

Chapter 7. Infrastructure Sector

Infrastructure and Utilities

Infrastructure support and utilities such as roads, bridges, water supply, telecommunications, power and others play a vital role in the development of any province and with the progress happening in Cavite, these are considered one of the major contributors in paving its way for development.

Moreover, having an efficient and effective transport system, access roads and traffic circulation is a good indicator of a well-organized province and is an added factor for investment that will likely lead to development. The province of Cavite experienced a fast-pace development for the last decade. This is also evidently seen on the increased industrial and commercial activities that sometimes results to quilts of urban sprawl, traffic congestion and increased road accidents. However, these are being addressed through improvement of roads and development of alternative transportation mediums.

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 has a total road kilometerage of 2,184.8163 wherein 18.77% or 410.1540 kilometers are national roads while 369.6810 kilometers or 16.92% are provincial roads. Furthermore, city/municipal roads comprise 14.45% or 315.6758 kilometers while barangay roads have a total length of 1,089.3055 kilometers or 49.86% of the total road length (Figure 7.1). These roads are paved with concrete (66.17%), 13.73% are paved with asphalt and others remain earthfill (12.63%) and gravel roads (7.48%). There are 323 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 113. These comprised a total length of 6.3149 kilometers (Table 7.1 and Figure 7.2).

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 Daang Hari Road.

Moreover, the opening of the Manila-Cavite Expressway, commonly known as CAVITEX, provides convenience to motorists and commuters with their travel time going in and out of the province.



Figure 7.1. Distribution of Road Length by Classification Province of Cavite: 2011

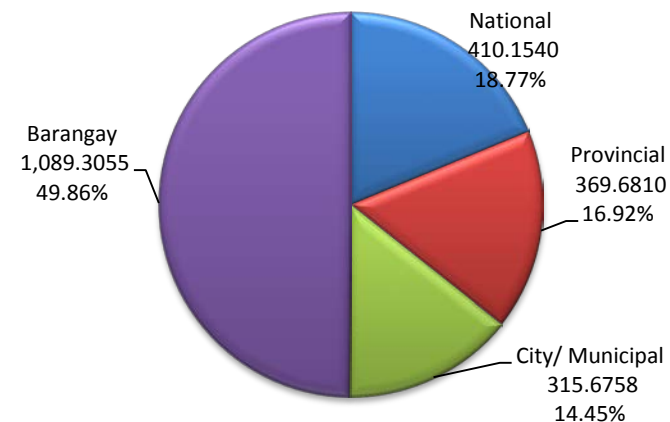
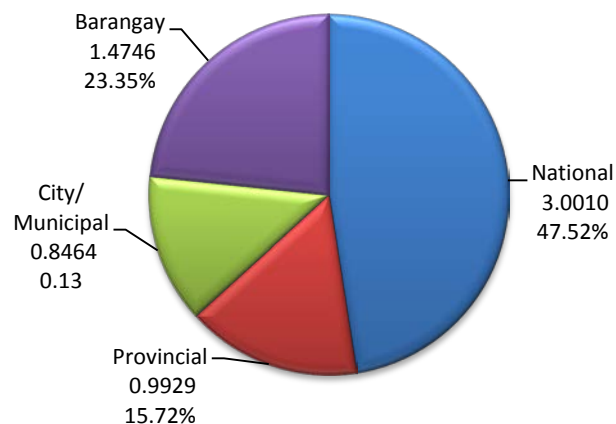


Table 7.1. Total Length of Roads and Bridges by Classification, Province of Cavite: 2011

Road/Bridge Classification	Road				Total Length (km)	Bridge	
	Type of Pavement					Number	Total Length (km)
	Concrete	Asphalt	Gravel	Earth fill			
National	204.5361	205.6179			410.1540	102	3.0010
Provincial	277.8750	44.9820	46.8240		369.6810	69	0.9929
City/Municipal	273.9298	28.3149	3.4600	9.9712	315.6758	39	0.8464
Barangay	689.2495	21.0789	113.0809	265.8962	1,089.3055	113	1.4746
TOTAL	1,445.5903	299.9937	163.3649	275.8674	2,184.8163	323	6.3149

Special Projects Division, PPDO, Trece Martires City

Figure 7.2. Distribution of Length of Bridges by Classification, Province of Cavite: 2011



