

Chapter 5: Infrastructure and Utilities

Infrastructure is the fundamental facilities and systems serving a country, city, or another area, including the services and facilities necessary for its economy to function.

In economic terms, infrastructure frequently involves the production of public goods or the support of natural monopolies. Transportation systems, communication networks, sewage, water, and electric systems are all examples of infrastructure. Infrastructure projects can be funded publicly, privately, or through public-private partnerships (Investopedia, n.d.).

A good infrastructure is necessary not only for faster economic growth but also for inclusive growth. Inclusive growth is when the majority of a country's citizens benefit from it. As a result of inclusive growth, poverty will be reduced and income disparity will be reduced in the country.

Road Transport

The transportation system in the Province of Cavite is predominantly land-based, of which the principal transport mode is road-based.

Cavite has twelve (12) major entrances and exits: the Manila-Cavite Coastal Road via Talaba, City of Bacoor; Cavite Toll Expressway (CAVITEX), Governor's Drive-South Luzon Expressway (SLEX) Carmona Exit, Batangas-Tagaytay/Alfonso via Aguinaldo Highway, Bacoor City-Las Piñas City via Zapote, Sta. Rosa-Tagaytay Road, Alabang-Molino, Bacoor City via Daang Hari, Muntinlupa-Cavite Expressway (MCEX) Susan Height Exit, Molino, Bacoor City-SLEX via Daang Reyna-Victoria Avenue San Pedro Exit, Ternate-Nasugbu, Batangas via Kaybiang Tunnel, Tagaytay-Taal Lake Road, and Tagaytay-Talisay Road (Provincial Road Network Development Plan 2021-2025).

Roads and Bridges

Road length is reported based on road classification, namely: national road, provincial road, city/municipal road, and barangay road. The province has a total road length of 2,280.3871 kilometers wherein 438.8540 kilometers are national roads while 369.6810 kilometers are provincial

roads. City/municipal roads comprised 373.7093 kilometers, while barangay roads have a total length of 1,098.1428 kilometers. It is also presented that 1,621.6039 kilometers are paved with concrete, 336.6079 kilometers are asphalt, asphalted concrete totaled 82.0090 kilometers, and other roads remained earth fill (178.5108 kilometers) and gravel (61.6555 kilometers).

Of the total national road, 208.7100 kilometers are concreted, and 230.1440 kilometers are asphalted. Provincial roads paved with concrete and asphalt were registered at 278.9400 kilometers and 8.4140 kilometers, respectively, while 77.8580 kilometers are asphalted concrete, and 4.4690 kilometers remained gravel roads.

Meanwhile, 285.9074 kilometers of the city/municipal roads are paved with concrete, 77.3296 kilometers are asphalted, and some portions are still earth fill (6.9580 kilometers) and gravel roads (3.5143 kilometers). In addition, the majority of the barangay roads, or 848.0465 kilometers were concreted and 20.7203 kilometers and 4.1510 were asphalted and asphalt concreted, respectively. Gravel and earth fill pavement have a combined length of 225.2250 kilometers.

Furthermore, a bridge that connects roads in different cities and municipalities of the province is also classified as national, provincial, city/municipal, and barangay. The reported total length of the bridge is 7.3044 kilometers. The national bridge comprised a total length of 4.0575 kilometers. The provincial bridge was posted at 1.7761 kilometers. In addition, barangay and city/municipal bridge registered a combined length of 1.4708 kilometers.

Table 5.1 Total Length of Roads and Bridges by Classification and Type of Pavement, Province of Cavite: 2020

Road Classification	Type of Pavement (km)					Total Length (km)	
	Concrete	Asphalt	Gravel	Earthfill	Asphalted Concrete	Roads	Bridges
National	208.7100	230.1440	-	-	-	438.8540	4.0575
Provincial	278.9400	8.4140	4.4690	-	77.8580	369.6810	1.7761
City/Municipal	285.9074	77.3296	3.5143	6.9580	-	373.7093	0.6262
Barangay	848.0465	20.7203	53.6722	171.5528	4.1510	1,098.1429	0.8446
TOTAL	1,621.6039	336.6079	61.6555	178.5108	82.0090	2,280.3872	7.3044

Source: Special Projects Division, Provincial Planning and Development Office, Trece Martires City

Motor Vehicle Registration

Vehicle registrations gathered from the Land Transportation Office (LTO), Region IV-A, Lipa City, Batangas are classified into cars, utility vehicles, sports utility vehicles, trucks, buses, motorcycles/tricycles, and trailers. In 2020, these reached a total of 409,397 units, having an increase of 19,254 registrations compared to 2019 data of 390,143 units.

