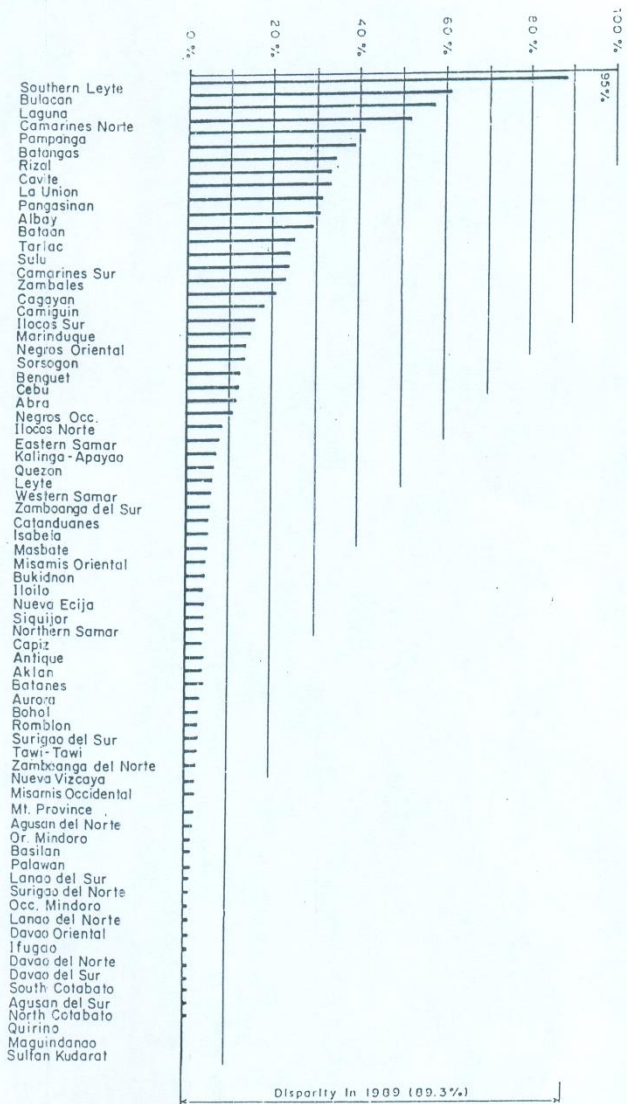




FIG. 5 ROAD DENSITY : BARANGAY ROAD (PROVINCIAL LEVEL)