Transport Facilities

The vehicles which regularly ply the roads provincewide include cars, utility vehicles, sports utility vehicle, trucks, buses, motorcycle/tricycle and trailers and these are evidently seen on the data gathered from the Land Transportation Office (LTO), Region IV-A in Lipa City, Batangas. A total of 268,432 units of motor vehicles are registered in the four (4) land transportation offices in the province by which 34.81% or 93,430 units are registered at Imus District Office; 28.51% or 76,532 units are at Kawit District Office while Tagaytay City Extension Office reflects a total of 49,881 units or 18.58% and Dasmariñas Extension Office has a total registration of 48,589 units or 18.10% share (Figure 7.3). In addition, it was observed that the highest registered number of motor vehicles was motorcycle/tricycle with 54.30% of the total 145,754 units followed by utility vehicles with 26.58% or

71,355 units, while cars registered a total of 34,017 units or 12.67%. The least registration was trailer with only 0.06% registration or 155 units (Table 7.2 and Figure 7.4).

Figure 7.3. Distribution of Registered Motor Vehicles by Office, Province of Cavite: 2012

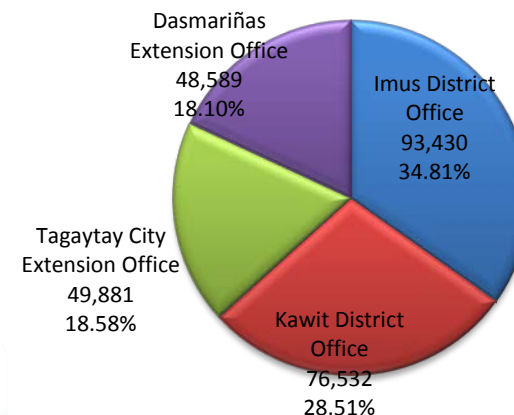
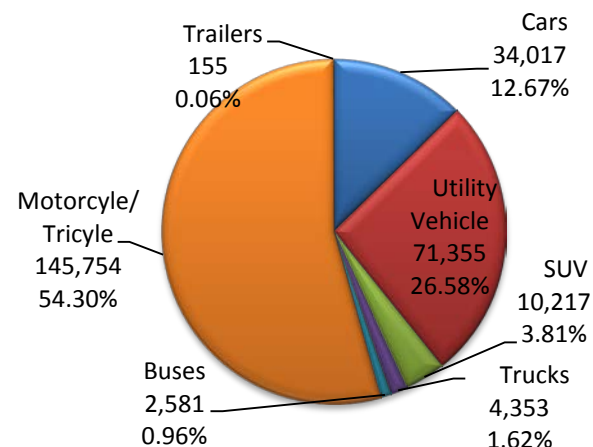


Table 7.2. Number of Registered Motor Vehicles by Type, Province of Cavite: 2012

Type of Vehicle	Number of Vehicle Registration				Total
	Imus District Office	Kawit District Office	Tagaytay City Extension Office	Dasmariñas Extension Office	
Cars	14,572	6,249	7,542	5,654	34,017
Utility Vehicle	29,334	15,423	16,980	9,618	71,355
Sports Utility	3,360	4,158	1,660	1,039	10,217
Trucks	2,061	1,025	904	363	4,353
Buses	93	2,340	128	20	2,581
Motorcycle/Tricycle	43,899	47,310	22,658	31,887	145,754
Trailers	111	27	9	8	155
TOTAL	93,430	76,532	49,881	48,589	268,432

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

Figure 7.4. Distribution of Registered Motor Vehicles by Type Province of Cavite: 2012



LTO Cavite has also issued 109,347 new and renewal licenses by which 59,898 or 54.78% are professional licenses and 45.22% or 49,449 are non-professional licenses. Permits issued which totaled to 52,908 are categorized as student permit with 52,407 and conductor permit registered at 501 issuances, thus licenses and permits issued totaled to 162,255. Kawit Licensing Center has the most number of issuances with 33.02% or 53,577 followed by Tagaytay City Extension Office with 41,627 or 25.66%, Imus District Office registered at 36,586 or 22.55%. Dasmariñas Extension Office has the least number of issuances with 18.78% or 30,465 (Table 7.3).

