

## Chapter 7. Infrastructure Sector

### Infrastructure and Utilities

Infrastructure refers to the basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function. It can be generally defined as the set of interconnected structural elements that provide a framework supporting an entire structure of development. The term typically refers to the technical structures that support a society, such as roads, bridges, water supply, sewers, electrical grids, telecommunications, and so forth, and can be defined as "the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions (*Wikipedia*)".

### Transport

#### Roads and Bridges

The transportation system in the province of Cavite is predominantly land-based, of which the main transport mode is road-based. The roads are classified into national, provincial, city/municipal, and barangay roads. The national roads form part of the trunkline systems and are connected by provincial roads from one city/municipality to another, and the city/municipal roads interlink barangays.

The province's road network totaled to 2,143.3459 kilometers wherein 19.13% or 410.0930 kilometers are national roads while 369.6810 kilometers or 17.25% are provincial roads. Furthermore, city/municipal roads comprise 12.48% or 267.5256 kilometers while barangay roads have a total length of 1,096.0463 kilometers or 51.14% of the total road length. 64.64% or 1,385.4885 kilometers of these roads are paved with concrete, 314.8107 kilometers or 14.69% are paved with asphalt while 13.53% or 290.0055 kilometers city/municipal and barangay roads still remain earth fill. In addition, roads graveled comprised 7.14% (Figures 7.1&7.2). There are 332 bridges which connect roads in different cities and municipalities of the province. A total of 102 bridges were classified as national, 69 bridges are provincial while city/municipal bridges totaled to 39 and barangay bridges was recorded at 122. These have a total length of 6.4812 kilometers (Table 7.1).

The province of Cavite is accessible by various land-based vehicles from Manila and other nearby provinces and cities. It may be reached through public utility



jeepneys and buses taking the major entrances and exits: the Aguinaldo Boulevard (Manila-Cavite Coastal Road) via Coastal Road Extension and via Talaba, Bacoor, South Luzon Expressway (SLEX) in Carmona, the Aguinaldo Highway (Batangas-Alfonso-Tagaytay Road), the Zapote-Las Piñas Road, the Sta. Rosa-Tagaytay Road, and the Alabang-Molino via DaangHari Road.

In 2011, the Cavite Expressway (CAVITEX) was opened, which lessened the heavy volume of vehicles on Aguinaldo Highway in City of Bacoors. Travel time from Imus to Baclaran-Pasay City is lessened to only one hour. Last July 1, 2013, the Kaybiang Tunnel, the country's longest underground highway tunnel at 300 meters was opened along the Ternate-Nasugbu Road piercing through Mt. Pico De Loro's north ridge that shortens the travel time from Manila to the western coasts of Cavite and Nasugbu, Batangas (*Wikipedia*).

Figure 7.1 Distribution of Road Length by Classification Province of Cavite: 2012

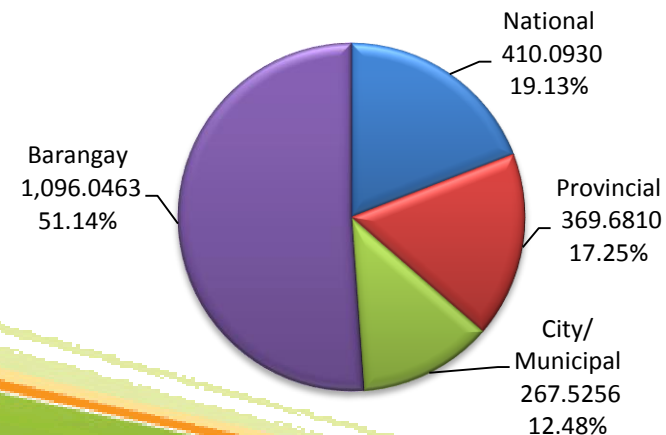


Figure 7.2 Distribution of Road Length by Type of Pavement Province of Cavite: 2012

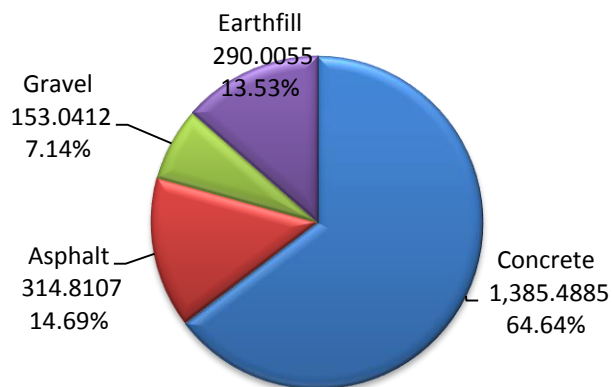


Table 7.1 Total Length of Roads and Bridges by Classification, Province of Cavite: 2012

Road/Bridge Classification	Road				Bridge		
	Type of Pavement				Total Length (km)	Number	Total Length (km)
	Concrete	Asphalt	Gravel	Earth fill			
National	207.7201	202.3729			410.0930	102	3.0010
Provincial	277.8750	44.9820	46.8240		369.6810	69	0.9929
City/Municipal	213.6963	43.8276	0.1000	9.9017	267.5256	39	0.8897
Barangay	686.1971	23.6282	106.1172	280.1038	1,096.0463	122	1.5976
<b>Total</b>	<b>1,385.4885</b>	<b>314.8107</b>	<b>153.0412</b>	<b>290.0055</b>	<b>2,143.3459</b>	<b>332</b>	<b>6.4812</b>

Source: Special Projects Division, PPDO, Trece Martires City

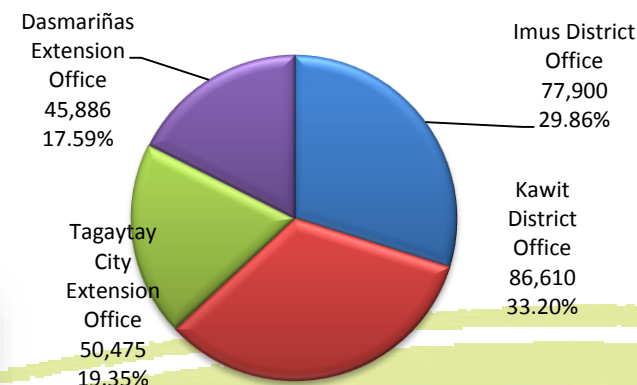
### Transport Facilities

The vehicles which regularly ply the roads provincewide include cars, utility vehicles, sports utility vehicle, trucks, buses, motorcycle/tricycle and trailers and registration of these are done at Land Transportation Office (LTO), being agency of the Philippine government that handles all matters regarding license for drivers, car registration, renewal of these documents and more which comprise all sorts of land transportation vehicles ([www.ltophilippines.com](http://www.ltophilippines.com)).