Among the types of vehicles, the highest number of motor vehicle registration was motorcycles/tricycles with 238,041 units or 58.14% share followed by utility vehicles with 19.64% or 80,404 units. Cars were registered at 62,008 units or 15.15% while sports utility vehicles were posted at 6.21% registration or 25,432 units. In addition, trucks,

buses, and trailers have a combined registration of 3,512 units or 0.86% share.

The total number of registered motor vehicles by district/extension office as also presented in the table shows that Kawit District Office has the highest registration comprising 33.84% or 138,555 units followed by Tagaytay City District Office with 20.27% registration or 83,004 units. The City of Imus District Office posted 58,228 units registration or 14.22% while 16.89% or 69,158 units were registered at the City of Dasmariñas District Office. Additionally, the City of Bacoor District Office recorded a total registration of 44,359 vehicles or 10.84% while the Naic Extension Office registered the least number with 3.93% share or 16,093 units.

Table 5.2 Number of Vehicle Registration by Type, Province of Cavite: 2020

Type of Vehicle	Number of Vehicle Registration						Total
	Kawit District Office	Imus District Office	Dasmariñas District Office	Tagaytay District Office	Bacoor District Office	Naic Extension Office	
Cars	18,547	10,248	8,853	15,443	7,511	1,406	62,008
Utility Vehicles	23,141	12,415	9,931	21,889	11,366	1,662	80,404
Sports Utility Vehicles	7,335	4,910	3,390	5,769	3,482	546	25,432
Motorcycles/Tricycles	88,381	30,151	46,684	38,714	21,704	12,407	238,041
Trucks	959	347	267	1,095	236	59	2,963
Buses	80	5	5	72	3	1	166
Trailers	112	152	28	22	57	12	383
TOTAL	138,555	58,228	69,158	83,004	44,359	16,093	409,397

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

Licenses and Permits

Data on driver's licenses and permits issued totaled 126,171 issuances, by which 99.93% or 126,083 are driver's licenses while 88 or 0.07% are conductors' permits. Out of these issuances, 85.54% or 107,929 are new issuances while 14.46% or 18,242 applied for renewal. Furthermore, 88,585 or 70.21% were issued to male applicants while 29.79% or 37,586 were female applicants.

Of the total driver's licenses issued, 107,872 issuances or 85.56% are new applications while 14.44% or 18,211 applications are renewals, whereas 88,503 are issued to male applicants and 37,580 are female applicants. Meanwhile, the conductors' permit posted 57 new issuances and 31 renewals.

The highest driver's licenses and permits issuances were posted at Cavite Licensing Center in Kawit having 34,503 issuances or 27.35% by which 29,433 are new issuances while 5,070 are renewal. Tagaytay District Office issued 20,039 licenses and permits or 15.88% having 17,920 new issuances and 2,119 renewed issuances. Likewise, 15,815 issuances or 12.53% were issued at the City of Dasmariñas District Office while the City of Bacoor District Office had 11.23% of the total issuances or 14,174. The City of Imus District Office and Naic Extension Office have 10,639 (8.43%) and 10,027 (7.95%) issuances, respectively.

Driver's License Renewal Offices (DLROs), which cater to the plain renewal of driver's and conductor's licenses without alarm or change in information, posted a combined total of

20,976 issuances. DLRO City of Imus registered 3.55% or 4,482 issuances by which 4,080 are new while 402 are renewal. DLRO City of Dasmariñas also posted 7,489 new issuances and 813 renewed issuances totaling 8,302, and DLRO City of Gen. Trias has issued 8,192 or 6.49%.