Table 7.3. Number of Licenses and Permits Issued by Office and by Classification, Province of Cavite: 2012

Agency	Licenses							Permits						Total Licenses and Permits Issued
	Professional			Non-Professional			Total	Student Permit		Conductors Permit			Total	
	New	Renewal	Sub-Total	New	Renewal	Sub-Total		New	Sub-Total	New	Renewal	Sub-Total		
Tagaytay City Extension Office	4,018	13,021	17,039	7,783	6,404	14,187	31,226	10,068	10,068	167	166	333	10,401	41,627
Imus District Office		11,617	11,617		8,683	8,683	20,300	16,286	16,286		19		16,286	36,586
Dasmariñas Extension Office		10,462	10,462	19	7,216	7,235	17,697	12,748	12,748		20	20	12,768	30,465
Kawit Licensing Center	3,852	16,928	20,780	10,649	8,695	19,344	40,124	13,305	13,305	88	60	148	13,453	53,577
TOTAL	7,870	52,028	59,898	18,451	30,998	49,449	109,347	52,407	52,407	255	265	501	52,908	162,255

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

Communication

Communication facilities are vital to create a working environment that is conducive to effective, efficient and economical operation. 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.

Data from National Telecommunications Commission (NTC), Region IV-A, Batangas City, as shown on Table 7.4 and Figure 7.5 indicates that there are four (4) telephone companies that provide telephone services in the province namely, Philippine Long Distance Telephone Company (PLDT) with 54.06% subscribers, Digital Telecommunications Philippines, Inc. (DIGITEL) having 12.02%, Innove (Globetel) at 32.84% and Bel Tel with 1.08% subscribers while cellular mobile telephone system providers are Smart Communications, Inc., Globe Telecom, Inc. and Digitel Mobile Philippines (Table 7.5). The province is also abreast with modern information technology with the entry of internet service providers. Likewise, registered cellular phone dealers/service centers, radio stations and cable TV service providers are also available (Table 7.6 and Table 7.7).

Philippine Telegraph and Telephone Company (PT & T), Radio Communications of the Philippines, Inc. (RCPI), LBC Express, Inc. and DHL Forwarder also perform specific telecommunication and courier services throughout the province. All major newspapers, magazines and publications are available even in the farthest barangays of the province.



Table 7.4. Telephone Service Providers, Province of Cavite: 2011

Name of Company	Number of Subscribers	Installed Lines
Philippine Long Distance Telephone Company (PLDT)	80,237	95,817
Digital Telecommunications Philippines, Inc. (DIGITEL)	17,836	52,096
Innove (Globetel)	48,746	174,579
Bel Tel	1,610	8,000

Source: National Telecommunications Commission, Region IV, Batangas City

Figure 7.5. Distribution of Telephone Service Providers, Province of Cavite: 2011

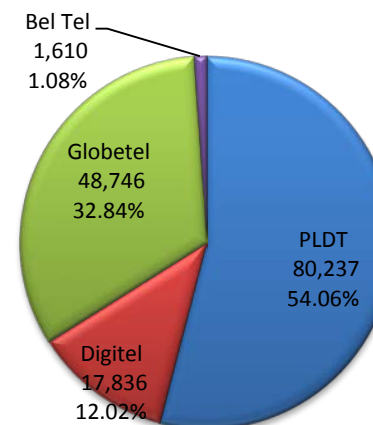


Table 7.5. Cellular Mobile Telephone System (CMTS) Providers Province of Cavite: 2012

Name of Company	Number of Cell sites
Smart Communications, Inc.	110
Globe Telecom, Inc.	192
Digitel Mobile Phils., Inc.	142
TOTAL	444

Source: National Telecommunications Commission, Region IV, Batangas City

Table 7.6. Operating Radio Stations, Province of Cavite: 2012

Operating Agency	Location		Call-Sign
	Transmitter	Studio	
I. AM BROADCASTING			
Delta Broadcasting System	Manila-Cavite Road, San Rafael III, Noveleta	118 Amorsolo St., Legaspi Village, Makati City	DWXI - AM
II. FM BROADCASTING			
De La Salle University	JFH Building, DLSU Campus, Dasmariñas, Cavite	JFH Building, DLSU Campus, Dasmariñas,	DWSU - FM

