INFRASTRUCTURE AND UTILITIES SECTOR

I. TRANSPORTATION

Development is incorporated with Infrastructure. Because of the intensive use of infrastructure, the transport sector is an important component of economy and a tool to gauge development. Global and local economy has been increasingly related to mobility of people, goods and information. When transport systems are efficient, they provide social and economic opportunity and benefits such as accessibility to trade, employment, academe, leisure and others. On the other hand, well-organized and well-maintained system of transportation is essential in disaster responses and evacuation activities. With this, quick responses in time of calamities will be delivered by local officials and concerned agencies.

A. LAND TRANSPORTATION

The town is accessible from Metro Manila via Ortigas Avenue and Manila East Road, via Angono-Taytay Coastal Road and Manila East Road, or via Marcos Hi-way, Ortigas Avenue Extension and Manila East Road. Municipality of Angono is accessible through the Manila East Road and M.L. Quezon Avenue on the northwest entering Barangay San Isidro. It is also accessible from the west via the Angono Diversion Road from Taytay entering through Barangay Kalayaan. This alternative route was intended to reduce the travel time going to Manila by at least 35 % and reduce heavy traffic at Ortigas Avenue and other major thoroughfares. The means of transportation in the municipality is essentially by land. Main thoroughfares are utilized by buses, utility vehicles, trucks, taxi/fx, motorcycles, tricycles, and private vehicles in transporting goods and commuters. Commuters may take the regular passenger jeepneys and taxi/fx vehicles plying the area to and from the nearby towns and cities. The road network for the municipality consists of provincial roads with a total of 7.216 kilometers while municipal roads totals 39.744 kilometers.

The fact that vehicles are mobile, a substantial number of them travel to, within and from Angono. A large volume of the vehicles traverses the National roads which links the municipality to the metropolis and neighboring towns. There is no available latest data but in 1989 AngonoCoastal Road has an annual daily average traffic of 7,163 while the Manila East Road has 8,309. To cater the transportation needs of its population, the municipality is served by a number of 1,669 public utility jeepneys (PUJs) plying major routes.

Table 1. ANNUAL DAILY AVERAGE TRAFFIC COUNT, 2015

LOCATION	DAILY AVERAGE TRAFFIC
Manila East Road – Col. Guido St.	8,090
Manila East Road – Taytay-Angono Coastal Road	8,603
Manila East Road – Don Mariano Santos Ave.	9,318
Total	***26,011***

Source: MMDA Traffic Management Plan

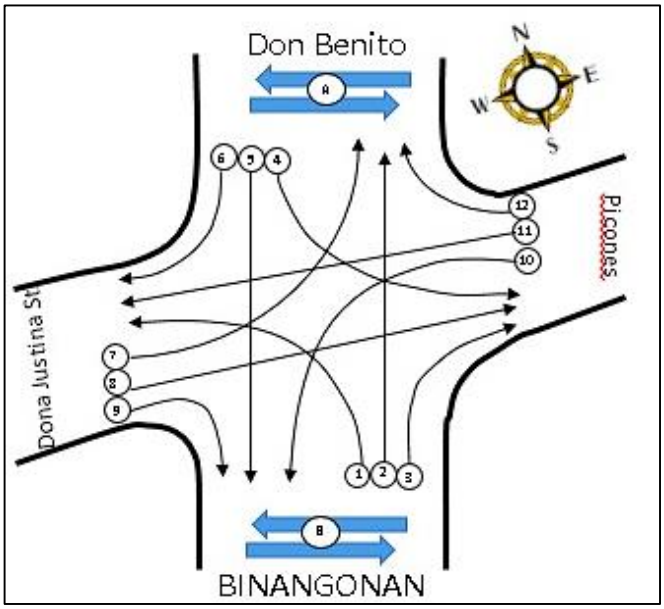


Figure 1.
ANNUAL TRAFFIC COUNT, 2015
Manila East Road – Col. Guido St.
Source: MMDA Traffic Management Plan

FLOW NO.	VOLUME (AM PEAK 0700 - 0800) MAY 27, 2015							TOTAL
	CAR	PUJ	PUB	TRK	TRA	MC	TRI	
1	2	0	0	0	0	28	28	58
2	572	316	1	35	0	1322	204	2450
3	2	0	0	1	0	16	28	47
4	10	2	0	1	0	17	28	58
5	220	175	4	14	0	257	161	831
6	5	0	0	0	0	6	24	35
7	22	56	0	1	0	4	61	144
8	2	0	0	1	0	8	74	85
9	8	4	0	0	0	17	67	96
10	8	2	0	2	0	14	36	62
11	0	0	0	0	0	36	146	182
12	43	2	0	0	0	56	104	205
							TOTAL	4253

FLOW NO.	VOLUME (AM PEAK 1600 - 1700) MAY 25, 2015							TOTAL
	CAR	PUJ	PUB	TRK	TRA	MC	TRI	
1	4	0	0	0	0	29	52	85
2	397	155	1	49	0	346	186	1134
3	0	0	0	0	0	16	25	41
4	40	0	0	4	0	65	20	129
5	500	222	5	41	0	736	102	1606
6	4	0	0	0	0	6	29	39
7	19	25	0	0	0	0	130	174
8	8	0	0	0	0	28	150	186
9	23	5	0	2	0	25	50	105
10	22	1	0	1	0	26	18	68
11	5	0	0	0	0	61	65	131
12	36	0	0	0	0	29	74	139
							TOTAL	3837

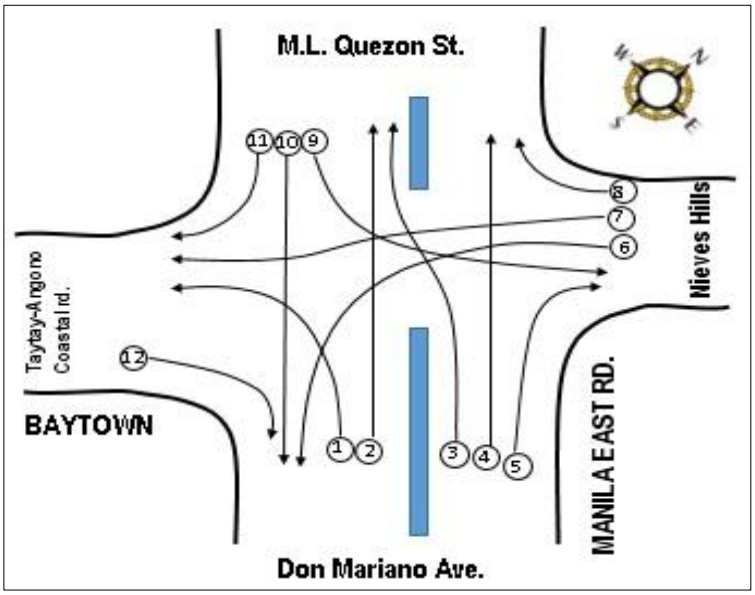


Figure 2.
ANNUAL TRAFFIC COUNT, 2015
Manila East Road – Taytay-Angono Coastal Road
Source: MMDA Traffic Management Plan

FLOW NO.	VOLUME (AM PEAK 0800 - 0900) MAY 26, 2015							TOTAL
	CAR	PUJ	PUB	TRK	TRA	MC	TRI	
1	323	40	0	6	0	524	58	951
2	331	18	0	56	0	492	230	1127
3	0	1	0	0	0	0	4	5
4	32	298	0	2	0	25	19	376
5	8	0	0	0	0	6	25	39
6	4	1	0	4	0	8	24	41
7	2	0	0	0	0	6	2	10
8	5	5	0	1	0	12	6	29
9	1	0	0	0	0	1	1	3
10	239	130	0	37	0	217	168	791
11	89	0	0	2	0	37	25	153
12	151	43	0	4	0	79	65	342
							TOTAL	3867

FLOW NO.	VOLUME (AM PEAK 1700 - 1800) MAY 26, 2015							TOTAL
	CAR	PUJ	PUB	TRK	TRA	MC	TRI	
1	228	37	0	12	0	178	79	534
2	311	12	2	4	0	334	241	904
3	2	4	0	0	0	4	4	14
4	54	232	0	1	0	40	24	351
5	4	1	0	0	0	20	19	44
6	2	1	0	0	0	13	36	52
7	2	0	0	0	0	1	0	3
8	7	1	0	0	0	16	11	35
9	5	0	0	0	0	4	4	13
10	564	254	4	54	0	780	262	1918
11	36	0	0	2	0	16	18	72
12	370	40	4	2	0	316	64	796
							TOTAL	4736

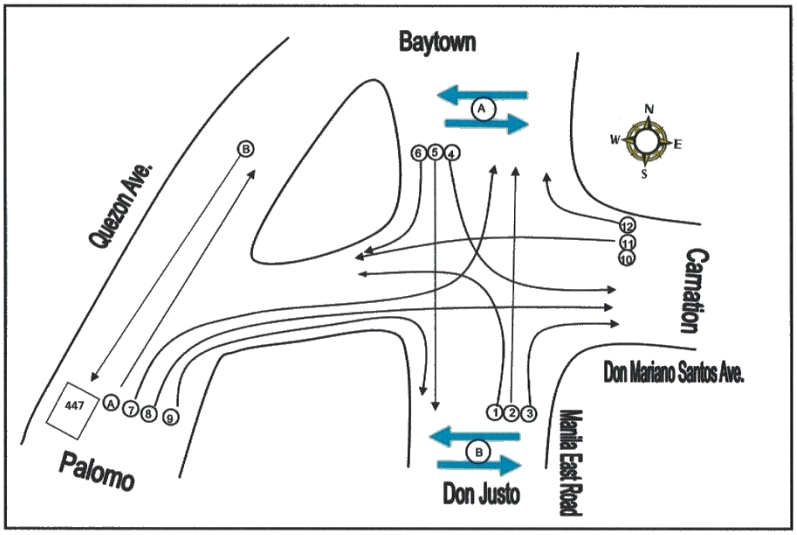


Figure 3.
ANNUAL TRAFFIC COUNT, 2015
Manila East Road –
Don Mariano Santos Ave.
Source: MMDA Traffic Management Plan