Professional license registered 17,411 issuances comprising 7,594 new issuances and 9,817 renewals of which 15,832 are male applicants and 1,579 are female applicants. Non-professional driver's licenses issued totaled 53,544 with 45,150 new issuances and 8,394 renewed licenses. Likewise, male applicants totaled 36,298, and female applicants registered at 17,246. In addition, new student permits issued totaled 55,128 or 43.72% wherein 36,373 are issued to male applicants and 18,755 are issued to female applicants.

Table 5.3 Number of Driver's Licenses and Conductors Permit Issued by District/Extension Offices, Province of Cavite: 2020

District/Extension Office	Driver's License					Conductors Permit				
	New		Renewal		Total	New		Renewal		Total
	Male	Female	Male	Female		Male	Female	Male	Female	
Cavite Licensing Center	20,624	8,793	4,348	715	34,480	14	2	7	-	23
City of Imus District Office	5,520	3,643	1,094	378	10,635	-	-	4	-	4
City of Dasmariñas District Office	10,019	4,130	1,393	248	15,790	22	-	3	-	25
Tagaytay District Office	12,422	5,484	1,803	312	20,021	14	-	4	-	18
City of Bacoor District Office	6,096	2,764	3,932	1,380	14,172	-	-	-	-	-
Naic Extension Office	6,356	2,752	776	137	10,021	2	3	1	-	6
DLRO City of Imus	2,497	1,583	292	110	4,482	-	-	-	-	-
DLRO City of Dasmariñas	5,086	2,403	658	154	8,301	-	-	1	-	1
DLRO City of Gen. Trias	5,203	2,497	384	97	8,181	-	-	10	1	11
TOTAL	73,823	34,049	14,680	3,531	126,083	52	5	30	1	88

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

Table 5.3 continued...

District/Extension Office	Driver's Licenses & Conductors Permit Issued				
	New		Renewal		Total
	Male	Female	Male	Female	
Cavite Licensing Center	20,638	8,795	4,355	715	34,503
City of Imus District Office	5,520	3,643	1,098	378	10,639
City of Dasmariñas District Office	10,041	4,130	1,396	248	15,815
Tagaytay District Office	12,436	5,484	1,807	312	20,039
City of Bacoor District Office	6,096	2,764	3,932	1,380	14,172
Naic Extension Office	6,358	2,755	777	137	10,027
DLRO City of Imus	2,497	1,583	292	110	4,482
DLRO City of Dasmariñas	5,086	2,403	659	154	8,302
DLRO City of Gen. Trias	5,203	2,497	394	98	8,192
TOTAL	73,875	34,054	14,710	3,532	126,171

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

Table 5.4 Number of Driver's Licenses Issued by Type of Application by District/Extension Offices, Province of Cavite: 2020

District/Extension Office	Driver's License												
	Professional					Non-Professional					Student Permit		
	New	Renewal		Total	Total	New	Renewal		Total	New	Total		
Male	Female	Male	Female			Male	Female	Male		Female			
Cavite Licensing Center	4,796	319	2,868	139	8,122	12,867	7,185	1,480	576	22,108	2,961	1,289	4,250
City of Imus District Office	519	73	582	94	1,268	1,563	813	512	284	3,172	3,438	2,757	6,195
City of Dasmariñas District Office	174	7	575	10	766	5,262	2,021	818	238	8,339	4,583	2,102	6,685
Tagaytay District Office	1,337	60	1,113	37	2,547	7,070	3,428	690	275	11,463	4,015	1,996	6,011
City of Bacoor District Office	256	3	2,433	758	3,450	2,350	822	1,499	622	5,293	3,490	1,939	5,429
Naic Extension Office	43	7	478	26	554	1,213	556	298	111	2,178	5,100	2,189	7,289
DLRO City of Imus	-	-	147	24	171	-	-	145	86	231	2,497	1,583	4,080
DLRO City of Dasmariñas	-	-	331	13	344	-	-	327	141	468	5,086	2,403	7,489
DLRO City of Gen. Trias	-	-	180	9	189	-	-	204	88	292	5,203	2,497	7,700
TOTAL	7,125	469	8,707	1,110	17,411	30,325	14,825	5,973	2,421	53,544	36,373	18,755	55,128

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

Irrigation

Irrigation systems can be classified into three categories: national, communal, and private.