Source: National Telecommunications Commission, Region IV, Batangas City

Table 7.7. Cable TV Service Providers, Province of Cavite: 2012

Name of Company	Office Address	Service Area
A & L Cable TV System	J.P. Rizal Street, Silang	Silang, Cavite
Amadeo Cable TV (Infoland Cable TV)	3rd Floor Ambagan Bldg., A Mabini Street, Amadeo	Amadeo & Alfonso, Cavite
Bacoor Cable TV (Cablelink)	Unit 3 De Castro Bldg., Aguinaldo Highway, Palico I, Imus	Bacoor, Cavite
Cavite Cable Corp. (SkyCable)	Km. 23 Tabon, Kawit	Kawit, Noveleta, Gen. Trias, Bacoor, Rosario, Tanza, Silang (Ayala West Grove Subd., Brgy. Inchican) and Cavite City
Central CATV (SkyCable)	Km. 23 Tabon, Kawit	Bacoor, Cavite
Coast Cable TV, Inc. (SkyCable)	Km. 23 Tabon, Kawit	Rosario, Cavite
Dasca Cable Services	D. Mangubat St., Dasmariñas	City of Dasmariñas, Cavite
Dynna Cable Services	B25 L20 Ph1 Rome St., Golden City Subd., Imus	within Golden City Subd., Imus, Cavite
Gen. Trias Cable Network, Inc.	Sunshine Village, Manggahan, Gen. Trias	Gen. Trias, Cavite
HM CATV, Inc.	Capt. Perlas St. Pook, Sta. Rosa City, Laguna	Carmona, Cavite
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	Imus, Cavite
Leisure World CATV, Inc.	B18 L10 Hummingbird St., Springville East Ph1, Molino, Bacoor	Carmona, Cavite (Montecarlo & Woodland Hills Subd.)
Mendez Cable TV, Inc.	48 J.P. Rizal St., Mendez	Mendez & Indang, Cavite
Met Cable Circuit Network Corp.	B2L16 Congressional Road, San Gabriel, Gen. M. Alvarez	Gen. M. Alvarez, Cavite
Mountain Top Cable TV	Unit 3 2/F Zyfyta Bldg. Tolentino East, Tagaytay City	Tagaytay City
Naic Cable TV Corp.	A. Soriano Highway, Ibayo Silangan, Naic	Naic, Maragondon, Ternate, Cavite
NLF Cable Installation Services		City of Dasmariñas, Cavite
Northstar Cable TV, Inc.	2nd Floor MCM Bldg., Gov. Drive, Old Bulihan, Silang	Old Bulihan, Silang Cavite
One Tagaytay Place	Sungay, Tagaytay City	Within the hotel premises
Planet Cable, Inc.	B18 L10 Hummingbird St., Springville East Ph1, Molino, Bacoor	Gen. Trias & Cities of Bacoor & Imus, Cavite
Plus Cable Network, Inc.	B18 L10 Hummingbird St., Springville East Ph1, Molino,	Cities of Bacoor & Imus, Cavite
Royal Park Hotel and Restaurant	Aguinaldo Highway, Tagaytay City	Within the hotel premises
Suburban Cable Network, Inc. (Sky	Km. 23 Tabon, Kawit	Imus, Cavite
Southwoods Cable TV & Broadband	B11, L22, Swede St. Mandarin Homes, Gen. M. Alvarez	Gen. M. Alvarez & Silang
Tagaytay Cable TV	Unit 104 FGC Bldg., Aguinaldo Highway, Maharlika East,	Tagaytay City
Trece Cable Corporation	0289 San Agustin, Trece Martires City	Trece Martires City

Source: National Telecommunications Commission, Region IV, Batangas City

Postal services are being provided by Philippine Postal Corporation. The province has 34 post offices which provide services such as mail and parcel delivery, money order, and domestic and international express mails. A total of 8,264,335 mails are posted and delivered in 2011, wherein 7,773,918 are domestic mails and 490,417 are international mails (Table 7.8).

Table 7.8. Number of Post Offices, Volume of Mails Handled and Summary of Mails Posted and Delivered by City/Municipality, Province of Cavite: 2011