FLOW NO.	VOLUME (AM PEAK 0630 - 0730) MAY 26, 2015							TOTAL
	CAR	PUJ	PUB	TRK	TRA	MC	TRI	
1	19	4	0	1	0	13	65	102
2	622	329	0	22	0	1057	89	2119
3	13	0	0	4	0	18	6	41
4	8	0	0	10	0	12	29	59
5	220	198	1	40	0	206	71	736
6	5	0	0	0	0	0	8	13
7	1	5	0	0	0	7	96	109
8	10	0	0	0	0	30	55	95
9	26	28	0	0	0	8	43	105
10	28	7	0	6	0	31	37	109
11	7	2	0	1	0	35	139	184
12	77	2	0	10	0	77	89	255
A	95	55	0	8	0	198	91	447
B	68	86	0	10	0	126	152	442
							TOTAL	4816

FLOW NO.	VOLUME (AM PEAK 1700 - 1800) MAY 26, 2015							TOTAL
	CAR	PUJ	PUB	TRK	TRA	MC	TRI	
1	28	0	0	0	0	18	31	77
2	380	215	0	40	0	242	100	977
3	26	1	2	2	0	46	54	131
4	36	0	1	30	0	41	23	131
5	486	173	0	43	0	460	103	1265
6	4	0	0	0	0	1	5	10
7	10	0	0	0	0	1	4	15
8	28	0	0	2	0	54	104	188
9	82	0	0	2	0	14	35	133
10	36	2	1	10	0	34	64	147
11	31	0	0	0	0	78	146	255
12	34	0	1	16	0	43	32	126
A	91	38	0	5	0	78	134	346
B	139	91	0	16	0	196	259	701
							TOTAL	4502

Table 2. INVENTORY OF ANGONO ROUTE

INVENTORY OF PUJ, ANGONO ROUTE, 2015		
ROUTE	**UNITS**	**% SHARE**
Angono – Cubao Aurora 20th Ave PTuazon	No Available Data	
Angono – EDSA/Shaw Blvd		
Angono – NCC Market via Felix Avenue		
Angono – Pasig (TP)		
Angono – Pasig (TP) via Angono Bayan		
Angono – Robinson's Galleria		
Angono – Rosario		
Angono – Taytay (TP)		
Angono – Agora Market (SJ) via Manggahan		
Angono – Cubao		
Binangonan – EDSA/Shaw Blvd via Angono		
Binangonan – EDSA/Shaw Blvd via ManggahanF'wy		
Binangonan – JRC via Angono		
Binangonan – JRC via Angono*Floodway*		
Binangonan – JRC via EDSA/Shaw Angono		
Binangonan – JRC via Manggahan Floodway		
Binangonan – Marcos Hiway/Imelda Avenue		
Binangonan – Pasig (TP)		
Binangonan – Rosario		
Binangonan – JRC via Angono*Villa Manggahan*		
Binangonan – JRC via Angono,*Taytay, Cainta*		
Binangonan – JRC via EDSA/Shaw Villa Manggahan		
Binangonan – LRT/MRKNRBanksviaMlaEastImldM		
Binangonan – Marcos Hway LRT Station RBank		
Binangonan – Marcos Hway/Imelda MlaEastRd		
Binangonan – Riverbanks via MlaEastImeldaMH		
Cainta – Jala-jala		
Cainta – Morong via Binangonan		
Cainta – Tanay via Binangonan		
Cubao – Angono		
EDSA/Shaw Central – Morong		
EDSA/Shaw Central – Morong via EDSA		
EDSA/Shaw Central – Morong via CaintaTaytay		
EDSA/Shaw Central – Tanay via Angono		
EDSA/Shaw Central – Tanay via Binangonan		
EDSA/Shaw Central – Morong via Floodway Angono		
EDSA/Shaw Central – Tanay via Floodway Angono		
EDSA/Shaw Central – Morong via Binangonan Cardona		
TOTAL		

Source: Land Transportation Franchising and Regulatory Board

INVENTORY OF SUV, ANGONO ROUTE, 2015		
ROUTE	**UNITS**	**% SHARE**
Angono – EDSA Central	No Available Data	
Binangonan – EDSA Central		
Binangonan – Sta. Lucia (Cainta)		
Binangonan – Marikina Riverbank via LRT Santolan		
Cardona – EDSA Central		
Cardona – EDSA Starmall		
Sta. Lucia (Cainta) – Angono		
Tanay – EDSA Central		
TanayMorongBinangonan Floodway – EDSA Central Mega Mall Starmall		
TOTAL		

Source: Land Transportation Franchising and Regulatory Board

INVENTORY OF BUS, ANGONO ROUTE, 2015		
ROUTE	**UNITS**	**% SHARE**
Angono (Rizal-Quiapo via Manila East Road, Ortigas Avenue	No Available Data	
TOTAL		

Source: Land Transportation Franchising and Regulatory Board

In consideration of the preceding tables, it has been observed that Angono is presently the access of Municipalities of Rizal from the east towards the metropolis. Most of the jeepneys and service utility vehicles, aside from the private and government vehicles, from Binangonan, Cardona, Baras, Tanay, Pililla and Jala-jala tend to use the roads of Angono for their access to Metropolitan Manila for work, education, leisure and others, and vice versa. This is the main factor why Angono has been congested, not only of vehicular traffic, but also domestic congestion.

As presented in Tables 1 and 2, Angono has busy streets in any time of the day. As such, the Local Government is planning to situate road networks by utilizing internal Municipal road channels connecting to other Barangays and Municipalities. With this, road traffic and congestions will be lessened and quick responses will be delivered.

Moreover, as to mobilization within the municipality itself, there are local tricycles catering to the needs of the people. Although the two-year franchise of the operators gives them the right to ply only within the municipality.Tricycles can be contracted to go to other areas at a much higher fare. The regular fare, however, is 8 pesos. Under these conditions there is a need for the municipal government to divert public transportation to the eastern portion of the town which is less developed and less served by transportation and other services.

a. LAND TRANSPORTATION TERMINAL

As per records of the Municipal Tricycle Franchising and Regulatory Office and Municipal Transport Regulatory Office, there are 29 Transportation Terminals within the Municipality. Twenty three (23) Tricycle Terminal, four (4) SUV Terminal located at Barangay Isidro and San Roque and two (2) Jeepney Terminals located at Barangay San Roque.

Table 3. TRANSPORTATION TERMINALS BY LOCATION AND CONDITION
As of Year 2015

Name of Terminal	Barangay	Areas Occupied (Has.)	Type of Public Utility using the Terminal	Terminal Facilities	Physical Condition*
ATTODA	San Roque		Tricycle		Fair
ABCHTODA	San Pedro		Tricycle		Fair
BAYTODA	San Isidro		Tricycle		Fair
BFTODA	San Roque		Tricycle		Fair
BITODA	San Roque		Tricycle		Fair
COTODA	San Isidro		Tricycle	with CR	Fair
PATODA	San Pedro		Tricycle	with CR	Fair
GVGP2TODA	San Roque		Tricycle	with CR	Fair
KATODA	Kalayaan		Tricycle	with CR	Fair
METODA	San Isidro		Tricycle	with CR	Fair
PP1TODA	San Roque		Tricycle		Fair
PP2TODA	San Roque		Tricycle	with CR	Fair
RADIKATODA	Kalayaan		Tricycle		Fair
PCATODA	Sto. Niño		Tricycle	with CR	Fair
SENTODA	San Roque		Tricycle	with CR	Fair
SMTODA	San Isidro		Tricycle	with CR	Fair
SVTODA	San Vicente		Tricycle	with CR	Fair
RVTODA	San Isidro		Tricycle	with CR	Fair
UNITODA	San Pedro		Tricycle	with CR	Fair
AYATODA	MahabangParang		Tricycle		Fair
SAFTDOA	MahabangParang		Tricycle		Fair
SIKAPTODA	MahabangParang		Tricycle		Fair
AMPTODA	MahabangParang		Tricycle		Fair
KAPODA	San Isidro		FX		Fair
FX-San Isidro (Domsa)	San Isidro		FX		Fair
FX- Rizal Transport -Caltex	San Isidro		FX		Fair
FX-Hiway	San Roque		FX		Fair
ACTJODA	San Roque		Jeepney		Fair
ACJODA	San Roque		Jeepney		Fair

Source: Municipal Tricycle Franchising and Regulatory Office, Municipal Transport Regulatory Office

b. ROAD INVENTORY

The municipality has a total road length of 162.538kilometres. Out of this, 7.216km are considered national road and 39.744km are municipal road and 115.578 are barangay road.

Table 4. MUNICIPAL ROAD INVENTORY, Year 2015

Barangay	Code			Length	Form Width	Carriage-way Width	sd					
				(KM)	(mts)	(mts)	T1	T2	T3	T4	T5	T6
Provincial												
San Isidro	DPWH		M.L. Quezon Avenue	2.340	15	Varies		2.396				
San Isidro – San Roque	DPWH		Manila East Road	1.065	30	Varies		1.05				
Kalayaan	DPWH		Taytay-Angono Coastal Road	1.855	12	Varies		1.07			0.785	
Mahabang Parang	DPWH		M.L. Quezon Avenue	1.956	8	Varies					1.956	
			Sub-Total	**7.216**				**4.516**			**2.741**	
Municipal												
Bagumbayan	B	1	E. Dela Paz St.	0.252							0.252	
Bagumbayan	B	2	SumulongExt'n	0.112				0.112				
Bagumbayan	B	3	Don Justo	0.35				0.27			0.08	
Bagumbayan	B	4	Bloomingdale	0.048				0.048				
Bagumbayan	B	5	Sac's	0.09							0.09	
Bagumbayan	B	6	Tiffany	0.09							0.09	
			Sub-Total	**0.942**			**0**	**0.368**	**0**	**0**	**0.512**	**0**
Municipal												
Kalayaan	K	1	Quezon Avenue	0.245	15	12					0.245	
Kalayaan	K	2	Chief Medina	0.248	12	10		0.048			0.2	
Kalayaan	K	3	Don V. Reyes	0.134	10	8				0.134		
Kalayaan	K	4	Perdiguera	0.14	8	8				0.14		
Kalayaan	K	5	Villaluz	1.358	10	8		0.858			0.5	
Kalayaan	K	6	Aguinaldo	1.332	10	10		0.332			1	
Kalayaan	K	7	Tiamson	0.692	10	8		0.3			0.392	
Kalayaan	K	8	Concepcion	0.066	12	10					0.066	
			Sub-Total	**4.215**			**0**	**1.538**	**0**	**0.274**	**2.403**	**0**
Municipal												
Mahabang Parang	MP	1	M.L.Quezon Ave. Ext'n	3.535				3.535				
Mahabang Parang	MP	2	Botong Francisco Ave.	2.834					2.834			