National irrigation systems (NIS) are large and medium schemes. The National Irrigation Administration (NIA) operates and maintains the NIS. Beneficiaries were charged with their irrigation service fee for the services rendered in the delivery of water. In the 1980s, joint management of portions of national systems with irrigators associations (IA) was affected.

Communal irrigation systems (CIS) are small-scale schemes constructed with the participation of farmer-beneficiaries through their IAs. The operation and maintenance (O&M) of CIS is turned over to IAs upon project completion, subject to a cost recovery arrangement. Farmers amortize the chargeable cost for a period not exceeding 50 years at 0% interest. The repayment scheme is pre-arranged and acceptable to both NIA and the IA. Another scheme is the payment of 30% equity equivalent to 30% of the total direct cost, which is to be paid annually.

Private irrigation systems are those constructed, operated, and maintained by private individuals or groups with or without technical assistance by NIA or other government agencies (www.nia.gov.ph).

NIA Cavite Report

The reported firm-ed-up service area (FUSA) in 2020 totaled 7,203.30 hectares, of which 5,792.92 hectares comprised the national irrigation system while 1,410.38 hectares are communal irrigation systems. The irrigation systems benefitted 5,334 farmers.

According to Mr. Aeron Anthony L. Costelo, Engineering Assistant A of NIA, Cavite, the National irrigations system's FUSA decreased due to rapid conversion, and some have been idle for years. Moreover, some of the Cavite dams have no more areas to restore irrigation and become non-operational. The system covers the cities of Bacoor, Dasmariñas, General Trias, and Imus, and the municipalities of Maragondon, Naic, Tanza, and Ternate. Of the total area, 5,140.16 hectares are operational while 652.76 hectares are non-operational.

Furthermore, the communal irrigation system (CIS) serves the City of Dasmariñas, Carmona, General Emilio Aguinaldo, Ternate, Maragondon, Kawit, City of Bacoor, General Mariano Alvarez, Silang, Amadeo, Naic, Magallanes, Alfonso, and Indang. Out of the total CIS' firm-ed-up service area, 998.27 hectares are operational while 412.11 hectares are non-operational.

Table 5.5 National Irrigation System's Firm-ed-up Service Area, Province of Cavite: 2020

System	City/Municipality	Firm-ed-Up Service Area (FUSA) (Has.)			Farmer Beneficiaries
		Total	Operational	Non-operational	
Molino River Irrigation System (RIS)	City of Bacoor	50.49	50.49	-	75
Lukuhin RIS	City of Dasmariñas	-	-	-	77
Embarcadero RIS	City of Dasmariñas	41.00	40.00	1.00	47
Makuling RIS	City of Dasmariñas	28.00	28.00	-	86
Baluctot RIS	City of Dasmariñas	101.18	101.18	-	130
Butas-Lawang Bato RIS	City of General Trias	319.99	307.00	12.99	278
Butas RIS	City of General Trias	218.79	185.00	33.79	182
Plucena-Bayan RIS	City of General Trias	160.84	157.00	3.84	162
Vargas (Bankud) RIS	City of General Trias	215.34	210.64	4.70	340
Butas-Palanas RIS	City of General Trias	181.72	147.00	34.72	189
Butas-Marcelo RIS	City of General Trias	157.28	77.00	80.28	165
Julian RIS	City of Imus	106.29	64.00	42.29	106
San Agustin RIS	City of Imus	243.31	229.70	13.61	278
Pasong Kastila RIS	City of Imus	309.04	289.73	19.31	288
Culong-Culong RIS	Naic	422.56	347.00	75.56	397
Sahing RIS	Naic	100.66	100.66	-	176
Tres Cruzes RIS	Tanza	443.05	438.95	4.10	172
Matanda RIS	Tanza	996.85	676.00	320.85	483
Balayungan RIS	Ternate	22.00	22.00	-	18
	Maragondon	207.00	201.28	5.72	149
	Naic	1,107.85	1,107.85	-	831
Kay-Akle RIS	Ternate	18.00	18.00	-	14
	Maragondon	306.68	306.68	-	278
Mabacao Pump	Maragondon	35.00	35.00	-	35
TOTAL		5,792.92	5,140.16	652.76	4,956