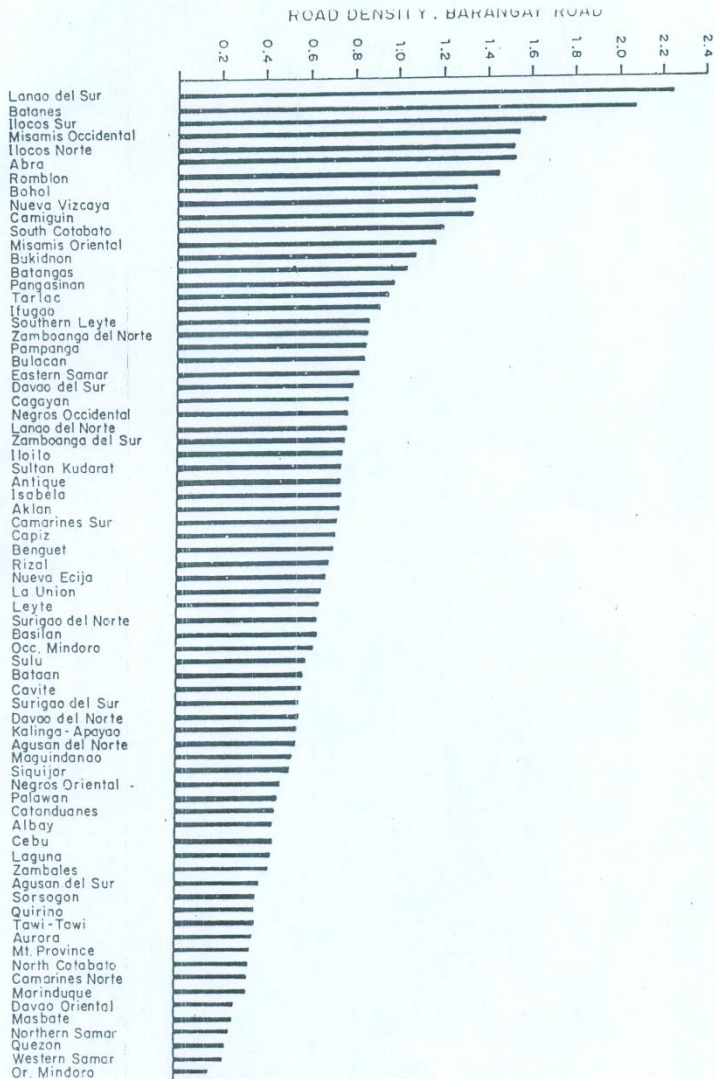
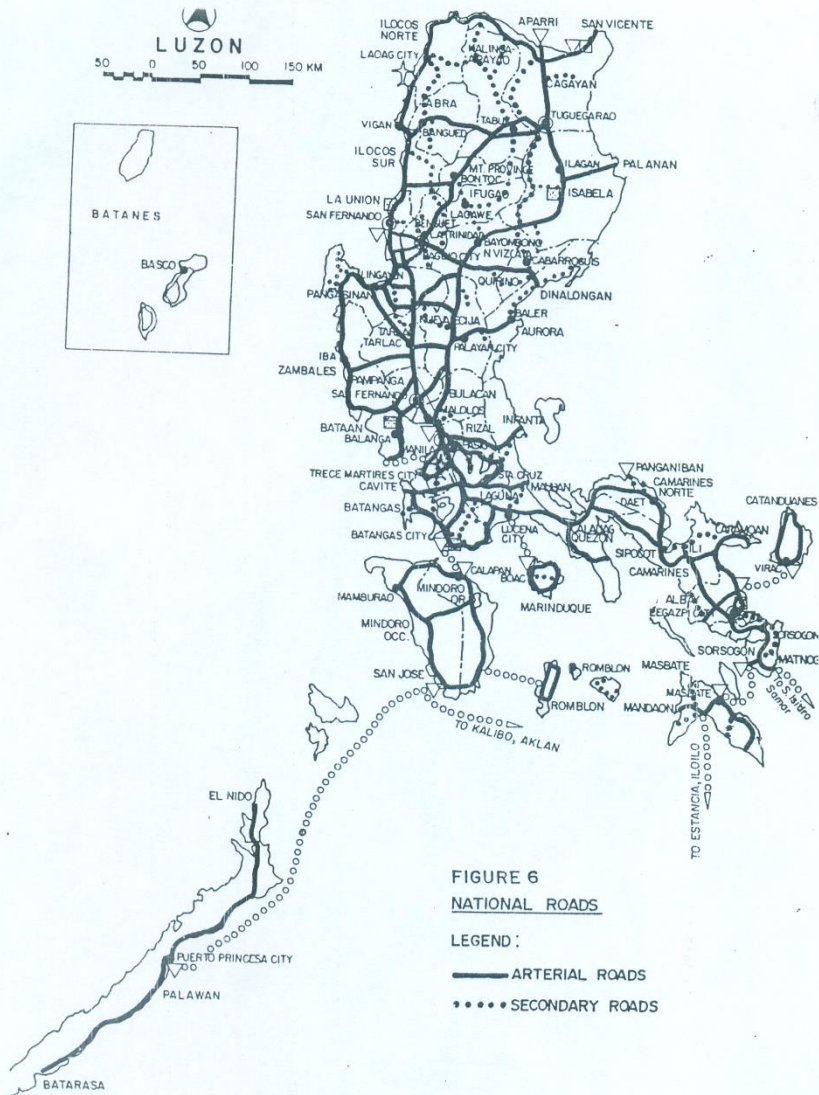
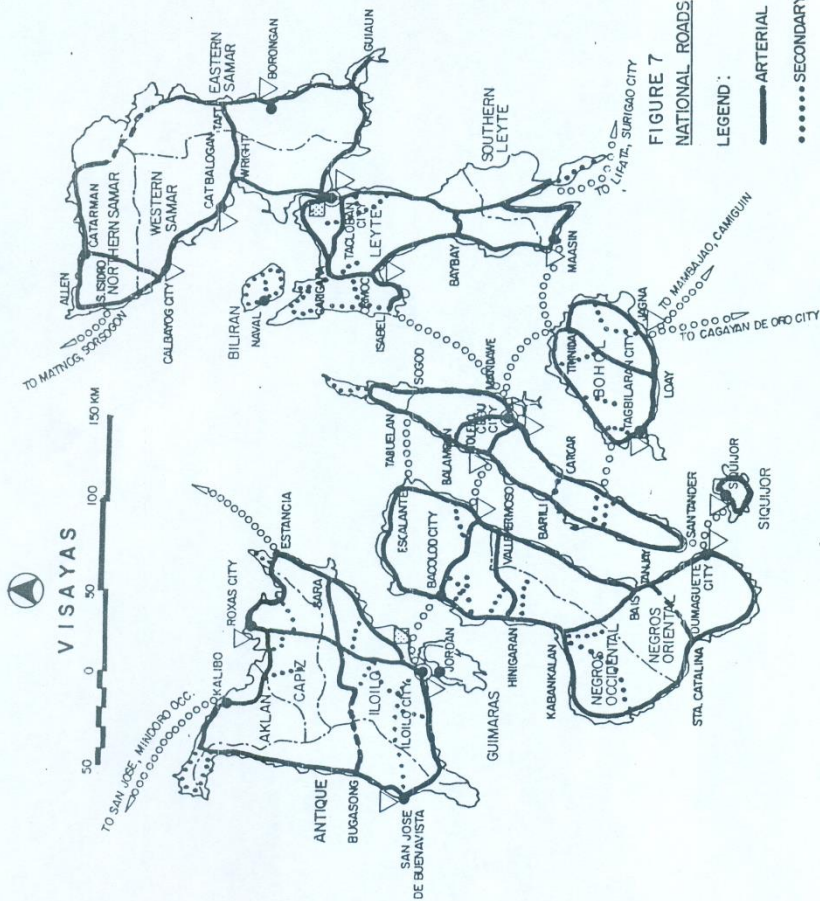