Mahabang Parang	MP	3	Don Mariano Santos Ave.	2.122					1.122		1	
			Sub-Total	**8.491**			**0**	**3.535**	**3.956**	**0**	**1**	**0**
Municipal												
Poblacion Ibaba	PIB	1	Doña Aurora St.	1.33	10	8					1.33	
Poblacion Ibaba	PIB	2	Capt. Lazaro	0.034	8	6					0.034	
Poblacion Ibaba	PIB	3	Capt. Alano	0.087	8	6					0.087	
Poblacion Ibaba	PIB	4	Callejon I	0.2	1.2	1.2					0.2	
Poblacion Ibaba	PIB	5	Callejon II	0.2	1.2	1.2					0.2	
			Sub-Total	**1.671**			**0**	**0**	**0**	**0**	**1.671**	**0**
Municipal												
Poblacion Itaas	PIT	1	Doña Aurora St.	0.305							0.305	
Poblacion Itaas	PIT	2	Capt. Lazaro	0.02							0.02	
Poblacion Itaas	PIT	3	Capt. Alano	0.02							0.02	
Poblacion Itaas	PIT	4	Callejon I	0.08							0.08	
Poblacion Itaas	PIT	5	Callejon II	0.032							0.032	
			Sub-Total	**0.457**			**0**	**0**	**0**	**0**	**0.457**	**0**
Municipal												
San Isidro	SI	1	Carlos Botong Francisco Ave.	3.863	15	12			2.323		1.54	
San Isidro	SI	2	Don Mariano Santos ave.	3.15	20.5	15			1.26		1.89	
San Isidro	SI	3	Quezon Ave.	1.926	15	12			0.386		1.54	
San Isidro	SI	4	Manila East Road	0.564	20.5	15		0.057			0.507	
San Isidro	SI	5	4th Street	0.238	10	8		0.038			0.2	
San Isidro	SI	6	Abe Jeans St.	0.145	10	8		0.045			0.1	
San Isidro	SI	7	1st Street	0.195	10	8		0.605			0.8	
San Isidro	SI	8	A. Ibañez St.	0.23	10	8			0.03		0.2	
San Isidro	SI	9	Doña Nieves St.	0.162	10	8			0.062		0.1	
			Sub-Total	**10.47**				**0.745**	**4.061**	**0**	**6.877**	**0**
Municipal												
San Pedro	SP	1	E. Dela Paz st.	0.238							0.238	
San Pedro	SP	2	Don Justo Guido St.	0.376				0.076			0.3	
San Pedro	SP	3	Sumulong St.	0.477				0.2			0.277	
San Pedro	SP	4	M. L. Quezon Ave.	0.238							0.238	
San Pedro	SP	5	Capt. Alliano St.	0.115				0.1			0.015	
San Pedro	SP	6	Sac's	0.20							0.20	
San Pedro	SP	7	Tiffany's	0.20							020	
			Sub-Total	**1.844**			**0**	**0.376**	**0**	**0**	**1.468**	**0**
Municipal												
San Roque	SR	1	Col Guido St.	3.146	12	10		1.346			1.8	
San Roque	SR	2	A. Tiamson	0.387	8	8					0.387	
San Roque	SR	3	Doña Aurora	1.163	8	8		0.473			0.69	
San Roque	SR	4	Yakal St.	1.198	8	8			0.368		0.83	
			Sub-Total	**5.894**			**0**	**1.819**	**0.368**	**0**	**3.707**	**0**

Municipal												
San Vicente	SV	1	Garcia	0.082				0.082				
San Vicente	SV	2	S. Orca	0.075				0.075				
San Vicente	SV	3	Ipil-ipil	0.338				0.338				
San Vicente	SV	4	4th Street	0.439				0.2			0.239	
San Vicente	SV	5	E. Rodriguez	1.1							1.1	
San Vicente	SV	6	Doña Nieves	0.55				0.05		0.1	0.4	
San Vicente	SV	7	Ibañez	1.39						0.39	1	
			Sub-Total	**3.974**	**3.97**		**0**	**0.745**	**0**	**0.49**	**2.739**	**0**
Municipal												
Sto. Niño	SN	1	E. Rodriguez St.	0.28				0.08			0.2	
Sto. Niño	SN	2	Doña Nives St.	0.244							0.244	
Sto. Niño	SN	3	Ibañez St.	0.206							0.206	
Sto. Niño	SN	4	1st Street	0.21						0.21		
Sto. Niño	SN	5	2nd Street	0.154						0.154		
Sto. Niño	SN	6	3rd Street	0.132						0.132		
Sto. Niño	SN	7	4th Street	0.17						0.17		
Sto. Niño	SN	8	M. Diaz St.	0.3						0.3		
Sto. Niño	SN	9	M. L. Quezon Ave.	0.09							0.09	
			Sub-Total	**1.786**	**1.79**		**0**	**0.08**	**0**	**0.966**	**0.74**	**0**
			Total Municipal Roads	**39.744**			**0**	**9.206**	**8.385**	**1.73**	**21.574**	**0**
			Grand Total	***46.96***			***0***	***13.722***	***8.385***	***1.73***	***23.53***	***0***

Source: Office of the Municipal Engineer, DPWH

Legend:	T1	*Surface Dressing*
	T2	*Asphalt*
	T3	*Gravel*
	T4	*Earth*
	T5	*Concrete*

Most of these roads are traffic-dominated roads which can carry heavy volumes of vehicular traffic. The road density or the ratio of existing road to land area of the municipality is 11.07 km², which is over 11 times as much as that of Rizal province at 0.96 as reported in 1989. It is beyond the standard of 1.00 km² of the land area. In terms of the standard with respect to the urban population which is 2.40 kilometers per 1,000 urban population, the area combined has much less road density. Its current road network consists of only 1.532 km/1000 urban population as shown in Table 4.

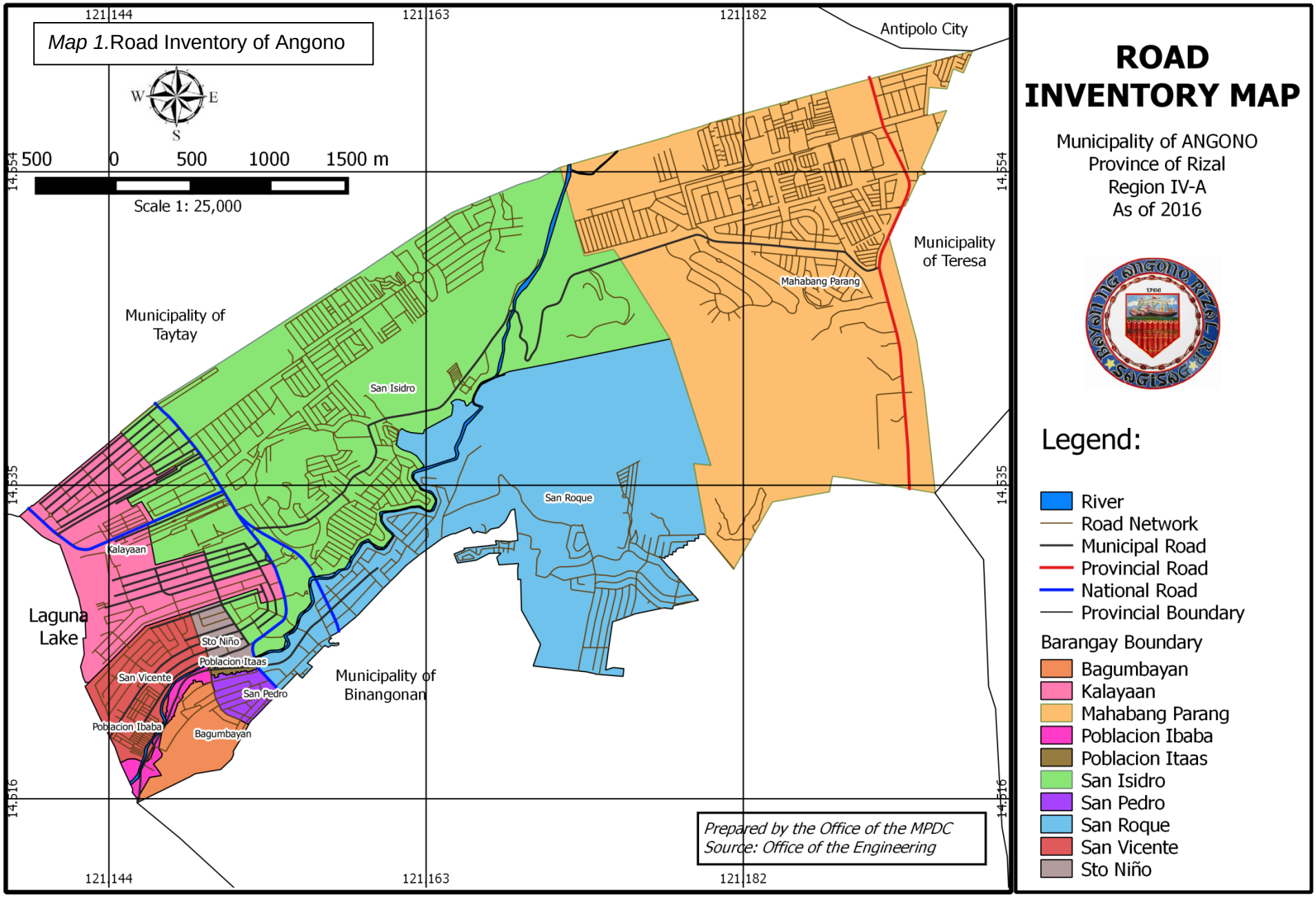
Table5. EXISTING ROADS BY ADMINISTRATIVE CLASSIFICATION and ROAD DENSITY, Year 2012

Administrative Road	Total Road Length (km)	Total Land Area (km)	Road Density (km/km²)	Population (2012)	Road Density (km/1000 pop)
Provincial road	7.216	14.68	11.07	106,085	1.532
Municipal road	39.744				
Barangay road	115.578				
Total	***162.538***				