City/ Municipality	Number of Post Offices	Volume of Mails Handled	Domestic Mails			International Mails		
			Posted	Delivered	Total	Posted	Delivered	Total
1st District	5	1,043,977	110,461	833,283	943,744	16,466	83,767	100,233
Cavite City	1	134,693	22,954	89,749	112,703	6,465	15,525	21,990
Kawit	1	266,301	42,133	201,540	243,673	2,690	19,938	22,628
Noveleta	1	65,075	4,744	54,718	59,462	1,652	3,961	5,613
Rosario	2	577,908	40,630	487,276	527,906	5,659	44,343	50,002
2nd District	2	387,995	12,119	340,521	352,640	4,974	30,381	35,355
City of Bacoor	2	387,995	12,119	340,521	352,640	4,974	30,381	35,355
3rd District	3	924,647	175,936	695,810	871,746	31,802	21,099	52,901
City of Imus	3	924,647	175,936	695,810	871,746	31,802	21,099	52,901
4th District	5	1,472,844	172,347	1,234,558	1,406,905	32,895	33,044	65,939
City of Dasmariñas	5	1,472,844	172,347	1,234,558	1,406,905	32,895	33,044	65,939
5th District	5	1,453,870	145,328	1,249,335	1,394,663	26,967	32,240	59,207
Carmona	1	215,272	36,235	166,977	203,212	4,294	7,766	12,060
Gen. Mariano Alvarez	2	249,107	34,598	198,770	233,368	9,653	6,086	15,739
Silang	2	989,491	74,495	883,588	958,083	13,020	18,388	31,408
6th District	5	1,415,006	130,575	1,237,755	1,368,330	8,946	37,730	46,676
Trece Martires City	1	241,917	74,156	163,549	237,705	2,027	2,185	4,212
Amadeo	1	33,959	688	29,882	30,570	237	3,152	3,389
Gen. Trias	2	745,434	30,450	691,929	722,379	3,324	19,731	23,055
Tanza	1	393,696	25,281	352,395	377,676	3,358	12,662	16,020
7th District	9	1,565,996	246,942	1,188,948	1,435,890	33,339	96,767	130,106
Tagaytay City	1	484,706	152,806	294,802	447,608	20,787	16,311	37,098
Alfonso	1	89,167	11,423	69,270	80,693	2,637	5,837	8,474
Gen. E. Aguinaldo	1	23,117	807	20,900	21,707	34	1,376	1,410
Indang	1	203,917	2,831	189,772	192,603	1,053	10,261	11,314
Magallanes	1	75,084	1,659	70,308	71,967	1,538	1,579	3,117
Maragondon	1	112,444	10,021	66,433	76,454	1,991	33,999	35,990
Mendez	1	68,599	2,559	59,759	62,318	1,291	4,990	6,281
Naic	1	474,534	62,125	388,870	450,995	3,280	20,259	23,539
Ternate	1	34,428	2,711	28,834	31,545	728	2,155	2,883
TOTAL	34	8,264,335	993,708	6,780,210	7,773,918	155,389	335,028	490,417

Source: Philippine Postal Corporation, San Pablo City, Laguna

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%. For the year 2012, the total number of MERALCO customers in the province totaled to 705,633 of which, 657,333 metered connections are residential, 46,979 are commercial, 597 are industrial and 724 are for streetlights (Table 7.9). The City of Dasmariñas has the most number of users with 134,461 connections. The annual electricity consumption shows that 88,607,657 kWh or 32.57% are residential, 57,262,256 kWh or 21.05% are commercial, 125,234,707 kWh or 46.03% are industrial, and 957,386 kWh or 0.35% are for streetlights purposes (Table 7.10 and Figure 7.).

Existing power substations and Meralco's electric capital projects for the province are shown in Table 7.11 and Table 7.12.



Table 7.9. Number of Electrical Connections by Type of Users by City/Municipality, Province of Cavite: 2012

City/Municipality	Number of Connections by Type of Users				
	Residential	Commercial	Industrial	Street-light	Total
1st District	60,201	6,108	15	34	66,358
Cavite City	18,043	1,975	3	2	20,023
Kawit	15,987	1,673	7	21	17,688
Noveleta	9,453	947		7	10,407
Rosario	16,718	1,513	5	4	18,240
2nd District	99,803	7,188	43	145	107,179
City of Bacoor	99,803	7,188	43	145	107,179
3rd District	89,604	6,107	39	87	95,837
City of Imus	89,604	6,107	39	87	95,837
4th District	126,108	8,101	132	120	134,461
City of Dasmariñas	126,108	8,101	132	120	134,461
5th District	81,882	5,751	267	97	87,997
Carmona	18,194	1,477	177	44	19,892
Gen. Mariano Alvarez	22,777	1,244	8	10	24,039
Silang	40,911	3,030	82	43	44,066
6th District	126,553	7,032	90	124	133,799
Amadeo	6,203	401	1	1	6,606
General Trias	59,028	2,622	51	58	61,759
Tanza	37,763	2,635	9	46	40,453
Trece Martires City	23,559	1,374	29	19	24,981
7th District	73,182	6,692	11	117	80,002
Alfonso	9,909	989	2	12	10,912
Gen. Aguinaldo	3,083	185	1		3,269
Indang	11,836	909	2	5	12,752
Magallanes	3,097	204		5	3,306
Maragondon	5,425	511			5,936
Mendez	5,712	436		3	6,151
Naic	17,798	1,391	4	30	19,223
Tagaytay City	13,293	1,901	2	60	15,256
Ternate	3,029	166		2	3,197
TOTAL	657,333	46,979	597	724	705,633

Source: MERALCO, Pasig City

Table 7.10. Annual Electricity Consumption by City/Municipality
Province of Cavite: 2012