Source: National Irrigation Administration, Naic, Cavite

Table 5.6 Communal Irrigation System's Firmed-up Service Area, Province of Cavite: 2020

System	City/Municipality	Firmed-Up Service Area (FUSA) (Has.)			
		Total	Operational	Non-operational	Farmer Beneficiaries
Malinta Communal Irrigation System (CIS)	City of Dasmariñas	-	-	-	-
Lantic I CIS	Carmona	99.00	99.00	-	75
Lantic II CIS	Carmona	55.00	55.00	-	70
Gen. Aguinaldo CIS	General Emilio Aguinaldo	148.11	141.00	7.11	43
Narvaez CIS	General Emilio Aguinaldo	150.00	150.00	-	38
Golova CIS	Ternate	60.00	60.00	-	24
Magay CIS	Maragondon	320.00	76.00	244.00	62
Kawit Pump Communal Irrigation System (PCIS)	Kawit	60.00	-	60.00	-
San Nicolas II PIS	City of Bacoor	52.00	43.00	9.00	20
Bacoor II Pump Irrigation Project (PIP)	Molino III, City of Bacoor	10.00	10.00	-	-
Langkaan PCIP	City of Dasmariñas	24.00	24.00	-	-
F. De Castro PCIS	General Mariano Alvarez	32.00	32.00	-	-
Olaes Kua PCIP	General Mariano Alvarez	40.00	40.00	-	-
Pasong Saguing PCIS	General Mariano Alvarez	34.00	-	34.00	-
Lumil & Tartaria PCIS	Silang	40.00	12.00	28.00	-
Maduya PCIS	Carmona	34.00	34.00	-	-
Halang PCIP	Amadeo	29.00	29.00	-	30
Pacheco PCIS	Magallanes	45.20	15.20	30.00	-
Palangue PCIS	Naic	55.00	55.00	-	-
Halang PIP	Naic	20.00	20.00	-	-
Tua PIP	Magallanes	40.00	40.00	-	-
Alfonso PIP	Alfonso	6.15	6.15	-	-
Pangil PIP	Amadeo	6.00	6.00	-	-
Dagatan PIP	Amadeo	12.00	12.00	-	8
Maymangga PIP	Amadeo	12.00	12.00	-	8
Pulo PIP	Indang	9.20	9.20	-	-
Lumipa PIP	General Emilio Aguinaldo	6.00	6.00	-	-
Ramirez PIP	Magallanes	4.00	4.00	-	-
Urdaneta PIP	Magallanes	3.50	3.50	-	-
Pinagsanhan PIP	Maragondon	4.22	4.22	-	-
TOTAL		1,410.38	998.27	412.11	378

Source: National Irrigation Administration, Naic, Cavite

Water

Water Supply

Water service providers include Maynilad Water Services, Inc., which is also known as Maynilad. It is a water and wastewater services provider of cities and municipalities of the National Capital Region (NCR) that forms the West Zone and other parts of Cavite, including the City of Imus, City of Bacoor, Cavite City, and the municipalities of Noveleta, Kawit, and Rosario (Wikipedia). On the other hand, water districts supply water to the cities of Dasmariñas, Trece Martires, and Tagaytay, and the municipalities of Amadeo, Carmona, General Emilio Aguinaldo, General Mariano Alvarez, Indang, Maragondon, Mendez-Nuñez, Silang, and Tanza. Likewise, other water service providers are operating in the province, like General Trias Water Corporation in the City of General Trias, Naic Water System Corporation in Naic, and Western Cavite Water Supply and Service Corporation in Ternate. Moreover, the municipal governments of Alfonso and Magallanes manage their respective water supply systems. The number of customers served and the residential water rate schedule of each water service provider are also presented below.