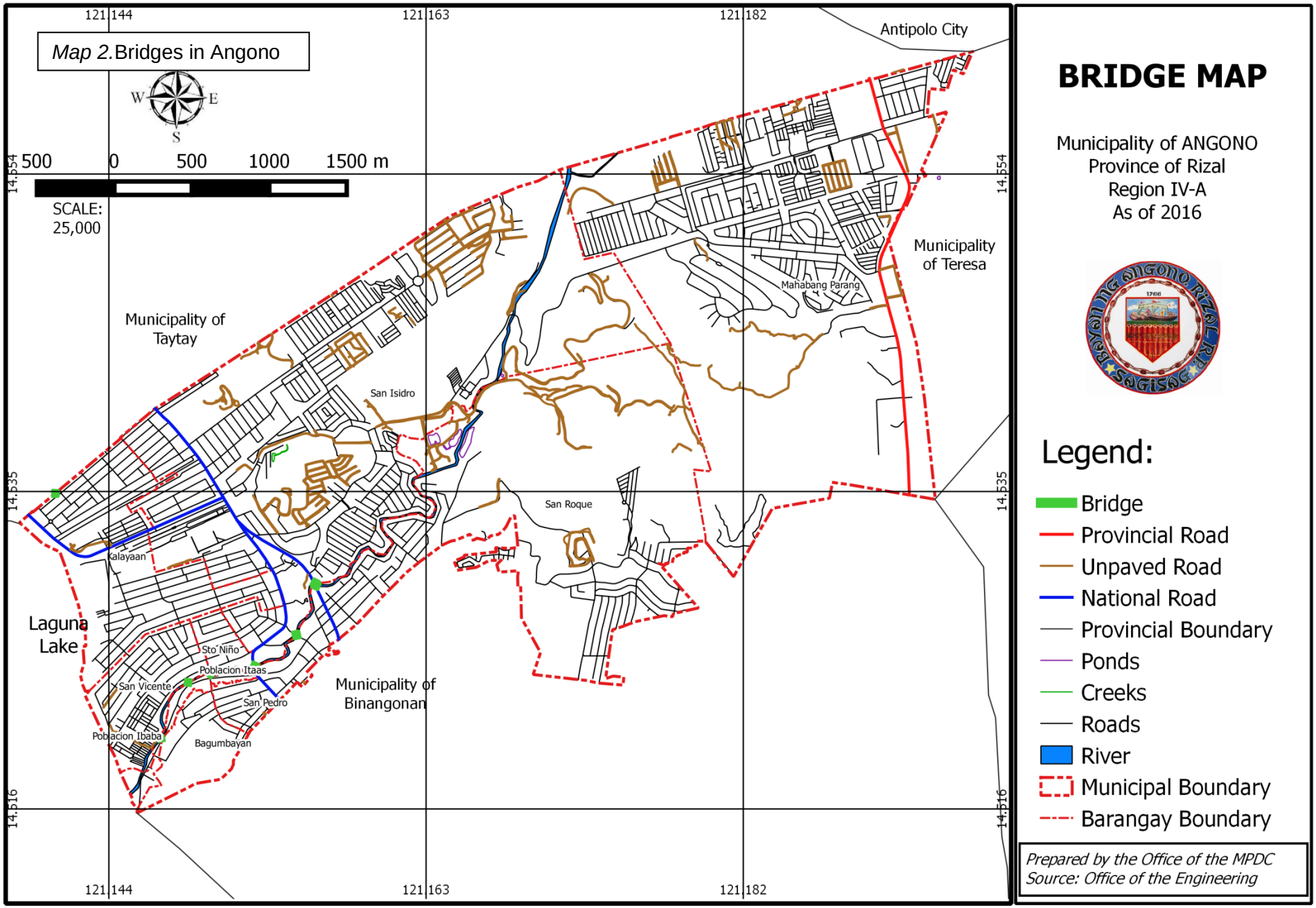
Source: Office of the Municipal Engineer, Office of the Municipal Assessor

The area covered by roads in Angono to the total land area is 11.64. This is obtained by using the computation below:

$$\frac{\text{Area covered by roads}}{\text{Total land area}} = \frac{143.5515 \text{ has.}}{1{,}233.32 \text{has.}}$$


Map 1.Road Inventory of Angono
121|144
121|163
121|182
14.554
14.535
14.516
W
E
S
500 0 500 1000 1500 m
Scale 1: 25,000
Antipolo City
Municipality of Teresa
Mahabang Parang
Municipality of Taytay
San Isidro
San Roque
Kalayaan
Laguna Lake
Sto Niño
Poblacion Itaas
San Vicente
San Pedro
Poblacion Ibaba
Bagumbayan
Municipality of Binangonan
Prepared by the Office of the MPDC
Source: Office of the Engineering
ROAD INVENTORY MAP
Municipality of ANGONO
Province of Rizal
Region IV-A
As of 2016
Legend:
River
Road Network
Municipal Road
Provincial Road
National Road
Provincial Boundary
Barangay Boundary
Bagumbayan
Kalayaan
Mahabang Parang
Poblacion Ibaba
Poblacion Itaas
San Isidro
San Pedro
San Roque
San Vicente
Sto Niño

Map 2. Bridges in Angono



c. BRIDGES

Due to the topographical nature of the area, transportation and mobilization relied to the presence of bridges and linkages. Bridges are important. No matter what mode of travel, bridges are often the only way to get across a river, harbour, another thoroughfare or train tracks. Bridge management has an effective response mechanism for local officials and concerned agencies for unpredictable natural disasters and calamities, thus, transporting evacuees and serving emergency aides will be delivered quickly to affected areas.

There are a total of six (6) bridges in the municipalitytwo of them are permanent. The percent of permanent bridges to the total number of bridges is 33%.

Two bridges are made of concrete located in Barangay San Isidroand San Roque (Angono Bridge and M.L. Quezon Bridge) whilethe remaining four bridges are made of steel and concrete as shown in Table 6.

Table 6.EXISTING BRIDGES BY TYPE AND LOCATION, Year 2015

Bridge	Location	Type	Capacity (tons)	Length (m)	Width (m)	Condition
1. Angono Bridge (Manila East Road)	San Isidro	Concrete	20	53.2	28	Operational
2. Paso Bridge	San Roque	Concrete	10	15.7	7.3	Operational
3. M.L. Quezon Bridge	San Isidro	Steel/ Concrete	20	48	20	Operational
4. Dr. VivencioVillamayor Bridge	San Vicente	Steel/ Concrete	2	17.8	2.25	Operational
5. PoblacionIbaba Bridge	PoblacionIbaba	Steel/ Concrete	2	17.0	2.20	Operational
6. Domsa Bridge	San Isidro	Steel/ Concrete	10	15.0	10.0	Operational

Source: Office of the Municipal Engineer

d. TRAFFIC SAFETY

Road traffic safety refers to methods and measures for reducing the risk of a person using the road network being killed or seriously injured. The users of a road include pedestrians, cyclists,motorists, their passengers, and passengers of on-road public transport including private vehicles. The municipality of Angonoimplements road safety strategies that focus in the prevention of serious injury and death crashes in spite of human fallibility.

In road traffic safety, it is important that people are addressed directly about their behaviour and knowledge in accordance with such. This can be achieved through proper education, communication and enforcement.

Table 7 shows road accidents for the year 2009-2012 in 10 barangays in the municipality. Barangay San Isidro ranked the highest number of traffic accidents in three consecutive years (2009-2012). The main reason is the high density of vehicles in the national highway leading to and from the other barangay and municipality in located in the said barangay.

As sustainable solutions for all classes of road have not been identified, particularly lowly trafficked rural and remote roads, a hierarchy of control should be applied, similar to best practice Occupational Safety and Health. At the highest level is sustainable prevention of serious injury and death crashes, with sustainable requiring all key result areas to be considered. At the second level is real time risk reduction, which involves providing users at severe risk with a specific warning to enable them to take mitigating action. The third level is about reducing the crash risk which involves applying the road design standards and guidelines, improving driver behaviour and enforcement.

Table 7. ROAD ACCIDENTS, 2014-2015

Barangay	Nature	Number of Accident	
		2014	2015
Kalayaan	Physical Injury	1	1
	Sub-Total	*1*	*1*
MahabangParang	Damage to Property and Physical Injuries		2
	Homicide and Serious Physical Injuries	1	
	Physical Injury		1
	Sub-Total	*1*	*3*
San Isidro	Damage to property		1
	Homicide	1	2
	Injury		1
	Multiple Physical Injuries	2	1
	Physical Injuries		4
	Physical Injury and damage to propert		4
	Sub-Total	*3*	*13*
San Pedro	Physical injury		1
	Sub-Total		*1*

San Roque	Physical Injury and Damage to property	1	1
	Homicide	1	
	Sub-Total	*2*	*1*
	TOTAL	***7***	***19***

Source: Angono PNP

Table 8. INVENTORY OF ANCILLARY ROAD FACILITIES, Year 2012

TYPE OF ANCILARRY ROAD FACILITIES	LOCATION	NO. OF ANCILLIARY ROAD FACILITIES	CONDITION
Pedestrian Crossing	Along National Road M.L. Quezon Avenue	22	Fair
	Along Manila East Road	8	Fair
Sidewalk	*No data Available*		
Overpass	In front of Angono Elementary School, National Road M.L. Quezon Avenue	1	Unserviceable
Waiting Sheds	Along National Road M.L. Quezon Avenue	9	Good
	Along National Road M.L. Quezon Avenue	2	Good
Street Lights	Municipal Wide	468	Good
Traffic Lights	*Not Applicable*		
Road Signage	Along National Roads	68	Good
Others			

Source: Municipal Tricycle Franchising and Regulatory Office, Meralco

B. WATER TRANSPORTATION

Angono has a coastline fronting the Laguna Bay. Most of water transportation is utilized by fishermen. There are 41 small fishing boats available in the municipality, majority of which are non-motorized fishing boats and 14 of which are motorized.

As of now, increasing pressure on the usage of road for transportation may result to greater plight of using water as mean of transportation. However, the potential of travelling by water has not yet been fully utilized as an alternative to travelling by land for external trips. There has been a proposal from the private sector to provide for a ferry service that would cater to the people of Angono and other surrounding provinces like Antipolo. The proposed route would have Angono and Alabang as origin and destination points. According to MARINA, the granting of certificates of public convenience for water transportation in cities and municipalities was already devolved to LGUs so it is up to the decision of the present Angono administration to approve such proposal.

Transportation by water is still of minor importance to Angono, considering the fact that the coastline is narrow, and facilities such as ports or wharves.

Indeed, water can cause calamities, but water can also serve as emergency channel for responses. Local governments can utilize rivers, lakes and other bodies of water to provide connections to entities and agencies.Maximizing the use of such could be viable for localities along lake shore or river banks.

C. AIR TRANSPORTATION

There is no demand for air transportation facilities within Angono. The nearest airport servicing the municipality is the Manila Domestic Airport and the Ninoy Aquino International Airport in Pasay.