Data gathered from LTO, Region IV-A in Lipa City, Batangas indicates that a total of 260,871 units of motor vehicles are registered among the four (4) Land Transportation Offices in the province by which 29.86% or 77,900 units are at Imus District Office; 33.20% or 86,610 units are at Kawit District Office while Tagaytay City Extension Office reflected a total of 50,475 units or 19.35%. Dasmariñas Extension Office has a total registration of 45,886 units or 17.59% share (Figure 7.3). In addition, it was observed that the highest registered number of motor vehicles was motorcycle/tricycle with 56.03% of the total or 146,167 units followed by utility vehicles with 26.58% or 69,335 units, while cars registered 31,121 units or 11.93%. The least registration was trailers with only 0.06% registration or 147 units (Figure 7.4 and Table 7.2).

Figure 7.3 Distribution of Registered Motor Vehicles by Office, Province of Cavite: 2013



Issuance of licenses and permits are also being functioned by the agency. New and renewal licenses totaled to 126,058 wherein 67,597 are professional licenses and 58,461 are non-professional licenses.

Permits issued which totaled to 58,762 are categorized as student permit with 58,049 and conductor permit registered at 713 issuances, thus licenses and permits issued totaled to 184,820. Kawit Licensing Center has the most number of issuances with 32.91% or 60,829 followed by Tagaytay City Extension Office with 49,910 or 27.00%, Imus District Office registered at 41,531 or 22.47%. Dasmariñas Extension Office has the least number of issuances with 17.61% or 32,550 (Table 7.3).

Figure 7.4 Distribution of Registered Motor Vehicles by Type, Province of Cavite: 2013

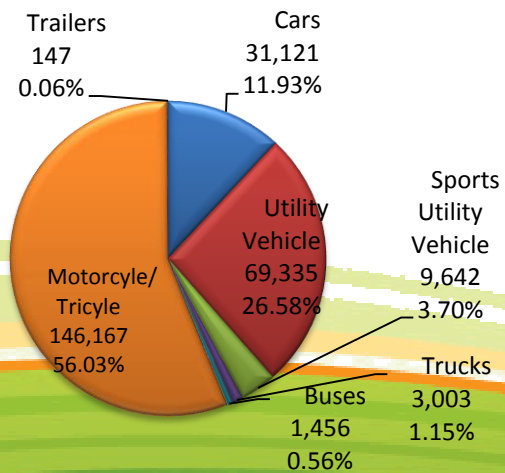


Table 7.2 Number of Registered Motor Vehicles by Type and by Office, Province of Cavite: 2013

Type of Vehicle	Number of Vehicle Registration				Total
	Imus District Office	Kawit District Office	Tagaytay City Extension Office	Dasmariñas Extension Office	
Cars	12,283	5,220	8,114	5,504	31,121
Utility Vehicles	23,164	19,932	17,379	8,860	69,335
Sport Utility Vehicles	3,148	3,318	1,920	1,256	9,642
Trucks	973	846	889	295	3,003
Buses	54	1,295	94	13	1,456
Motorcyles/Tricycles	38,191	55,958	22,068	29,950	146,167
Trailers	87	41	11	8	147
<b>Total</b>	<b>77,900</b>	<b>86,610</b>	<b>50,475</b>	<b>45,886</b>	<b>260,871</b>

Source: Land Transportation Office, Region IV-A, Lipa City

Table 7.3 Number of Licenses and Permits Issued by District Office and by Classification Province of Cavite: 2013

Agency	Licenses					Permits			Total Licenses and Permits Issued	
	Professional		Non-Professional		Total	Student Permit	Conductors Permit			
	New	Renewal	New	Renewal		New	New	Renewal		
Tagaytay City Extension Office	4,547	15,413	9,817	7,903	37,680	11,842	138	250	12,230	49,910
Imus District Office		13,608		10,401	24,009	17,489		33	17,522	41,531
Dasmariñas Extension Office		11,256	15	8,250	19,521	12,981		48	13,029	32,550
Kawit Licensing Center	3,333	19,440	11,709	10,366	44,848	15,737	148	96	15,981	60,829
<b>Total</b>	<b>7,880</b>	<b>59,717</b>	<b>21,541</b>	<b>36,920</b>	<b>126,058</b>	<b>58,049</b>	<b>286</b>	<b>427</b>	<b>58,762</b>	<b>184,820</b>

Source: Land Transportation Office, Region IV-A, Lipa City

## Communication

Communication is the sending and receiving of spoken or written messages between people and places. People communicate with each other by writing letters, sending telegrams, radio, television, computer technology, newspapers, magazines and pamphlets; messages can be sent by telegram, facsimile machine (FAX) and E-mail (Electronic mail) for business trade and other services. Having an access to information is an advantage towards the success of any business endeavor thus these services are useful to the populace to be updated with the current issues, global trends and developments.

Based on record from National Telecommunications Commission (NTC), Region IV-A, Batangas City, telephone services, being one of the fastest means of communication are mostly being provided by Philippine Long Distance Telephone Company (PLDT), Digital Telecommunications Philippines, Inc. (DIGITEL) and Innove (Globetel). Likewise, cellular mobile telephone system providers are Smart Communications, Inc., Globe Telecom, Inc. and Digitel Mobile Philippines with 443 cell sites located provincewide (Table 7.4). Also with the increasingly use of cellular phones, cellular phone dealers/service centers registered at NTC are available.