City/Municipality	Electricity Consumption (kWh)				
	Residential	Commercial	Industrial	Streetlight	Total
1st District	8,813,013	5,925,254	37,237,850	93,176	52,069,293
Cavite City	2,774,674	2,138,941	1,684	61,740	4,977,039
Kawit	2,387,225	1,331,765	7,707	19,419	3,746,116
Novelita	1,406,616	588,902		8,117	2,003,635
Rosario	2,244,498	1,865,646	37,228,459	3,900	41,342,503
2nd District	18,846,184	9,878,966	799,381	177,827	29,702,358
City of Bacoor	18,846,184	9,878,966	799,381	177,827	29,702,358
3rd District	14,112,349	6,826,994	6,839,977	110,510	27,889,830
City of Imus	14,112,349	6,826,994	6,839,977	110,510	27,889,830
4th District	15,643,271	12,299,851	14,273,620	187,719	42,404,461
City of Dasmariñas	15,643,271	12,299,851	14,273,620	187,719	42,404,461
5th District	9,518,732	7,027,066	37,641,883	132,178	54,319,859
Carmona	2,132,958	2,371,929	33,014,304	63,755	37,582,946
Gen. Mariano Alvarez	2,700,255	1,213,473	150,128	13,605	4,077,461
Silang	4,685,519	3,441,664	4,477,451	54,818	12,659,452
6th District	13,992,539	7,031,667	26,985,808	131,346	48,141,360
Amadeo	610,099	244,923	344	126	855,492
General Trias	6,526,921	3,386,750	22,427,724	72,533	32,413,928
Tanza	4,514,004	1,732,675	135,950	36,127	6,418,756
Trece Martires City	2,341,515	1,667,319	4,421,790	22,560	8,453,184
7th District	7,681,569	8,272,458	1,456,188	124,630	17,534,845
Alfonso	903,859	547,764	15,867	9,821	1,477,311
Gen. E. Aguinaldo	275,672	110,543	7,897		394,112
Indang	1,181,655	679,332	113,410	2,655	1,977,052
Magallanes	240,787	98,139		5,513	344,439
Maragondon	603,640	203,309			806,949
Mendez	554,305	263,428		336	818,069
Naic	1,982,205	1,131,875	1,303,308	23,214	4,440,602
Tagaytay City	1,596,731	5,008,328	15,706	80,238	6,701,003
Ternate	342,715	229,740		2,853	575,308
TOTAL	88,607,657	57,262,256	125,234,707	957,386	272,062,006

Source: MERALCO, Pasig City

Figure 7.6. Distribution of Electricity Consumption by Type of Users, Province of Cavite: 2012

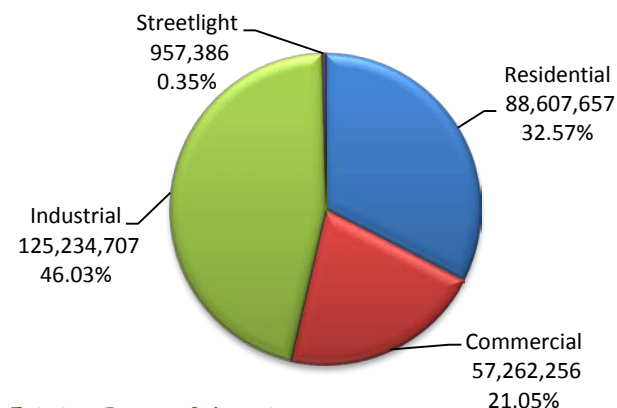


Table 7.11. Existing Power Substations, Province of Cavite: 2012

Substation	Location
Abubot Substation	Aguinaldo Hi-way, Abubot, Dasmariñas
Amadeo Substation	Banaybanay, Amadeo
Bacoor Substation	Aguinaldo Highway, Habay, Bacoor
FCIE Substation	Langkaan, Dasmariñas
Gateway Substation	Gateway Business Park, Javalera, Gen. Trias
Gen. M. Alvarez Substation	Lakeview Indl Corp., Kabilang Baybay, Gen. M. Alvarez
Imus Substation	Agunaldo Highway, Anabu, Imus
NGCP-Dasmariñas Substation*	Aguinaldo Highway, San Agustin, Dasmariñas
NGCP-Rosario Substation*	Gen. Trias Drive, Rosario
NGCP-Ternate Substation*	Gen. Trias Drive, Ternate
Puerto Azul Substation	Puerto Azul, Ternate
Silang Substation	Aguinaldo Highway, San Vicente, Silang
Tagaytay Substation	Aguinaldo Highway, Buho, Silang
Tagaytay West Substation	Maharlika West, Tagaytay City
Tanza Substation	Amaya, Tanza
TMC I Substation	TMC-Indang Road, Trece Martires City
TMC II Substation	Tanauan (Quintana), Tanza