II. WATER SUPPLY

Way back 1995, the available water distribution schemes in the Municipality is the Municipal Water Systems and seventy one Subdivision Water Systems. The total water production generated by the two sources is equivalent to 109 cubic meters per day. The maximum yield of the well working 24 hours each day can be 326 cu.m/day which accounts to only 5% (estimated) of the urban water demand for that year.Table9 showsthe list of deep well in the municipality. Because of over pumping in Angono, it is observed that subsurface water levels are nearly always close to the surface, especially in alluvial areas along the Laguna de Bay shore. Furthermore, depression cones have been created in some areas where water is at more than 10 meters according to the MWSS. These resulted in some local disturbances and irregularities in the flow of water. In these areas, the Laguna de Bay evidently recharged the aquifers, introducing a slight chloride contamination. Indeed, among the most important problems faced by the town is water scarcity.

Table 9. GROUNDWATER DATA of MUNICIPALITY OF ANGONO

Well No.	Owner	Location	Well Dept (m)	Casing Diameter (mm)
5000		Resistivity point E14	90	200
5001		Georesistivity test E20		
5002		Georesistivity test E10		
25446		Ususan		
25447	Lifeline Manila, Inc.	San Isidro	139	203
25448	MMO Realty &Dev't Corp.	San Isidro	21.3	60
25449	Mercedes Oliver	San Isidro	21.3	152
25450	Yupangco Cotton Mills Inc.	MahabangParang		
25451	United Machinery Area	Angono	183	304
25452	Girls Dormitory Area	Angono	60.9	304
25453	Spinning Mill #2 Back Area	Angono	122	304
25454	Fishnet Back Bldg. Hilltop Area	Angono	137	304
25455	Sitio Mata Area	Angono	122	304
25456	Housing Area near Phoenix MFC	Angono	152	304
25457	Yupangco Cotton Mills Inc.	MahabangParang		
25458	Yupangco Cotton Mills Inc.	MahabangParang		
25459	Yupangco Cotton Mills Inc.	MahabangParang		
25460	Yupangco Cotton Mills Inc.	MahabangParang		
25461	Yupangco Cotton Mills Inc.	MahabangParang		
25462	Filinvest Dev. Corp.	Mission Hills, MahabangParang	150	200
25463	Filinvest Dev. Corp.	Citation Homes East	152	203
25464	APC Homes, Inc.	San Isidro	152	203

Source: LWUA

Subdivision water systems were built simultaneously with the construction of subdivisions. The home owners' associations operate the said system. The expenses incurred in building these water systems are paid for by home owners upon purchasing their lots. There is a contribution from each customer for energy consumption and maintenance. At present, there are 74 Subdivision Water Systems, all of which are centralized.

In 1995, water supply and distribution nproblems prompted the Philippine government to enact the National Water Crisis Act, which turned over the operation of water services from the government-owned Metropolitan Waterworks and Sewerage System (MWSS) to the private sector. The Ayala-led Manila Water Company took over the East Zone of Metro Manila, 40% of the capital city, under a 25-year concession agreement; this granted the company exclusive rights to the use of land and facilities for the production, treatment and distribution of water, as well as the rights to operate the sewerage system.By accepting this task, Manila Water took upon itself the responsibility of making millions of lives better.

Table10. MANILA WATER PROJECTS FOR THE YEAR 2013

Project Name	Project Benefits
Network reliability at Domsa Avenue	Reliability of water supply
Subd Takeover at Bgy. San Vicente	Individualization of water service
Subd Takeover at Bgy. Sto. Niño	Individualization of water service
Subd Takeover at Sunstrip Subdivision	Individualization of water service
Subd Takeover at Sulit Compound	Individualization of water service
Subd Takeover at San Roque	Individualization of water service
Subd Takeover at Venus Compound	Individualization of water service
Subd Takeover at Kalualhatian	Individualization of water service
Subd Takeover at Alpha Omega	Individualization of water service
Subd Takeover at Ascension	Individualization of water service
Subd Takeover at Genesis Royale	Individualization of water service
Mainline Extension at Grand Valley 1-5	Provide water service to expansion areas
Mainline Extension at Grand Valley Meralco	Provide water service to expansion areas
Mainline Extension at Grand Valley Marwood	Provide water service to expansion areas

Source: Manila Water

Presently, Groundwater as a primary source of water is immediately becoming secondarysource of water in Angono. Manila Water Company is the sole water company that conducts treatment for commodity. A laboratory was established to ensure that the water delivered is consistently clean and drinkable straight out of the tap. Reservoirs were improvedupon to ensure that water will be available in case of emergencies.The MWC provides better quality of water than the usual for almost 60% of the total household in the municipality and 40% of the residential and business establishment has reserved groundwater water source from wells and developing springs.

All Barangays except Barangay San Vicente have already tied up with the Manila Water Company as their water service concessionaire/provider/main source of water to the consumers. Moreover, different subdivisions in Barangay San Isidro adopt the service of the MWC and some still stick with the local subdivision water system, but subsequently planning to avail the service of the said water service provider.

MWC thru the strong support and partnership of the Local Government of Angono, Manila Water was able to successfully implement key water projects in the municipality in the year 2012. These projects allowed MWC to better serve the people and the environment of Angono. In Table10 shows 2013 Manila Water Company plan for the municipality of Angono. This will compensate additional 20% of the unserved household in the municipality.

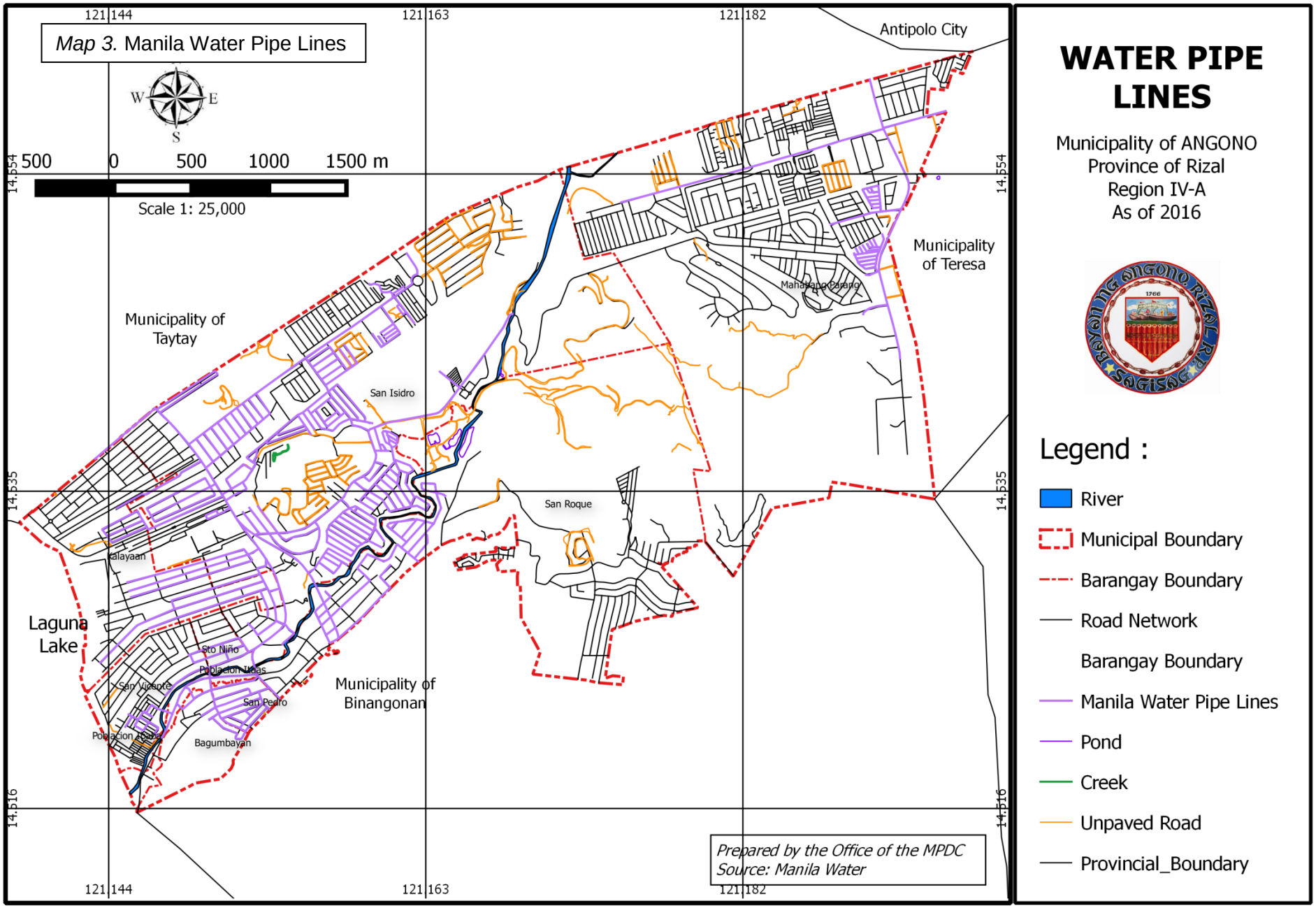
Table 11. SOURCE OF DRINKING WATER SUPPLY, Year1990 vs.2012

Source of Drinking Water	Projected HH Population 2012	Percentage 1990 (Based on 10% of HH Population)	Percentage 2012 (Based on 10% of HH Population)	Commercial/ Industrial/ Agricultural/ Institutional
Delivered Water/Mineral Water	17,006	45.22%	74.54%	
Dug Well	452	8.46%	1.98%	
Shared Dug Well	1,809	10.09%	7.93%	0.1%
Faucet	3,546	36.23%	15.54%	0.2%
Total	*22,814*	100.00%	100.00%	

Source: *Percent Share Households by Type of Building, Main Source of Drinking Water Municipality of Angono(Figures are estimates based on a 10% sample).*

As shown in Table 11, the sources of drinking water of the municipality are compared to 1990 data versus 2012 actual survey. The sources of drinking water is from delivered water, dug well, shared dug well and faucet. The delivered water percentage increased to 74.54% from 45.22% for almost 22 years. The rest declined due to the availability of drinkable water from MWC within the municipality.

Map 3. Manila Water Pipe Lines



III. Natural Drainage

The main drainage system in Angono consists only of the Angono River and its tributary streams. Meandering its way through the center of the municipality, the river used to have its headwaters in the upland areas of Teresa, Binangonan and the northern portions of Angono.