**Table 7.4 Cellular Mobile Telephone System (CMTS) Providers, Province of Cavite: 2013**

Name of Company	Number of Cell Sites
Smart Communications, Inc.	110
Globe Telecom, Inc.	192
Digetel Mobile Phils., Inc.	141
<b>Total</b>	<b>443</b>

Source: National Telecommunications Commission, Region IV, Batangas City

Over the past decades, radio has also proven to be an effective development communication channel. Radio is also acknowledged as the primary source of news and the most pervasive, persuasive, and credible medium (*www.ncca.gov.ph*). In Cavite, there are two (2) radio stations operating, the Delta Broadcasting Company and De La Salle University and radio groups that help the community especially at times of disasters. Cable TV service providers are also present in the province (Tables 7.5, 7.6 & 7.7).

Postal services are being provided by Philippine Postal Corporation. Records from Corporate Planning Department, Manila Central Post Office indicate that although letter writing is not anymore popular today, there are still domestic and

international mails being handled by post offices located in every city/municipality of the province (Table 7.8). It is noted that the municipality of Gen. E. Aguinaldo received their letters thru the municipality of Alfonso while the letters for the municipalities of Magallanes, Maragondon and Ternate are delivered at Naic. As defined, posted mails are mails received from windows, counters, lobby drop boxes and street boxes while delivered mails are mails distributed in the locality through letter carriers through the use of post office (P.O.) boxes (*www.nscb.gov.ph*). In addition, franking is an official mark or signature on a letter or parcel to indicate that postage has been paid or does not need to be paid (*www.oxforddictionaries.com*) thus franked mails are mails sent free of charge.

**Table 7.5 Operating Radio Stations, Province of Cavite**

Operating Agency	Location		Call-Sign
	Transmitter	Studio	
<b>I. AM Broadcasting</b>			
Delta Broadcasting System	Manila-Cavite Road, San Rafael III, Noveleta	Manila-Cavite Road, San Rafael III, Noveleta	DWXI - AM
<b>II. FM Broadcasting</b>			
De La Salle University	JFH Building, DLSU Campus, Dasmariñas, Cavite	JFH Building, DLSU Campus, Dasmariñas, Cavite	DWSU - FM

Source: National Telecommunications Commission, Region IV, Batangas City

**Table 7.6 Registered Radio Groups and Location of Base Station Province of Cavite: 2013**

Name of Group/Club	Location of Base Station
<b>I. Amateur Radio Group</b>	
Cavite Amateur Communication Enthusiast, Inc. (DXI-ACE)	Alvaran Compound, St. Charbel, South Executive VII, City of Dasmariñas, Cavite
<b>II. Civic Radio Group</b>	
79 CBR Civic Radio Group, Inc.	B3 L20 St. Martin de Porres Villa, Bayan Luma, Imus, Cavite
KabalikatCivicom, Inc. (Cavite Provincial Council)	DaangBukid, Bacoor, Cavite
KabalikatCivicom, Inc. (Cavite Chapter)	B4 L36, Poblacion I, Gen. Mariano Alvarez, Cavite
Pugad Lawin sa Imus, Cavite	Pugad Lawin Bldg., City of Imus, Cavite
UMCRC Sagip Ilog Volunteer Association, Inc.	St. Claire H-2, City of Dasmariñas, Cavite

Source: National Telecommunications Commission, Region IV, Batangas City

Table 7.7 Cable TV Service Providers, Province of Cavite: 2013

Name of Company	Office Address	Service Area	Number of Subscribers
A & L Cable TV System	J.P. Rizal Street, Silang	Silang, Cavite	794
Amadeo Cable TV (Infoland Cable TV)	3rd Floor Ambagan Bldg., A Mabini Street, Amadeo	Amadeo, Cavite	220
		Alfonso, Cavite	220
Bacoor Cable TV (Cablelink)	Unit 3 De Castro Bldg., Aguinaldo Highway, Palico I, City of Imus	City of Bacoor, Cavite	1,200
Cavite Cable Corp. (SkyCable)	Km. 23, National Road, Tabon, Kawit	City of Bacoor, Kawit, Noveleta, Rosario, Tanza, Gen. Trias, and Cavite City	11,907
		Silang, Cavite	108
Central CATV (SkyCable)	Km. 23, National Road, Tabon, Kawit	City of Bacoor, Cavite	2,785
Coast Cable TV, Inc. (SkyCable)	Km. 23, National Road, Tabon, Kawit	Rosario, Cavite	379
Dasca Cable Services	D. Mangubat St., City of Dasmariñas	City of Dasmariñas, Cavite	7,400
Dynna Cable Services	B25 L20 Ph1 Rome St., Golden City Subd., City of Imus	within Golden City Subd., City of Imus, Cavite	300
Gen. Trias Cable Network, Inc.	Sunshine Village, Manggahan, Gen. Trias	Gen. Trias, Cavite	250
Hotel Dominique, Inc.	Maitim 2nd, Aguinaldo Highway, Tagaytay City	Within the hotel premises	
Hotel Kimberly	Kaybagal North, Tagaytay City	Within the hotel premises	
Imus Cable TV (Cablelink)	Unit 3 De Castro Bldg., Aguinaldo Highway, Palico I, Imus	City of Imus, Cavite	800
Leisure World CATV, Inc.	Blk1, Lot 36, Ph2, Milagrosa, Carmona, Cavite	Carmona, Cavite (Montecarlo & Woodland Hills Subdivision)	133
Mendez Cable TV, Inc.	48 J.P. Rizal St., Mendez, Cavite	Mendez, Cavite	400
Met Cable Circuit Network Corp.	B2L16 Congressional Road, San Gabriel, Gen. Mariano Alvarez	Gen. Mariano Alvarez, Cavite	1,100
Mountain Top Cable TV	Tolentino East, Tagaytay City	Tagaytay City	400
Naic Cable TV Corp.	A. Soriano Highway, Ibayo Silangan, Naic	Naic, Cavite	150
		Maragondon, Cavite	350
		Ternate, Cavite	150
Northstar Cable TV, Inc.	2nd Floor MCM Bldg., Gov. Drive, Old Bulihan, Silang	Old Bulihan, Silang, Cavite	1,200
Planet Cable, Inc.	B18 L10 Hummingbird St., Springville East Ph1, Molino, City of Bacoor	City of Bacoor, Cavite	800
		Gen. Trias, Cavite	180
		City of Imus, Cavite	
Plus Cable Network, Inc.	B18 L10 Hummingbird St., Springville East Ph1, Molino, City of Bacoor	City of Bacoor, Cavite	
		City of Imus, Cavite	3,800
Royal Park Hotel and Restaurant	Aguinaldo Highway, Tagaytay City	Within the hotel premises	
Suburban Cable Network, Inc. (Sky Cable)	Km. 23 Tabon, Kawit	City of Imus, Cavite	5,805
Tagaytay Cable TV	Unit 104 FGC Bldg., Aguinaldo Highway, Maharlika East, Tagaytay City	Tagaytay City	
			520
Trece Cable Corporation	0289 San Agustin, Trece Martires City	Trece Martires City	1,757