TABLE 5 NATIONAL ROAD DEVELOPMENT PROGRAM

CATEGORY	TOTAL LENGTH (KM.)	ALREADY IMPROVED (KM.)	TO BE IMPROVED (KM.)	ESTIMATED COST 1/ (P BILLION)	
				TOTAL	COMMITTED BALANCE
ARTERIAL ROAD	15,798	4,693	11,105	71.76	21.47
N-S BACKBONE	5,214	1,953	3,261	20.56	12.13
E-W LATERAL	3,100	631	2,469	19.01	2.48
OTHER STRATEGIC ROADS	7,484	2,109	5,375	32.19	6.86
SECONDARY	10,706	2,872	7,834	55.50	6.98
TOTAL	26,504	7,565	18,939	127.26	28.45

1/ Current prices  
Source of data : DPMH







## 2.2 ARTERIAL ROAD NETWORK

Consistent with this strategy, the national road network was examined with the end in view of identifying a system that would effectively respond to the country's development objectives. This resulted in the formulation of the ARTERIAL ROAD NETWORK DEVELOPMENT PROGRAM.

Out of the 26,504 kilometers of national roads 15,798 kilometers have been identified to form the Arterial Road Network. This network forms the primary highway system of the country providing for the main flows of the traffic between the different regions of the country. It is composed of a north-south backbone with east-west laterals (about 100 kilometers apart), and other roads of strategic importance. Specifically, the arterial road network consists of the following:

- a. Roads connecting regional and provincial capitals and other major urban areas.
- b. Roads leading to planned growth centers in areas of great economic development potentials.
- c. Roads leading to regional industrial and tourist centers.
- d. Roads traversing the principal agricultural production areas.
- e. Roads leading to national ports and airports.
- f. Other roads of strategic importance to provide immediate and direct access to population centers in case of national and regional emergencies.

## 3.0 ARTERIAL ROAD NETWORK DEVELOPMENT PROGRAM

### 3.1 DESCRIPTION OF THE NETWORK

The Arterial Road Network consists of the following three categories:

- a) North-South (N-S) Backbone (5,214 km). This is the main road network that connects the northern most part of Luzon down to the southern most part of Mindanao and interconnecting the different islands of the country through ferry services.
- b) East-West (E-W) Laterals (3,100 km). The roads cutting across islands to provide lateral interconnection to the (N-S) Backbone network.

- c) Other Roads of Strategic Importance (7,484 km). These roads provide vital access to important strategic areas in times of national and regional emergencies and at the same time promote the efficiency of the network.

### 3.2 DESIGN STANDARDS

A hierarchy of the improvement levels will be adopted for the arterial road network. The North-South Backbone will provide the highest level of service considering that this caters for the inter-regional and through traffic. The East-West Laterals which interconnects with the North-South Backbone will require the next level of service and the other roads of strategic importance to provide for an efficient and effective total network.

Table 7 shows the minimum design standard for the three categories of the arterial network.