The small tributaries, however, have been lost due to siltation which can be traced to forest denudation and the spread of residential activities. From its headwaters, it flows generally southwestwards and empties into Laguna Lake.

Since the Angono River solely drains the area, it becomes a vital source of water supply for domestic, industrial, and agricultural purposes amidst other sources which include wells and springs. However, this is no longer possible since it now suffers from intense siltation which disrupts the normal flow of the river system. This causes serious problems, particularly flooding. Moreover, much of the river's discharge is derived from the upland watersheds of Teresa, Binangonan and even Antipolo. Inasmuch as these areas are virtually denuded of their vegetation cover, most of the floodwaters that inundate portions of Angono are actually 'spill over' effects of the surface run-off originating from these watersheds.

Furthermore, internal drainage in Angono is generally described as being poor. This is mainly attributed to the clay soils that are abundant in the area. Owing to its very fine texture, the clay horizon has a very low permeability which diminishes the ability of the soil to absorb and transmit the flow of water. In effect, the clay restricts gravitational water (water moving downwards through the pull of gravity) from freely seeping further downwards. Hence, water stays longer on the surface thereby contributing to the incidence of flooding in the municipality.

IV. POWER

The electric power requirement of Angono is being supplied by the Manila Electric Co. (MERALCO). The entire municipality is fortunately under its franchise area. Ever since 1985, majority of the users has consistently been Residential areas. The general trend is that almost 62.59% are composed of Residential; about 26.43% are Commercial, while 10.98% corresponds to Industrial and Other users.*(See Table 12)*

The overall MWH consumption of the municipality has been growing. This is quite inevitable because with an increasing total number of clients throughout the municipality, the total electric power usage would also expand. Power supply is not much of a problem in the town on account of the proximity to Metro Manila. The only problem is that there are segments of the population who cannot afford the power supply available in the municipality.

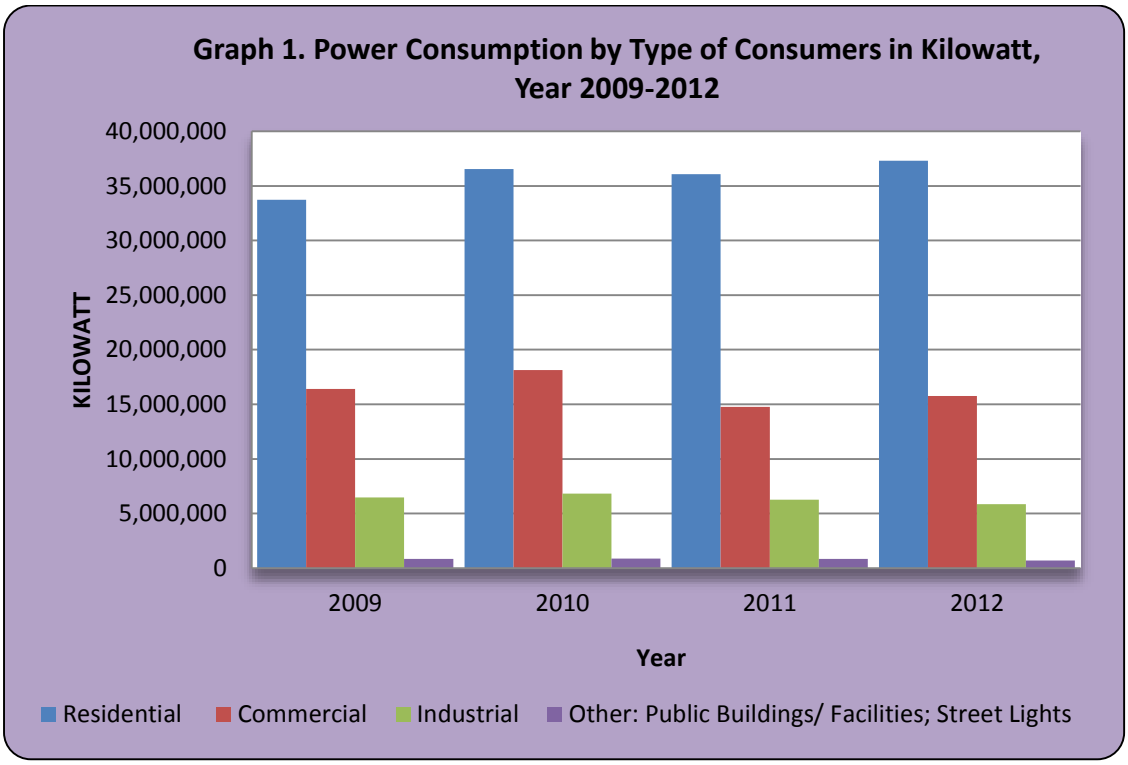
The total number of barangays in the municipality is 10. Fortunately, all barangays have power lines and being served by the local power operator. Almost 100% of the total population have electricity (see Table 12). The remaining 0.01% of the householdsis in use

kerosene, candles, etc. for their lightning needs. The electricity need of the area is sufficient to cover all the barangays.

Table 12. POWER CONSUMPTION BY TYPE OF CONSUMERS IN KILOWATT, Year 2009-2012

TYPE OF CONSUMERS	2009		2010		2011		2012	
	KW	%	KW	%	KW	%	KW	%
Residential	33,730,993	58.69%	36,537,351	58.58%	36,085,909	62.26%	37,308,252	62.59%
Commercial	16,413,150	28.56%	18,140,660	29.08%	14,770,147	25.48%	15,757,471	26.43%
Industrial	6,480,804	11.28%	6,824,188	10.94%	6,270,745	10.82%	5,849,163	9.81%
Other: Public Buildings/ Facilities; Street Lights	846,508	1.47%	872,181	1.40%	836,799	1.44%	696,414	1.17%
TOTAL	*57,471,455*	*100%*	*62,374,380*	*100%*	*57,963,600*	*100%*	*59,611,300*	*100%*

Source: MERALCO

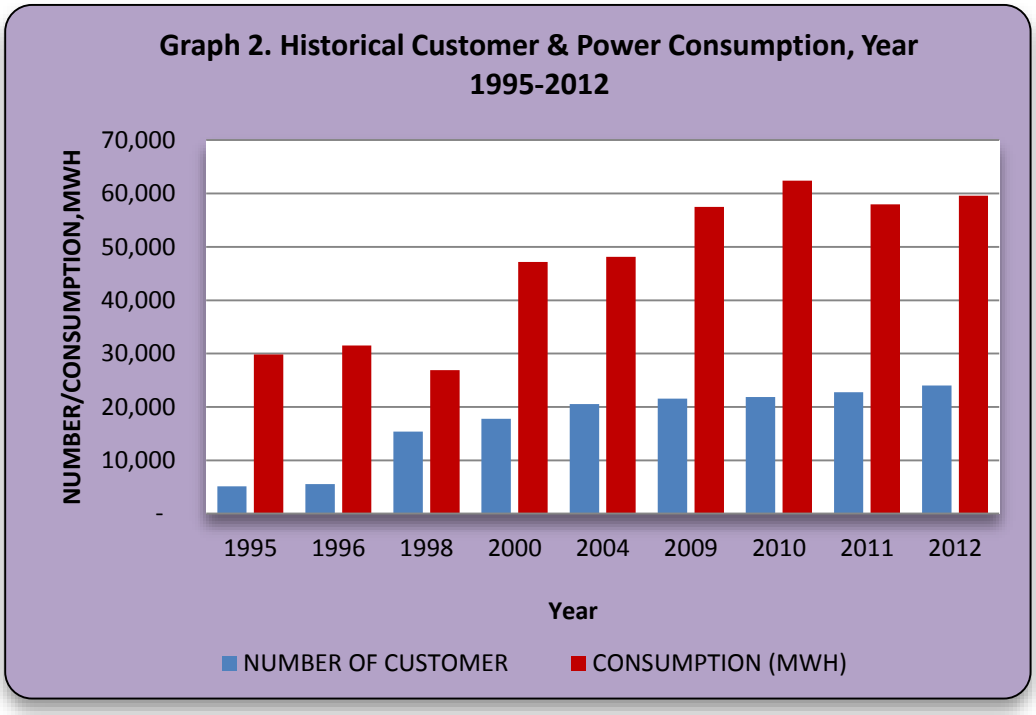


Source: MERALCO

Table 13. HISTORICAL NUMBER OF CUSTOMERS AND POWER CONSUMPTION Year 1995-2012

YEAR	NUMBER	%CHANGE	CONSUMPTION (MWH)	% CHANGE
1995	5,147		29,831	
1996	5,569	8.20%	31,495	5.60%
1998	15,370	88.00%	26,895	-7.30%
2000	17,769	7.80%	47,190	37.73%
2004	20,519	3.87%	48,157	0.51%
2009	21,531	0.99%	57,471	3.87%
2010	21,852	1.49%	62,374	8.53%
2011	22,772	4.21%	57,964	-7.07%
2012	24,046	5.59%	59,611	2.84%