Source: National Telecommunications Commission, Region IV, Batangas City

Table 7.8 Mails Posted and Delivered by City/Municipality and by Post Office, Province of Cavite: 2013

City/Municipality/Post Office	Posted			Total	Delivered			Total
	Franked Mail	Domestic	International		Franked Mail	Domestic	International	
<b>1<sup>st</sup> District</b>	<b>1,321</b>	<b>37,378</b>	<b>70,425</b>	<b>109,124</b>		<b>410,104</b>	<b>196,160</b>	<b>606,264</b>
Cavite City Post Office		19,902	67,121	87,023		41,490	147,918	189,408
Kawit Post Office	156	653	482	1,291		404	291	695
Noveleta Post Office	1,165	2,102	465	3,732		1,302	631	1,933
Rosario Post Office		14,721	2,357	17,078		366,908	47,320	414,228
<b>2<sup>nd</sup> District</b>	<b>1,598</b>	<b>62,380</b>	<b>10,035</b>	<b>74,013</b>	<b>1,631</b>	<b>589,945</b>	<b>58,984</b>	<b>650,560</b>
City of Bacoor Post Office	1,598	45,459	4,717	51,774	1,631	29,414	38,707	69,752
Molino Post Office		16,921	5,318	22,239		560,531	20,277	580,808
<b>3<sup>rd</sup> District</b>	<b>2,654</b>	<b>13,818</b>	<b>10,941</b>	<b>27,413</b>	<b>3,987</b>	<b>77,882</b>	<b>37,588</b>	<b>119,457</b>
City of Imus Post Office	2,654	13,818	10,941	27,413	3,987	77,882	37,588	119,457
<b>4<sup>th</sup> District</b>	<b>4,272</b>	<b>121,887</b>	<b>16,798</b>	<b>142,957</b>	<b>986</b>	<b>1,463,553</b>	<b>41,754</b>	<b>1,506,293</b>
City of Dasmariñas Post Office	1,865	35,382	8,133	45,380	986	32,604	17,167	50,757
City of Dasmariñas Central Market Post Office	2,407	86,505	8,665	97,577		1,430,949	24,587	1,455,536
<b>5<sup>th</sup> District</b>	<b>12,376</b>	<b>54,430</b>	<b>21,063</b>	<b>87,869</b>	<b>7,251</b>	<b>334,937</b>	<b>25,209</b>	<b>367,397</b>
Carmona Post Office	9,600	18,380	6,414	34,394	5,573	108,681	9,463	123,717
Gen. Mariano Alvarez Post Office	1,248	21,300	4,658	27,206	1,678	201,754	6,280	209,712
Silang Post Office	1,528	14,750	9,991	26,269		24,502	9,466	33,968
<b>6<sup>th</sup> District</b>	<b>2,792</b>	<b>44,208</b>	<b>10,427</b>	<b>57,427</b>	<b>2,389</b>	<b>575,089</b>	<b>32,261</b>	<b>609,739</b>
Amadeo Post Office		219	384	603		416	762	1,178
Gen. Trias Post Office	1,654	5,354	2,582	9,590		4,374	1,788	6,162
Manggahan Post Office	1,138	13,346	2,417	16,901	2,389	17,864	2,783	23,036
Tanza Post Office		22,417	3,450	25,867		547,186	18,000	565,186
TreceMartires City Post Office		2,872	1,594	4,466		5,249	8,928	14,177
<b>7<sup>th</sup> District</b>	<b>4,598</b>	<b>226,809</b>	<b>562,729</b>	<b>794,136</b>	<b>2,544</b>	<b>482,266</b>	<b>78,555</b>	<b>563,365</b>
Alfonso Post Office	600	6,951	230	7,781	450	6,400	225	7,075
Gen. E. Aguinaldo	300	5,500	120	5,920	220	5,200	120	5,540
Indang Post Office		4,620	1,386	6,006		2,379	2,111	4,490
Naic Post Office		182,729	547,761	730,490		436,646	32,154	468,800
Mendez Post Office		1,276	1,739	3,015		3,128	4,167	7,295
Tagaytay City Post Office	3,698	25,733	11,493	40,924	1,874	28,513	39,778	70,165
<b>Total</b>	<b>29,611</b>	<b>560,910</b>	<b>702,418</b>	<b>1,292,939</b>	<b>18,788</b>	<b>3,933,776</b>	<b>470,511</b>	<b>4,423,075</b>

Source: Philippine Postal Corporation, Corporate Planning Department, Manila  
Alfonso Post Office & Gen. Mariano Alvarez Post Office, Cavite

## Power

The electric power of the entire province of Cavite is being supplied by the National Power Corporation (NPC) through the Manila Electric Company (MERALCO). All towns down to all barangays of Cavite have access to electric power supplied by MERALCO, thus giving the province's energization rate of 100%. Figure 7.5 shows the number of connections by type of users by which 93.40% or 686,301 metered connections are residential, 47,108 connections or 6.41% are commercial while 0.08% or 624 are industrial and 757 or 0.10% are for streetlight connections. Out of 734,790 connections, the City of Dasmariñas has the most number of users with 137,557, followed by the Cities of Bacoor and Imus with 111,101 and 101,081 connections, respectively (Table 7.9). In addition, Tables 7.10, 7.11 & 7.12 show the details of annual electricity consumption by city/municipality, the existing power substations and electric capital projects for the province of Cavite.