### 3.3 INVESTMENT REQUIREMENTS

The total investment required to put the network into standard condition will involve P73,282.0 Million or a yearly breakdown as follows:

1993	-	P 5,857.3 Million
1994	-	5,135.1 Million
1995	-	9,959.2 Million
1996	-	12,963.6 Million
1997	-	15,751.4 Million
1998	-	18,098.9 Million
1999	-	5,516.5 Million

Total----- P 73,282.0 Million

### 3.4 PRIORITY SECTIONS IN THE MEDIUM-TERM

By group of islands the arterial road network consists of about 6,920 kilometers in Luzon, 4,153 kilometers in the Visayas and 4,725 kilometers in Mindanao.

In Luzon, where the highest percentage of the arterial network is located (44%), only about 29% or a total of 1,978 kilometers are already improved to good condition. The remaining sections of about 4,942 kilometers are yet to be improved to standard condition. These are mainly intra-island roads serving the different areas of the island. It is estimated that the total amount of P36.1 Billion is needed to bring these roads to standard condition. Table 8 shows

Table 7. MINIMUM DESIGN STANDARD FOR THE ARTERIAL ROAD NETWORK

Category	North-South Backbone		East-West Laterals		Other Roads of Strategic Importance	
	Minimum	Desirable	Minimum	Desirable	Minimum	Desirable
Opening						
Design Speed (km/h)						
Flat Topography	90	100	80	95	70	90
Rolling Topography	70	90	60	80	60	80
Mountainous Topography	60	70	50	60	40	50
Radius (metre)						
Flat Topography	260	350	220	320	160	280
Rolling Topography	160	280	120	220	120	220
Mountainous Topography	180	160	80	120	50	80
Grade (Percent)						
Flat Topography	4.0	3.0	4.0	3.0	5.0	3.0
Rolling Topography	5.0	4.0	5.0	5.0	6.0	5.0
Mountainous Topography	7.0	5.0	7.0	6.0	8.0	6.0
Pavement Width (m)	6.70	7.30		6.70		6.10
Shoulder Width (m)		3.00	2.50	3.00	1.50	2.00
Right-of-Way Width (m)		60	30	30		30
Superelevation (m/m)		0.10 (max.)		0.10 (max.)		0.10 (max.)
Non Passing Sight Distance (metre)						
Flat Topography	135	160	115	150	90	135
Rolling Topography	90	135	70	115	70	115
Mountainous Topography	70	90	60	70	40	60
Passing Sight Distance (metre)						
Flat Topography	615	675	560	645	490	615
Rolling Topography	490	615	420	560	420	560
Mountainous Topography	420	490	360	420	270	350
Type of Surfacing		Bituminous Concrete	Bituminous Concrete	Bituminous Concrete	Bituminous Macadam	
		Surface Course,	Surface Course		Pavement, Dense or	
		Portland Cement			Open Graded Plant Mix	
		Concrete Pavement			Surface Course,	
					Bituminous Concrete	
					Surface Course	



the composition of the arterial road network in Luzon and the investment required for each category for the sections that still have yet to be improved. The map presented in Figure 9 shows the network.

In the Visayas consisting of six major group of islands, the total arterial road network is about 4,153 kilometers or 26% of the network. These road sections consist mainly both of inter and intra-road system to serve the internal requirements of each island and to provide as interlink network for among the islands. An investment of about P14.2 Billion is required for the road sections that need improvement as shown in Table 9. Figure 10 shows the network.

In Mindanao the arterial road network are mainly intra-island roads consisting of about 4,725 kilometers or 30% of the total arterial road network. To improve the road sections of about 3,381 kilometers into standard condition will require an investment outlay of about P21.5 Billion as shown in Table 10. The road network is presented in the map in Figure 11.

TABLE 8 NATIONAL ROAD DEVELOPMENT PROGRAM

CATEGORY	LUZON				ESTIMATED COST 1/ (P BILLION)	BALANCE
	TOTAL LENGTH (KM.)	ALREADY IMPROVED (KM.)	TO BE IMPROVED (KM.)	TOTAL		
ARTERIAL ROAD	6,920	1,978	4,942	36.09	11.10	24.99
N-S BACKBONE	2,162	735	1,427	9.89	8.79	1.10
E-W LATERAL	1,467	286	1,181	11.31	1.07	10.25
OTHER STRATEGIC ROADS	3,291	957	2,334	14.89	1.24	13.65
SECONDARY	5,279	1,580	3,700	26.62	4.15	22.47
TOTAL	12,199	3,558	8,642	62.71	15.25	47.46