*NGCP-owned substation

Source: MERALCO, Pasig City

Table 7.12. Electric Capital Projects, Province of Cavite: 2012

Project Name	Objective
Construction of FCIE-Rosario 115kV line	To improve the reliability of supply to Rosario substation by providing a second 115kV feed. This will benefit customers in Cavite Economic Zone (CEZ), Cavite City, Kawit, Noveleta and Rosario
Construction of FCIE - TMC II 115kV line	To provide a more reliable source to TMC II substation and improve switching flexibility during contingencies. This will benefit customers in Trece Martires City, Ternate, Maragondon, portion of Naic, Gen. Trias and Tanza
Construction of Dasmariñas-Imus 115kV line	To provide switching flexibility to both Bacoor and Imus substations through a second 115kV source from Dasmariñas substation. It will also increase the reliability of the existing 115kV system by providing a link between Dasmariñas and Zapote 230kV - 115kV substations. Customers in Bacoor, Imus and adjacent towns will benefit from this project
Expansion of Bacoor 115kV - 34.5kV substation (2nd Bank)	To provide additional capacity to serve Bacoor, Imus, Kawit, Rosario, Noveleta, Cavite City and unload Bacoor Bank No. 1 and Imus Bank No. 2
Upgrading of 13.8kV lines at San Agustin, Trece Martires City to 34.5kV (Partial conversion of TMC I 37XW to 34.5kV Ph.4)	To convert a section of TMC 1 37XW circuit to 34.5kV in order to address the capacity deficiency of TMC 1 substation during one-bank outage. This would improve feeder flexibility, voltage regulation and reduce technical losses

Source: MERALCO, Pasig City

Water Supply

Generally, the entire province of Cavite has access to clean and safe water. The provision of water is being shared by the public and private service agencies. Maynilad Water Services, Incorporated serves the municipalities of Noveleta, Kawit, Rosario, City of Imus, City of Bacoor, and Cavite City. Water Districts under Local Water Utilities Administration (LWUA) supply the municipalities of Mendez, Indang, Silang, Gen. Mariano Alvarez, Maragondon, Tanza, Carmona, Amadeo, Gen. Aguinaldo, City of Dasmariñas, Tagaytay City and Trece Martires City. 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 2012, there are 298,521 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 m³) ranges from P158.00 in Dasmariñas Water District to P280.00 in Gen. M. 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 P186.51 for the first 10 cubic meters.



Table 7.13. Water Service Providers and Number of Customers Served, Province of Cavite: 2012

Water Service Provider	Number of Customers Served						
	Residential	Commercial	Semi-Commercial	Industrial	Government	Others	Total
Alfonso Waterworks Office	1,454	43			12		1,509
Amadeo Water District	5,246	71			35		5,352
Carmona Water District	10,218	262			42		10,522
Dasmariñas Water District	93,582	860	13,932		215	394	108,983
Gen. Aguinaldo Water District	2,211	203			7		2,421
Gen. M. Alvarez Water District	12,263	171	482		38		12,954
Indang Water District	5,436	144	241				5,821
Magallanes Waterworks Office	2,496	50			37		2,583
Maragondon Water District	2,892	182			24		3,098
Maynilad Water Services, Inc.	51,641	1,650		1,708	54		55,053
Mendez Water District	3,682	142					3,824
Naic Water Supply Corp.	4,918	33			2		4,953
Silang Water District	28,643	1,192			98		29,933
Tagaytay City Water District	11,414	871			99	1	12,385
Tanza Water District	9,722	337			33		10,092
Western Cavite Water Supply & Services Corp.	1,175	1			3		1,179
Trece Martires City Water District	27,006	445			408		27,859
TOTAL	273,999	6,657	14,655	1,708	1,107	395	298,521

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

Table 7.14. Residential Water Rates by Service Provider, Province of Cavite: 2012

Water Service Provider	Min. Charge (1st 10 cu.m.)	Commodity Charges				
		11-20	21-30	31-40	41-50	51-up
Alfonso Waterworks Office	50.00 (1 st 8)					
Amadeo Water District	195.00	28.00	30.00	33.00	37.00	
Carmona Water District	238.60	26.20	29.00	32.60	37.00	
Dasmariñas Water District	158.00	19.00	22.80	26.80	30.85	30.85
Gen. 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	14.50	14.50	16.50
Maragondon Water District	168.00	18.00	19.50	21.50	24.00	27.00
Maynilad Water Services, Inc.	186.51					
Mendez Water District	195.00	21.50	24.00	27.25	30.75	30.75
Naic Water Supply Corp.	120.00	P10.00 in excess of 10 cu.m.				
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	