Figure 7.5 Distribution of the Number of Electrical Connections by Type of Users, Province of Cavite: 2013

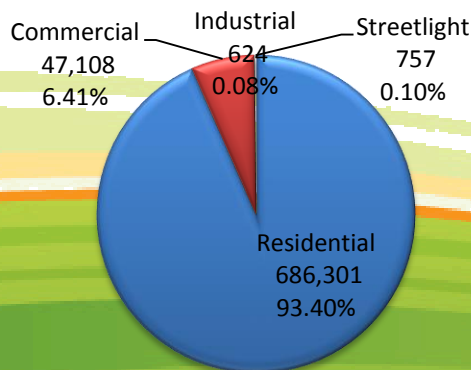


Table 7.9 Number of Electrical Connections by Type of Users by City/Municipality, Province of Cavite: 2013

City/Municipality	Number of Electrical Connections by Type of Users				
	Residential	Commercial	Industrial	Streetlight	Total
<b>1<sup>st</sup> District</b>	<b>61,802</b>	<b>5,968</b>	<b>15</b>	<b>36</b>	<b>67,821</b>
Cavite City	18,272	1,857	3	2	20,134
Kawit	16,860	1,688	7	23	18,578
Noveleta	9,629	916		7	10,552
Rosario	17,041	1,507	5	4	18,557
<b>2<sup>nd</sup> District</b>	<b>103,582</b>	<b>7,335</b>	<b>42</b>	<b>142</b>	<b>111,101</b>
City of Bacoor	103,582	7,335	42	142	111,101
<b>3<sup>rd</sup> District</b>	<b>94,753</b>	<b>6,195</b>	<b>40</b>	<b>93</b>	<b>101,081</b>
City of Imus	94,753	6,195	40	93	101,081
<b>4<sup>th</sup> District</b>	<b>129,190</b>	<b>8,107</b>	<b>139</b>	<b>121</b>	<b>137,557</b>
City of Dasmariñas	129,190	8,107	139	121	137,557
<b>5<sup>th</sup> District</b>	<b>85,338</b>	<b>5,776</b>	<b>276</b>	<b>98</b>	<b>91,488</b>
Carmona	19,287	1,487	181	42	20,997
Gen. Mariano Alvarez	23,300	1,234	9	11	24,554
Silang	42,751	3,055	86	45	45,937
<b>6<sup>th</sup> District</b>	<b>134,518</b>	<b>7,312</b>	<b>99</b>	<b>150</b>	<b>142,079</b>
Amadeo	6,369	370	1	1	6,741
Gen. Trias	63,419	2,832	61	79	66,391
Tanza	39,635	2,741	9	49	42,434
Trece Martires City	25,095	1,369	28	21	26,513
<b>7<sup>th</sup> District</b>	<b>77,118</b>	<b>6,415</b>	<b>13</b>	<b>117</b>	<b>83,663</b>
Alfonso	10,263	924	2	12	11,201
Gen. E. Aguinaldo	3,180	194	1		3,375
Indang	12,077	851	2	5	12,935
Magallanes	3,197	195		5	3,397
Maragondon	5,503	474			5,977
Mendez	5,835	392		3	6,230
Naic	18,574	1,404	4	29	20,011
Tagaytay City	15,410	1,815	3	61	17,289
Ternate	3,079	166	1	2	3,248
<b>Total</b>	<b>686,301</b>	<b>47,108</b>	<b>624</b>	<b>757</b>	<b>734,790</b>