1/ Current prices  
Source of data : DPMH

TABLE 9 NATIONAL ROAD DEVELOPMENT PROGRAM

CATEGORY	VISAYAS			ESTIMATED COST 1/ (P BILLION)		
	TOTAL LENGTH (KM.)	ALREADY IMPROVED (KM.)	TO BE IMPROVED (KM.)	TOTAL	COMMITTED	BALANCE
ARTERIAL ROAD	4,153	1,371	2,782	14.22	4.40	9.81
N-S BACKBONE	1,192	402	790	3.65	0.74	2.90
E-W LATERAL	934	161	773	4.88	1.35	3.52
OTHER STRATEGIC ROADS	2,027	808	1,219	5.69	2.31	3.39
SECONDARY	2,471	659	1,811	13.00	2.26	10.74
TOTAL	6,624	2,030	4,593	27.22	6.66	20.55

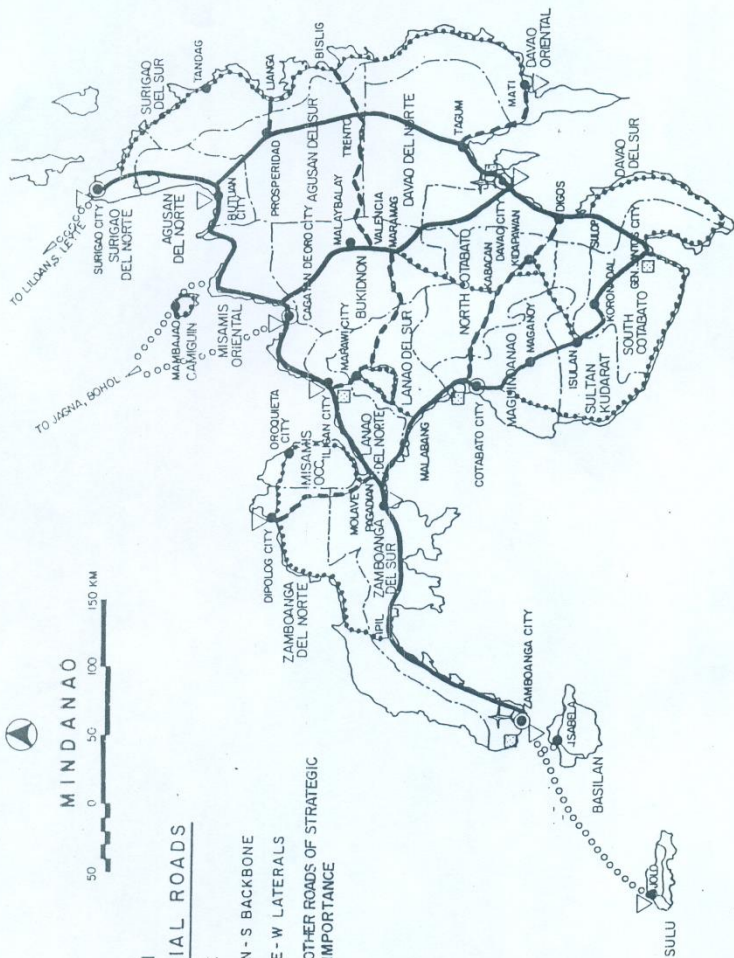
1/ Current prices  
Source of data : DPMH

TABLE 10 NATIONAL ROAD DEVELOPMENT PROGRAM

## MINDANAO

CATEGORY	TOTAL LENGTH (KM.)	ALREADY IMPROVED (KM.)	TO BE IMPROVED (KM.)	ESTIMATED COST 1/ (P. BILLION)	
				TOTAL	COMMITTED BALANCE
ARTERIAL ROAD	4,725	1,344	3,381	21.45	5.97
N-S BACKBONE	1,860	816	1,044	7.02	2.60
E-W LATERAL	699	184	515	2.83	0.06
OTHER STRATEGIC ROADS	2,166	344	1,822	11.61	3.31
SECONDARY	2,956	633	2,323	15.88	0.57
TOTAL	7,681	1,977	5,704	37.33	6.53

1/ Current prices  
Source of data : DPMH



**FIGURE II**  
**ARTERIAL ROADS**  
**LEGEND:**  
 — N-S BACKBONE  
 - - - E-W LATERALS  
 ..... OTHER ROADS OF STRATEGIC IMPORTANCE