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

Irrigation

Cavite Friar Lands Irrigation System (CFLIS) with its office located in Naic, 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 system 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 land 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 and Table 7.16, firm-up service area (FUSA) or the service area to be covered by irrigation facilities totaled to 8,489.5851 hectares covering the municipalities of Ternate, Maragondon, Naic, Tanza, Gen. Trias, Imus, Bacoor, and the City of Dasmariñas while communal irrigation system (CIS) has a total firm-up service area of 828.00 hectares serving the municipalities of Gen. Aguinaldo, Gen. Mariano Alvarez, Kawit, Carmona, Ternate, Maragondon, Magallanes and the City of Bacoor. 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 System's source of water.

Table 7.15. City/Municipality Served by Cavite Friar Lands Irrigation System (CFLIS), Province of Cavite

System	City/Municipality	Division	Firmed – Up Service Area (FUSA) (has.)
NAIC ESTATE			2,609.6194
Mabacao Pump	Maragondon		34.5900
Kay-Akle River Irrigation System (RIS)	Maragondon, Ternate	SM MTI	351.1731
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
STA. CRUZ DE MALABON ESTATE			1,747.7540
Tres Cruses RIS	Tanza	4	572.7356
Matanda RIS	Tanza	5	490.9107
Matanda RIS	Tanza	6	684.1077
SAN FRANCISCO DE MALABON ESTATE			2,446.7316
Bankud - Vargas RIS	Gen. Trias	7	543.5907
Plucena-Bayan RIS	Gen. Trias	8	290.0196
Butas-Lawang Bato RIS	Gen. Trias	9	529.4675
Butas RIS	Gen. Trias	10a	269.1600
Butas-Marcelo RIS	Gen. Trias	10b	334.6298
Butas-Palanas RIS	Gen. Trias	11	479.8640
IMUS ESTATE			1,685.4801
San Augustine RIS	Imus	12	414.1423
Pasong Kastila RIS	Imus	13K	511.1441
Julian RIS	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	Bacoor	16	83.8471
TOTAL			8,489.5851

Source: National Irrigation Authority, Trece Martires City

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

System	City/Municipality	Firmed – Up Service Area (FUSA) (has.)
Gen. Aguinaldo Small Irrigation Project (SIP)	Gen. Aguinaldo	30.0000
Narvaez SIP	Gen. Aguinaldo	100.0000
Golova Communal Irrigation System (CIS)	Ternate	60.0000
Lantinc I CIS	Carmona	99.0000
Lantinc II CIS	Carmona	55.0000
Magay CIS	Maragondon	300.0000
F. de Castro Pump CIS	Gen. Mariano Alvarez	32.0000
Pasong Saguing Pump CIS	Gen. Mariano Alvarez	34.0000
Kawit PCIS	Kawit	60.0000
Maduya CIS	Carmona	34.0000
Pacheco	Magallanes	12.0000
San Nicolas	Bacoor	12.0000
TOTAL		828.0000

Source: National Irrigation Authority, Trece Martires City

Table 7.17. Number of Irrigation Facilities, Province of Cavite

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

Source: National Irrigation Authority, Trece Martires City

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
Balayungan RIS	1 & 2	Balayungan River	Malainen Luma, Naic
Culong-Culong RIS	3C	Balsahan River	Calumpang Lejos, Indang
Sahing RIS	3S	Sahing River	Sabang, Naic
Tres Cruces RIS	4	Timalan, Balagbag River	Tres Cruces, Tanza
Matanda RIS	5 & 6	Polonan, Quintana Creek	Paradahan, Tanza
Bankud - Vargas RIS	7	Kay-alamang River	Buenavista, Gen. Trias
Plucena-Bayan RIS	8	Panaysayan River	Pinagtipunan, Gen., Trias
Butas-Lawang Bato 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, Imus
Julian RIS	13J	Malagasang Creek	Bucandala, Imus
Makuling RIS	14M	Sociedad, Pasong Baka Creek	Salitran, City of Dasmariñas
Luksuhin RIS	14L	Malinta River	Palapala, City of Dasmariñas
Embarcadero RIS	15E	Malaking 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 Authority, Trece Martires City