Source: Meralco, Ortigas Avenue, Pasig City



**Table 7.10 Annual Electricity Consumption by City/Municipality Province of Cavite: 2013**

City/ Municipality	Electricity Consumption (kWh)				
	Residential	Commercial	Industrial	Streetlight	Total
<b>1<sup>st</sup> District</b>	<b>109,376,544</b>	<b>73,915,054</b>	<b>477,864,861</b>	<b>1,158,336</b>	<b>662,314,795</b>
Cavite City	34,109,548	25,343,017	22,886	747,316	60,222,767
Kawit	30,062,507	17,695,387	84,631	270,405	48,112,930
Noveleta	17,290,748	7,571,260		93,336	24,955,344
Rosario	27,913,741	23,305,390	477,757,344	47,279	529,023,754
<b>2<sup>nd</sup> District</b>	<b>237,925,394</b>	<b>120,442,461</b>	<b>10,467,884</b>	<b>2,170,455</b>	<b>371,006,194</b>
City of Bacoor	237,925,394	120,442,461	10,467,884	2,170,455	371,006,194
<b>3<sup>rd</sup> District</b>	<b>181,661,679</b>	<b>94,533,863</b>	<b>85,400,291</b>	<b>1,411,235</b>	<b>363,007,068</b>
City of Imus	181,661,679	94,533,863	85,400,291	1,411,235	363,007,068
<b>4<sup>th</sup> District</b>	<b>197,042,791</b>	<b>153,409,341</b>	<b>169,864,310</b>	<b>2,292,428</b>	<b>522,608,870</b>
City of Dasmariñas	197,042,791	153,409,341	169,864,310	2,292,428	522,608,870
<b>5<sup>th</sup> District</b>	<b>124,888,593</b>	<b>90,224,775</b>	<b>470,228,266</b>	<b>1,666,800</b>	<b>687,008,434</b>
Carmona	30,555,821	30,208,261	408,792,967	727,492	470,284,541
Gen. Mariano Alvarez	33,835,619	15,265,620	1,913,885	156,170	51,171,294
Silang	60,497,153	44,750,894	59,521,414	783,138	165,552,599
<b>6<sup>th</sup> District</b>	<b>182,705,338</b>	<b>96,541,923</b>	<b>365,087,841</b>	<b>1,685,353</b>	<b>646,020,455</b>
Amadeo	7,870,634	3,473,925	10,695	1,525	11,356,779
Gen. Trias	86,271,456	45,615,842	304,948,560	966,066	437,801,924
Tanza	58,185,920	22,888,688	754,067	445,955	82,274,630
Trece Martires City	30,377,328	24,563,468	59,374,519	271,807	114,587,122
<b>7<sup>th</sup> District</b>	<b>123,697,754</b>	<b>156,365,851</b>	<b>24,189,971</b>	<b>1,677,592</b>	<b>305,931,168</b>
Alfonso	11,472,150	7,071,720	138,929	125,370	18,808,169
Gen. E. Aguinaldo	3,465,583	1,496,340	108,318		5,070,241
Indang	15,211,580	8,446,572	1,128,615	38,637	24,825,404
Magallanes	3,016,838	1,058,929		55,622	4,131,389
Maragondon	7,633,767	2,585,969			10,219,736
Mendez	6,949,288	3,107,758		3,838	10,060,884
Naic	25,190,232	14,307,628	13,678,217	286,526	53,462,603
Tagaytay City	46,328,699	115,629,905	9,133,580	1,133,029	172,225,213
Ternate	4,429,617	2,661,030	2,312	34,570	7,127,529
<b>Total</b>	<b>1,157,298,093</b>	<b>785,433,268</b>	<b>1,603,103,424</b>	<b>12,062,199</b>	<b>3,557,896,984</b>

Source: Meralco, Ortigas Avenue, Pasig City

**Table 7.11 Existing Power Substations, Province of Cavite: 2013**

Substation	Location
Abubot Substation	Aguinaldo Hi-way, Abubot, City of Dasmariñas
Amadeo Substation	Provincial Road, Banaybanay, Amadeo
City of Bacoor Substation	Aguinaldo Highway, Habay, City of Bacoor
FCIE Substation	Langkaan, City of Dasmariñas
Gateway Substation	Gateway Business Park, Javalera, Gen. Trias
GMA Substation	Lakeview Industrial Corp., KabilangBaybay, Gen. Mariano Alvarez
City of Imus Substation	Agunaldo Highway, Anabu, City of Imus
Puerto Azul Substation	Puerto Azul, Ternate
Silang Substation	Aguinaldo Highway, San Vicente, Silang
Tagaytay City Substation	Aguinaldo Highway, Buho, Silang
Tagaytay City West Substation	Maharlika West, Tagaytay City
Tanza Substation	Amaya, Tanza
TMC II Substation	Tanauan (Quintana), Tanza
NGCP-Dasmariñas Substation*	Aguinaldo Highway, San Agustin, City of Dasmariñas
NGCP-Rosario Substation*	Gen. Trias Drive, Rosario
NGCP-Ternate Substation*	Governor's Drive, Ternate

\*NGCP-owned substation

Source: Meralco, Ortigas Avenue, Pasig City

**Table 7.12 Electric Capital Projects, Province of Cavite: 2013**

Project Name	Status
Flexibility improvement of GMA circuits	Completed October 6, 2013
Upgrading of Puerto Azul 33XX to 34.5 kV (complete conversion of Puerto Azul 33XX)	Expected to be completed on March 2014
Retirement of TMC I 34.5 kV substation and complete conversion of TMC I circuits	TMC I 34.5 kV - 13/8 kV substation was permanently de-energized last November 7, 2013; conversion was completed May 31, 2013
Construction of FCIE-Rosario 115kV line	Completed February 17, 2013
Construction of FCIE - TMC II 115kV line	Completed April 29, 2013
Construction of Dasmariñas-Imus 115kV line	Imus leg (3km) was completed December 27, 2013. Dasmariñas leg (7km) is expected to be completed on May 2014

Source: Meralco, Ortigas Avenue, Pasig City



## Water Supply

Generally, the entire province of Cavite has access to clean and safe water. It is being provided by Maynilad Water Services, Inc. also known as Maynilad, a water and waste water services provider of cities and municipalities of the National Capital Region that forms the West Zone and some parts of Cavite which include City of Imus, City of Bacoor, Cavite City and the municipalities of Noveleta, Kawit, Rosario (*Wikipedia*).

Moreover, the municipalities of Mendez, Indang, Silang, Gen. Mariano Alvarez, Maragondon, Tanza, Carmona, Amadeo, Gen. E. Aguinaldo, City of Dasmariñas, Tagaytay City and Trece Martires City were being supplied by water districts. Likewise, there are private corporations operating as water service providers in the province like General Trias Water Corporation in Gen. Trias, Naic Water System Corporation in Naic and Western Cavite Water Supply and Service Corporation in Ternate. The municipal governments of Alfonso and Magallanes manage their respective water supply systems while others use deepwells as the traditional water source. In 2013, there are 316,758 customers served by these water services providers (Table 7.13). The water rate schedule of each water service providers for residential connection is shown in Table 7.14. For the water districts, the minimum charge (first 10 m<sup>3</sup>) ranges from P158.00 in Dasmariñas Water District to P280.00 in Gen. Mariano Alvarez Water District. For LGUs and private corporations, the minimum charge ranges from P50.00 in Alfonso to P144.00 in Western Cavite Water Supply & Services, Ternate. Maynilad Water Services, Inc. charges 94.67 for the first 10 cu.m.