Source: MERALCO

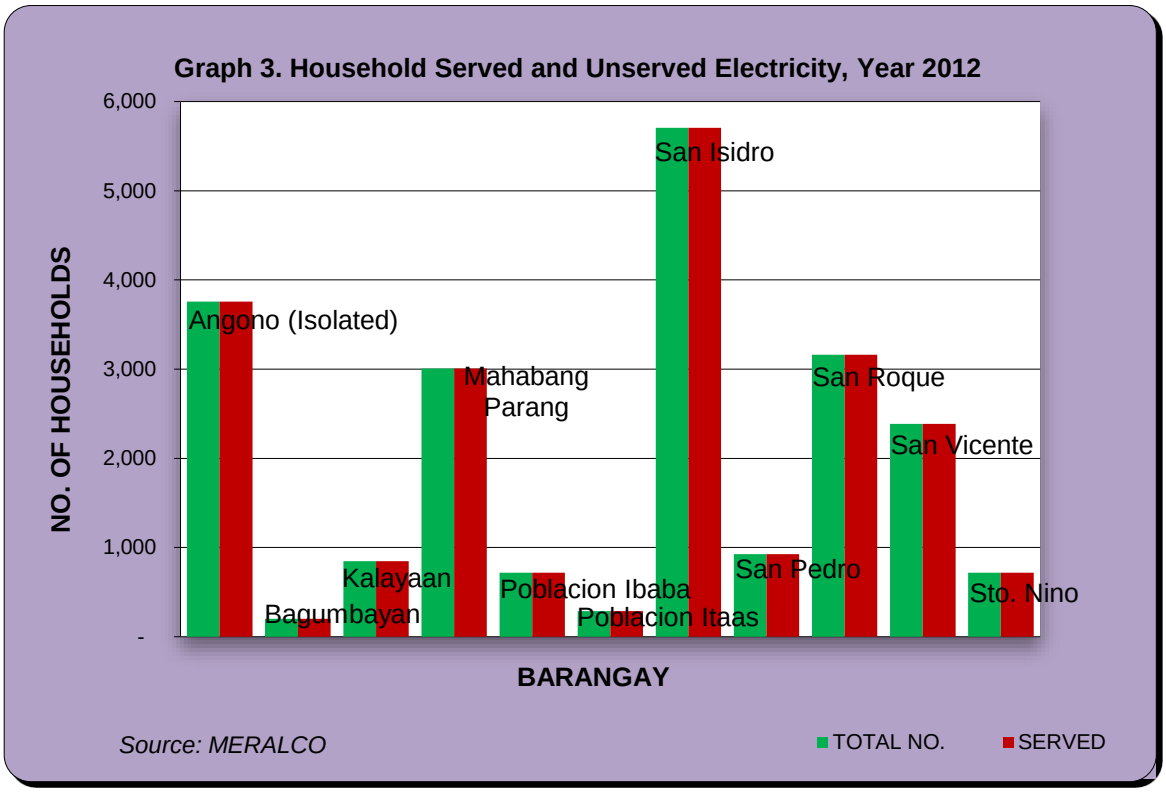


Source: MERALCO

Table 14. HOUSEHOLD SERVED AND UNSERVED WITH ELECTRICITY, Year 2012

BARANGAY	HOUSEHOLDS YEAR 2012				
	TOTAL NO.	SERVED		UNSERVED	
		NO.	%	NO.	%
Angono (Isolated)	3,758	3,758	100.00%	*No data*	
Bagumbayan	200	200	100.00%		
Kalayaan	848	848	100.00%		
MahabangParang	3,008	3,008	100.00%		
PoblacionIbaba	718	718	100.00%		
PoblacionItaas	286	286	100.00%		
San Isidro	5,705	5,705	100.00%		
San Pedro	924	924	100.00%		
San Roque	3,162	3,162	100.00%		
San Vicente	2,387	2,387	100.00%		
Sto. Nino	716	716	100.00%		
Total	***21,712***	***21,712***	*100.00%*		

Source: MERALCO



Source: MERALCO

V. COMMUNICATION

Communications is another major and key infrastructure component. Its ample availability in an area is one of the essential requisite for economic progress and social integration. Majority of the communication needs of the area is being served by the Philippine Long Distance Telephone Company (PLDT) and mobile phone companies such as Globe Telecom, Smart Communications and Sun cellular. It is also served by the Philippines Postal Service which has Post office in the municipality.

Since the municipality of Angono is just on the fridge of Metro Manila, it can be reached by all radio and television stations. Likewise, printed communications such as newspapers and magazines are distributed and bough in the area simultaneously as those in Metro Manila.

Moreover, the importance of communication system during emergencies becomes clearer. The use of wireless radio system is very much useful even when power supply or communication lines and wires are cut during calamities. Through this, identifying locations, affected people and properties, and emergency relief goods, may be easily informed to proper authorities and offices.

Aside from the use of wireless radio for communication during calamities, the use of basic whistle, flags and light signals are introduced by the local government to families with unlimited sources.

A. POSTAL,COURIER AND DELIVERY SERVICES

There is one postal office in the Municipal Building being maintained by Philippine Postal Corporation under Postal Region IV. Currently, it is undermanned and also lacks vital facilities. For the entire municipality, there are only five (5) letter carriers delivering the mail everyday on their bicycles and/or motorcycles. There is also one postmaster, twopostal teller as well as one money order teller. Their equipment includes a single typewriter, a steel cabinet, one metering machine and another two weighing scales. Obviously, this unfortunate situation in terms of personnel, facilities and other logistics is very much insufficient to effectively handle the volume of mail, packages and other services they deal with everyday.On the average, they have to handle 500 to 600 pieces of mail daily for local and international distribution. Their monthly deliveries amounts to around 13,000 and a year would have a total of 157,000 pieces. It must be noted that these volume of mail doubles during peak seasons, particularly between November - February and June – July.

The postal office offers various products and services which includes 14 Domestic Mail Services (Ordinary Mail, Registered Mail, Domestic Express mail Service, Express Pouch, Priority Mail, Collect on Delivery, Domestic Parcel Service, Postal Money Order Service, Business Reply Envelopes/Cards, Philately, Lock Boxes, Postal Identity Card, Address Check Service and Unaddressed Advertising Service), 7 International Mail Service (International Express Mail Service, Air Parcel Post, Surface Parcel Post,

Insured Parcel Post, Registered Mail, International Reply Coupon and International Postal Money Order Service), Money Order Service and other services such as Postal ID and General Delivery Services. Furthermore, the postal office will soon have additional services such as *Bayad* Center and Electronic Postal Money Order.

Although private postal, courier and delivery services are also available in the municipality which includes JRS Express, LBC Express Inc. and WWW Express, based on the data presented in Table 6, the public still avails the service provided by the government-controlled post office.

Table 15. Postal, Courier and Delivery Services Facilities, 2015

TYPE	LOCATION	OWNERSHIP	Services Offered	Average Transaction/day
Postal, Courier, Delivery Services				
PhilPost	San Isidro	public	*A. Domestic Mail Services*	
			1. Ordinary Mail	515
			2. Registered Mail	
			3. Domestic Express Mail Service	
			4. Express Pouch	
			5. Priority Mail	
			6. Collect on Delivery	
			7. Domestic Parcel Service	
			8. Postal Money Order Service	
			9. Business Reply Envelopes/Cards	
			10. Philately	
			11. Lock Boxes	
			12. Postal Identity Card	
			13. Address Check Service	
			14. Unaddressed Advertising Service	
			B. International Mail Services	
			1. International Express Mail Service	80
			2. Air Parcel Post	
			3. Surface Parcel Post	
			4. Insured Parcel Post	
			5. Registered Mail	
			6. International Reply Coupon	
			7. International Postal Order Service	

LBC	San Isidro	private	X-Pouch-Documents	no data available
			X-Pack-Documents	
			Airvelop-Documents	
			Transpack-Packages	
			Kilobox	
			Instant Peso Padala	
JRS Express	San Isidro	private	Package Padala	10
			PeraPadala	
DHL	San Isidro	private	Receiving Shipment bound to International and Domestic	10
			Pick up Services	20
			Delivery Services	120
WWW Express	San Isidro	private		

Source: Private Company, PhilPost Office

B. TELECOMMUNICATION SERVICES

Having a stable communication service or facility within a locality is a sign of progression. Even in the recent time, Angono, Rizal connects with different entities, not just locality but also to foreign setting, using the developing form of communication through telephones, telegraph and the like.

At present, Angono, Rizal embraces major telecommunication companies that provide converse apparatus and service. The Philippine Long Distance Telephone Company or PLDT caters the biggest number of subscribers in this Municipality, followed by Digitel, and Globe lines.

The PLDT, as the main service provider, offers different services to its subscribers and clients, as such, but not limited to Long Distance Services (International and Local Direct Distance Dialing), Operator-assisted services (108 and 109 Operator-assisted for international and local respectively), Call Card Services, Landline Plus Services and other Post-paid landline phone features. It also provides Consumer Data Services which include internet connection.

To gain data regarding number of subscribers, the company has no records regarding the data requested. The group made research and obtained that there are at most 1,593 subscribers listed in the 2012-2013 PLDT Telephone Directory White Pages, compared to the previous data presented regarding such. Considering these data, and upon their discretion, some of the subscribers tend not to allow the Company to make their names, address and number be included in the listing. Moreover, the widespread use of cellular phones impedes the increase of landline telephone subscribers. Some spoke that the use of the latest communication device is more convenient than having landline telephones. Cellular phones were handy and portable. Landlines are presently considered to be used as their second purpose of bridging internet connections and other virtual communication services. On the other side, groups of establishments, banks, offices and agencies were the main subscribers and users of landline phones.

As replacementto telegram, information has progressively become an essential good in daily living, communications has enabled many to reach far-flung places and technology has helped us perform our tasks faster and easier.

Table16. CELL SITE NETWORK, 2012

Name of the Place where the Antenna is Located	Height of the Antenna	The Date when the Antenna was Installed	The catchment radius of the antenna (KM)	Owner
Purok 9 Zone 3, M.L. Quezon Avenue, Herdex Corp. Barangay MahabangParang	48 meters	27-Apr-11	0.50	Globe Telecom
M.L. Quezon Avenue, Barangay Kalayaan	33 meters	27-Apr-11	0.50	Globe Telecom
Happy Homes Subdivision, Barangay San Vicente	33 meters	25-Oct-11	0.50	Globe Telecom
Edenville Subdivision, Barangay Kalayaan	33 meters	1-Aug-11	0.50	Globe Telecom
SitioPinagpala, Barangay Kalayaan			0.50	Digitel
E. Rodriguez St., Barangay San Vicente			0.50	Digitel
Col. Guido St. Barangay San Roque			0.50	Digitel
Nieves Hills, Barangay San Isidro			0.50	Digitel
Duraville Subdivision, Barangay MahabangParang			0.50	Digitel

Source: Office of the MPDC, Private Company

C. TELEPHONE SERVICES

Having a stable communication service or facility within a locality is a sign of progression. Even in the recent time, Angono, Rizal connects with different entities, not just locality but also to foreign setting, using the developing form of communication through telephones, telegraph and the like.

At present, Angono, Rizal embraces major telecommunication companies that provide converse apparatus and services. The Philippine Long Distance Telephone Company or PLDT caters the biggest number of subscribers in this Municipality, followed by Digitel, and Globe lines.

The PLDT, as the main service provider, offers different services to its subscribers and clients, as such, but not limited to Long Distance Services (International and Local Direct Distance Dialing), Operator-assisted services (108 and 109 Operator-assisted for

international and local respectively), Call Card Services, Landline Plus Services and other Post-paid landline phone features. It also provides Consumer Data Services which include internet connection or digital subscriber line (DSL).