Table 7.13 Number of Customers Served by Water Service Providers, Province of Cavite: 2013

Water Agency	Number of Customers Served							Total
	Residential	Commercial	Semi-Commercial	Industrial	Institutional	Government	Block Faucet /Other	
Alfonso Waterworks Office	1,217	44				6		1,267
Amadeo Water District	5,559	56	22			38		5,675
Carmona Water District	10,814	121	107	8		39	64	11,153
Dasmariñas Water District	95,458	888	14,715			228	387	111,676
Gen. E. Aguinaldo Water District	2,211	203				7		2,421
GMA Water District	12,933	160	480			41		13,614
Indang Water District	5,832	191	210			49		6,282
Magallanes Waterworks Office	2,726	50				39		2,813
Maragondon Water District	2,734	178				24		2,936
Maynilad Water Services, Inc.	74,257	2,531	2,112	108		92		79,100
Mendez Water District	3,809	145						3,954
Naic Water Supply Corp.	5,373	33				2		5,408
Silang Water District	29,462	834	397			110		30,803
Tagaytay City Water District	11,926	888			65	101	1	12,981
Tanza Water District	9,923	336				40		10,299
Western Cavite Water Supply & Services Corp.	1,158					7		1,165
Trece Martires City Water District	14,799	332				78		15,209
<b>Total</b>	<b>290,191</b>	<b>6,990</b>	<b>18,043</b>	<b>116</b>	<b>65</b>	<b>901</b>	<b>452</b>	<b>316,758</b>

Source: Water Districts, Waterworks' Offices & Maynilad Water Services, Inc., Cavite



**Table 7.14 Residential Water Rates by Water Service Providers  
Province of Cavite: 2013**

Water Agency	Minimum Charge (1st 10 cu.m.)	Commodity Charges				
		11-20	21-30	31-40	41-50	51-up
Alfonso Waterworks Office	50.00					
Amadeo Water District	195.00	28.00	30.00	33.00	37.00	37.00
Carmona Water District	238.60	26.20	29.00	32.60	37.00	37.00
Dasmariñas Water District	158.00	19.00	22.80	26.80	30.85	30.85
Gen. E. Aguinaldo Water District	163.00	17.30	19.70	23.45	27.60	27.60
General Mariano Alvarez Water District	280.00	29.65	32.35	35.70	40.65	40.65
Indang Water District	188.00	22.25	24.90	27.25	27.25	27.25
Magallanes Waterworks Office	140.00	14.50	14.50	15.50	15.50	16.50
Maragondon Water District	168.00	18.00	19.50	21.50	24.00	27.00
Maynilad Water Services, Inc.	94.67					
Mendez Water District	195.00	21.50	24.00	27.25	30.75	30.75
Naic Water Supply Corp.	120.00	10.00	10.00	10.00	10.00	10.00
Silang Water District	210.85	22.80	25.15	28.10	31.60	31.60
Tagaytay City Water District	233.00	25.80	28.55	31.80	35.30	
Tanza Water District	180.00	18.30	19.45	20.90	23.25	23.25
Western Cavite Water Supply & Services Corp.	144.00	15.50	17.00	19.00	21.50	24.50
Trece Martires City Water District	170.00	18.25	19.55	20.90	23.50	23.50

Source: Water Districts, Waterworks' Offices & Maynilad Water Services, Inc., Cavite

## Irrigation

Cavite Friar Lands Irrigation Systems (CFLIS) with its office located in Naic, Cavite is one of the oldest national irrigation systems in the Philippines and is being managed by National Irrigation Administration (NIA), a government-owned and controlled corporation tasked with the development and operation of Irrigation Systems all over the country. NIA-CFLIS is responsible for the operation and maintenance of national irrigation systems in the province of

Cavite. It undertakes the collection of Irrigation Service Fees (ISF) from farmer beneficiaries of irrigated areas every cropping season for the service rendered in the delivery of water. Based on the data gathered from NIA, Spanish Royal land grants were implemented in the province during the Spanish period and portions of agricultural lands were subdivided into four estates namely: Naic Estate, Sta Cruz de Malabon Estate, San Francisco de Malabon Estate and Imus Estate, all of which are now popularly called as Cavite Friar Lands. As shown in Table 7.15, Cavite Friar Land Irrigation Systems' firmied-up service area (FUSA) or the service area to be covered by irrigation facilities totaled to 8,529.5851 hectares. This covers the municipalities of Ternate, Maragondon, Naic, Tanza, Gen. Trias, Cities of Imus, Bacoor, and Dasmariñas. Communal Irrigation System (CIS) has a total firmied-up service area of 933.00 hectares serving the municipalities of Gen. E. Aguinaldo, Gen. Mariano Alvarez, Kawit, Carmona, Naic, Ternate, Maragondon, Magallanes, Silang and the City of Bacoor (Table 7.16). Records also indicate that the major irrigation facilities in the system consist of diversion dams, minor dams, reservoirs and conveyance canals including appurtenant structures (Table 7.17). Moreover, Table 7.18 shows the National Irrigation Systems' sources of water.

**Table 7.15 City/Municipality Served by Cavite Friar Lands Irrigation Systems (CFLIS), Province of Cavite: 2013**

System	City/Municipality	Division	Firmed - Up Service Area (FUSA) [has.]
<b>Naic Estate</b>			<b>2,649.6194</b>
Mabacao Pump	Maragondon		34.5900
Kay-Akle River Irrigation System (RIS)	Maragondon, Ternate	SM MTI	351.1731
Kay-Akle RIS Extension	Maragondon	Cantaricio	40.0000
Balayungan RIS	Naic, Maragondon	1	896.3787
Balayungan RIS	Naic, Maragondon	2	650.1024
Culong-Culong RIS	Naic, Maragondon	3C	474.9084
Sahing RIS	Naic, Maragondon	3S	202.4668
<b>Sta. Cruz de Malabon Estate</b>			<b>1,747.7540</b>
Tres Cruces RIS	Tanza	4	572.7356
Matanda RIS	Tanza	5	490.9107
Matanda RIS	Tanza	6	684.1077
<b>San Francisco de Malabon Estate</b>			<b>2,446.7316</b>
Bankud - Vargas RIS	General Trias	7	543.5907
Plucena-Bayan RIS	General Trias	8	290.0196
Butas-Lawang Bato RIS	General Trias	9	529.4675