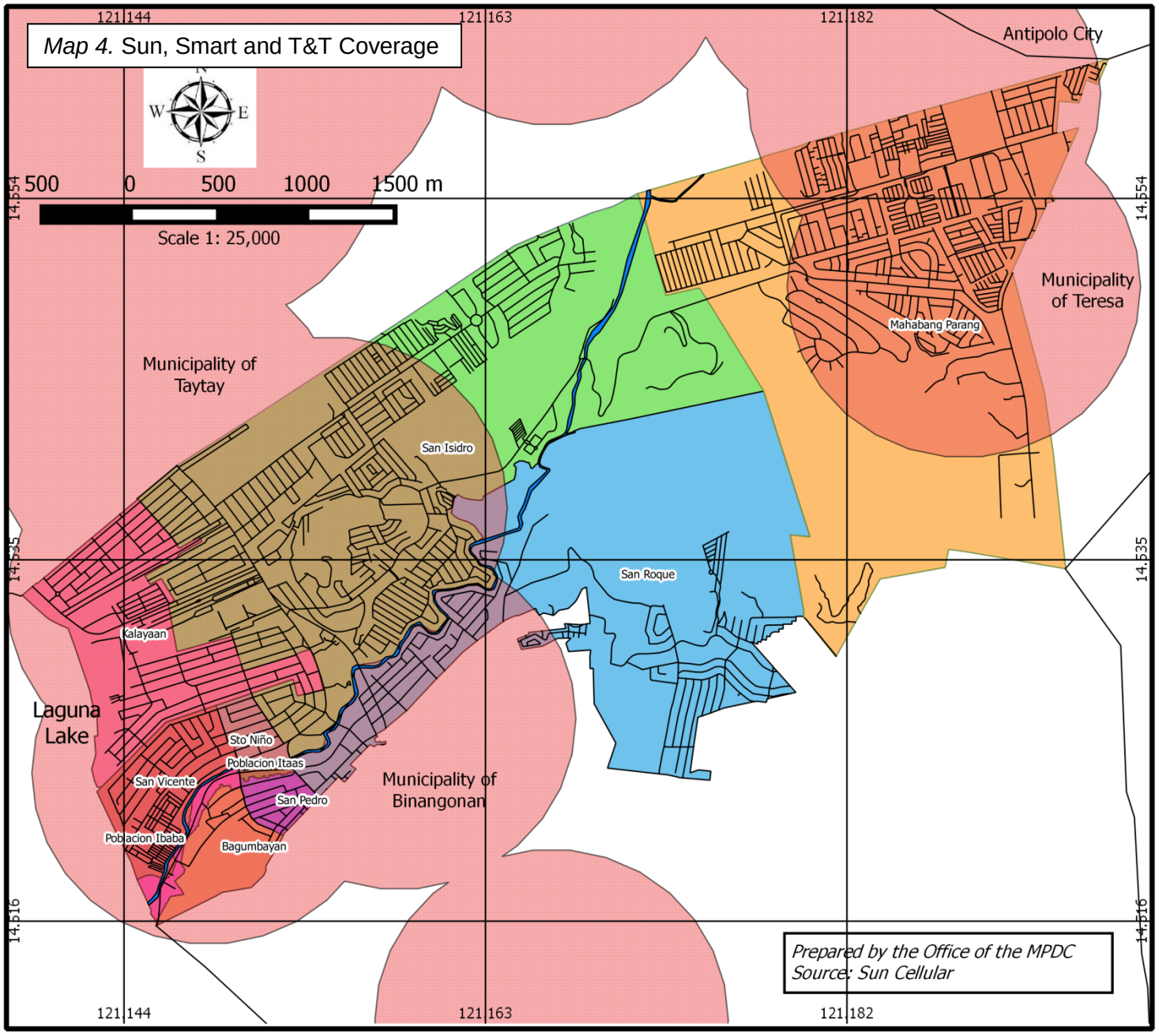
To gain data regarding number of PLDT subscribers, the company has no records regarding the data requested. The group made research and obtained that there are at most 1,593 subscribers listed in the 2012-2013 PLDT Telephone Directory White Pages. This is much lower compared to the April 1995 data (3,138 primary lines). Considering these data, and upon their discretion, some of the subscribers tend not to allow the Company to make their names, address and number be included in the listing. Moreover, the widespread use of cellular phones impedes the increase of landline telephone subscribers. Some spoke that the use of the latest communication device is more convenient than having landline telephones. Cellular phones were handy and portable. Landlines are presently considered to be used as their second purpose of bridging internet connections and other virtual communication services. On the other side, groups of establishments, banks, offices and agencies were the main subscribers and users of landline phones.

Table 17. COMMUNICATION SERVICES FACILITIES,Year 2012

TYPE	LOCATION	OWNERSHIP
Internet Providers		
DIGITEL	San Isidro	private
DMPI (Sun Cellular)	San Isidro	private
Smart Bro.	San Isidro	private
Wi-Tribe Telecoms, Inc.	San Isidro	private
Telephone Service Provider		
PLDT	San Isidro	private
DIGITEL	San Isidro	private
PT&T	San Roque	private
Cell Sites Network		
DIGITEL	San Isidro, Kalayaan, San Vicente, San Roque, MahabangParang	private
Smart Bro.	San Isidro	private
GLOBE TELECOM	San Isidro, MahabangParang and Kalayaan	private
Broadcast and Television Network	none	
Cable TV Systems		
Telmarc Corporation	Taytay, Rizal	private
Skyline CATV Industries, Inc	San Isidro	private

Source: National Telecommunication Commission, Public/Private Companies

Map 4. Sun, Smart and T&T Coverage



SUN CELLULAR/ SMART/TALK & TEXT COVERAGE MAP

Municipality of ANGONO
Province of Rizal
Region IV-A
As of 2016

Legend :

- Sun/Smart/T&T Coverage
- Provincial_Boundary
- Road
- River

Barangay Boundary

- Bagumbayan
- Kalayaan
- Mahabang Parang
- Poblacion Ibaba
- Poblacion Itaas
- San Isidro
- San Pedro
- San Roque
- San Vicente
- Sto Niño

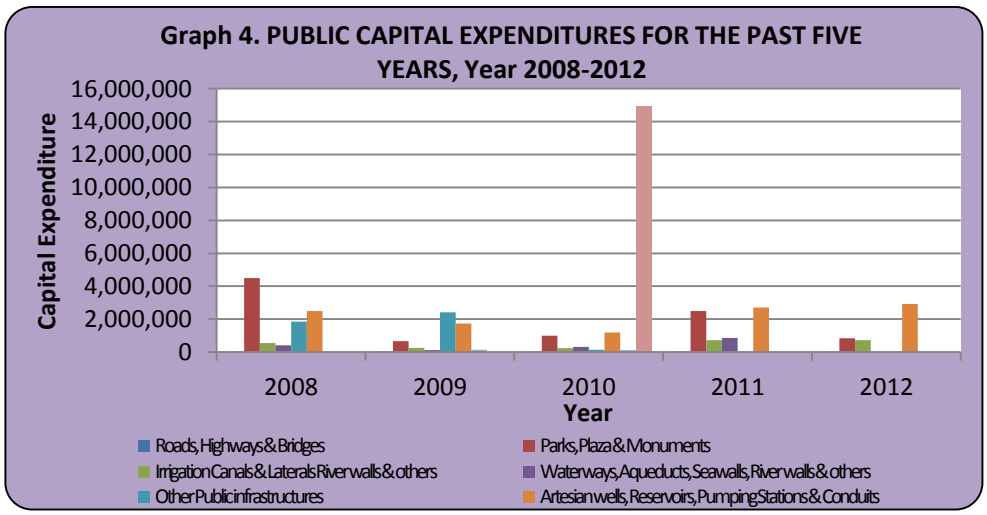
VI. PUBLIC CAPITAL EXPENDITURES

Infrastructure projects of the municipality includes Road, (1) Highways and Bridges (highest public capital expenditure for the whole five years), (2) Parks, Plaza and Monuments, (3) Irrigation Canals and Laterals River Walls, (4) Waterways, Aqueducts, Seawalls, River Walls and other public infrastructures.

Table 18. PUBLIC CAPITAL EXPENDITURES FOR INFRASTRUCTURE PROJECTS FOR THE PAST FIVE YEARS,Year 2008-2012

Public Capital	2011	2012	2013	2014	2015
Roads, Highways & Bridges	2,498,443.00	839,442.50	269,850.00	323,981.00	423,319.00
Parks, Plaza & Monuments	730,102.00	722,485.00	724,506.00	493,079.00	892,642.00
Irrigation Canals & Laterals River walls & others	858,581.50		199,960.00	991,556.00	266,711.00
Waterways, Aqueducts, Seawalls, River walls & others			2,996,800.00	1,496,148.00	606,970.00
Other Public infrastructures	2,696,352.00	2,917,302.80	1,760,523.00	6,788,219.17	3,101,905.50
Artesian wells, Reservoirs, Pumping Stations & Conduits					
Construction in Progress-Agency Assets					
Ports, Lighthouses & Harbors	249,907.00				
Total	*7,033,385.50*	*4,479,230.30*	*5,951,639.00*	*10,092,983.17*	*5,291,547.50*

Source: Office of the Accounting



Source: Office of the Accounting

VII. ANALYSIS MATRIX

The following matrix generated for issues and concerns on health:

ISSUES AND CONCERNS	IMPLICATIONS	POSSIBLE INTERVENTION
1. The needed road network into the town's undeveloped eastern sector.	Concreting/Improvement of Don Mariano Santos Avenue and Extension of the road abulting Don Mariano Santos Avenue to Yupangco Compound in the southeastern portion towards Teresa.	Construction/Extension of roads
2. Traffic congestion	Adoptation and implementation of traffic management scheme	LGU/Traffic enforcers
3. Clogged sewerage and drainage systems in the urban areas.	Flooding and water borne diseases	Integration of sewerage and drainage system program
4. Lacking of Personnel in Materials Recovery Facility.	Increase in the regular personnel to be trained in the MRF equipment to maximize MRF capability. Casual should constantly be hired.	Appointment
5. Expansion of water connection from Manila Water.	Expansion of water pipe lines to the remaining unserved parts of Angono in order to spur it socio-economic development	LGU/Manila Water
6. Air pollution in highly urbanized areas	Worsening air quality can cause several health problems such as respiratory infections, coronary diseases and even lung cancer.	Tree planting in highly urbanized areas. Strict implementation of Clean Air Act 8749.
7. Water pollution	The depletion of oxygen in water that can lead to death of aquatic life. Spread of water-borne diseases.	Establishment of waste water treatment facility for water purification.