System	City/ Municipality	Division	Firmed - Up Service Area (FUSA) (has.)
Butas RIS	General Trias	10a	269.1600
Butas-Marcelo RIS	General Trias	10b	334.6298
Butas-Palanas RIS	General Trias	11	479.8640
<b>Imus Estate</b>			<b>1,685.4801</b>
San Augustine RIS	City of Imus	12	414.1423
Pasong Kastila RIS	City of Imus	13K	511.1441
Julian RIS	City of Imus	13J	207.9030
Makuling RIS	City of Dasmariñas	14M	148.7817
Luksuhin RIS	City of Dasmariñas	14L	109.2299
Embarcadero RIS	City of Dasmariñas	15E	60.4903
Baluctot RIS	City of Dasmariñas	15B	149.9417
Molino RIS	City of Bacoor	16	83.8471
<b>Total</b>			<b>8,529.5851</b>

Source: National Irrigation Administration, Naic

Table 7.16 City/Municipality Served by Communal Irrigation System (CIS), Province of Cavite: 2013

System	City/ Municipality	Firmed - Up Service Area (FUSA) (has.)
Gen. E. Aguinaldo Small Irrigation Project (SIP)	General Aguinaldo	30.00
Narvaez SIP	General Aguinaldo	100.00
Golova Communal Irrigation System (CIS)	Ternate	60.00
Magay CIS	Maragondon	300.00
Lantic I CIS	Carmona	99.00
Lantic II CIS	Carmona	55.00
Maduya Pump CIS	Carmona	34.00
Lumil & Tartaria (Batas) PCIS	Silang	40.00
F. de Castro PCIS	General Mariano Alvarez	32.00
Pasong Saguing PCIS	General Mariano Alvarez	34.00
Kawit PIS	Kawit	60.00
Palangue PCIS	Naic	35.00
Pacheco I & II PCIS	Magallanes	42.00
San Nicolas II PIS	City of Bacoor	12.00
<b>Total</b>		<b>933.00</b>

Source: National Irrigation Administration, Naic

Table 7.17 Irrigation Facilities, Cavite Friar Land Irrigation System Province of Cavite: 2013

Irrigation Facility	Number
Diversion Dams	18
Minor Dams	69
Naic	11
Tanza	12
Gen. Trias	20
City of Imus	26
Reservoirs	2
Conveyance Canal	93.81 km.
NIA Road	245.39 km.

Source: National Irrigation Administration, Naic

Table 7.18 National Irrigation System's Sources of Water Province of Cavite

National Irrigation System	Division	Source of Water	Location
Kay-Akle RIS	SM MTI	Kay-Akle River	Mabato, Maragondon
		Aliang River	Pacheco, Magallanes
		Narvaez River	Narvaez, General Aguinaldo
		Sinaliw River	Sinaliw, Alfonso
		Borahan River	Marahan, Alfonso
Kay-Akle RIS Extension	Cantarico	Kaytitingga River	Kaytitingga, Alfonso
		Caputatan Creek	San Miguel A, Maragondon
Balayungan RIS	1 & 2	Balayungan River	Malainen Luma, Naic
		Lambak River	Pulo, Indang
		Habuling River	Mahabang Kahoy, Indang
		Quibabaya River	Panungyan, Mendez
		Catmon River	Pajo, Alfonso
		Zambal Creek	Zambal, Tagaytay City
		Aloague River	Luksuhin, Alfonso
		Quiling River	Daine, Indang & Taywanak, Alfonso
		Ikloy River	Kaytambog/Kayquit 2, Indang
		Culong-Culong RIS	3C
Balsahan River	Calumpang Lejos, Indang		
Caisobo River	Calumpang Lejos, Indang		

National Irrigation System	Division	Source of Water	Location
		Ikloy River	Kaytambog/Kayquit 2, Indang
		Banaba River	BanabaCerca, Indang
Sahing RIS	3S	Sahing River	Sabang, Naic
Tres Cruces RIS	4	Balagbag River	Tres Cruces, Tanza&CabucoTreceMartire
		Timalan River	Tres Cruces, Tanza
		Marilyn River	Tres Cruces, Tanza
		Bancud River	Bancod, Indang
Matanda RIS	5 & 6	Polonan River	Paradahán, Tanza&Conchu, TreceMartires City
		Quintana River	Quintana, TreceMartires City
		Indang River	Limbon, Indang
Bankud - Vargas	7	Bancud River	Bancod, Indang
		Saluysoy River	Kaytapos, Indang
		Kay-alamang River	Buenavista, Gen. Trias
Plucena-Bayan RIS	8	Panaysayan River	Pinagtipunan, Gen., Trias
Butas-LawangBato RIS	9	Rio Grande River	San Francisco, Gen. Trias
Butas-Marcelo RIS	10A & 10B	Alang-ilang River	San Francisco, Gen. Trias
Butas-Palanas RIS	11	Rio Grande River	Navarro, Gen. Trias
San Augustine RIS	12	Alang-Ilang River	Langkaan, City of Dasmariñas
Pasong Kastila RIS	13K	Alang-Ilang River	Malagasang, City of Imus
Julian RIS	13J	Malagasang Creek	Bucandala, City of Imus
Makuling RIS	14M	Sociedad River	Salitran, City of Dasmariñas
		Pasong Baka Creek	Salitran, City of Dasmariñas
Luksuhin RIS	14L	Malinta River	Palapala, City of Dasmariñas
Embarcadero RIS	15E	Malaki ng Ilog River	Paliparan, City of Dasmariñas
Baluctot RIS	15B	Baluctot River	Salitran, City of Dasmariñas
Molino RIS	16	Don Celia River	Molino, City of Bacoor

Source: National Irrigation Administration, Naic