Water and Sanitation Access

Sanitation, hygiene, and adequate access to clean water are important for preventing and containing diseases. However, despite the substantial progress in increasing access to clean drinking water and sanitation, some areas in the country still lack these basic services. In the province, the Provincial Health Office targets at least 88% of households have access to safe water while at least 90% have access to basic sanitation.

As of 2020, 96.85% of households in Cavite have access to a basic safe water supply, and 104.47% of households have access to a basic sanitation facility. In terms of cities and municipalities, Ternate (87.12%), Rosario (74.08%), and Silang Proper (57.91%) have percentages lower than the target percentage of households with access to safe water. On the other hand, Maragondon (86.17%), Ternate (83.70%), Rosario (67.60%), and Silang Proper (54.69%) are those households with access to basic sanitation facility percentage lower than 90%.

Table 5.7 Number of Customers Served and Residential Water Rates by Water Service Providers, Province of Cavite: 2020

Water Agency	Number of Customers Served								Residential Water Rates (Minimum Charge) *
	Residential	Commercial	Semi-Commercial	Government	Institutional	Industrial	Others	Total	
Maynilad Water Services, Inc.	144,426	2,831	-	2,940	-	140	-	150,337	164.16
Alfonso Waterworks Office	1,575	78	-	9	20	1	-	1,683	100.00
Magallanes Waterworks Office	4,436	151	-	51	-	-	-	4,638	150.00
Naic Water Supply Corp.	12,757	375	-	-	-	-	--	13,132	120.00
Western Cavite Water Supply & Services Corp.	2,122	33	-	24	-	-	-	2,179	144.00
Gen. Trias Water Corporation	43,312	756	-	-	-	-	404	44,472	180.00
Amadeo Water District	7,452	190	-	44	-	-	-	7,686	211.00
Carmona Water District	14,708	1,216	-	96	-	-	-	16,020	238.60
Dasmariñas Water District	99,099	16,111	-	257	-	-	136	115,603	173.00
General Emilio Aguinaldo Water District	3,114	205	-	13	-	-	-	3,332	163.00
GMA Water District	20,396	259	576	55	-	-	-	21,286	280.00
Indang Water District	8,383	280	204	67	-	-	-	8,934	188.00
Maragondon Water District	3,469	285	-	43	-	-	-	3,797	185.00
Mendez Water District	5,509	209	-	-	-	-	-	5,718	195.00
Silang Water District	41,683	1,572	-	131	-	-	4	43,390	229.00
Tagaytay City Water District	15,594	1,341	-	115	-	-	-	17,050	254.00
Tanza Water District	14,604	592	-	65	-	-	-	15,261	180.00
Trece Martires City Water District	24,637	498	-	164	-	-	-	25,299	190.40
TOTAL	467,276	26,982	780	4,074	20	141	544	499,817	

Source: Special Projects Division, Provincial Planning and Development Office, Trece Martires City

* 1st 10 cu.m

Table 5.8 Percentage of Households with Basic Safe Water and Sanitation Facility by City/Municipality, Province of Cavite: 2018-2020

City/Municipality	Percentage of Households					
	Access to basic water supply			Access to basic sanitation facility		
	2018	2019	2020	2018	2019	2020
1st District						
Cavite City	96.37	63.98	100.00	75.49	50.54	88.45
Kawit	100.00	63.31	100.00	94.47	59.09	95.49
Noveleta	100.00	95.02	100.00	94.19	92.21	98.68
Rosario	100.00	85.89	74.08	85.25	73.08	67.60
2nd District						
City of Bacoor	100.00	76.39	98.56	98.04	75.25	97.58
3rd District						
City of Imus	95.93	71.66	98.85	94.49	70.60	97.65
4th District						
City of Dasmariñas	99.84	99.92	99.92	98.92	99.61	99.58
5th District						
Carmona	99.37	99.75	99.76	98.34	99.07	99.12
Gen. Mariano Alvarez	100.00	50.54	100.00	94.63	47.29	96.14
Silang ^a	86.58	58.34	57.91	84.91	57.21	54.69
6th District						
City of Gen. Trias	100.78	69.84	95.69	100.44	69.55	185.57
7th District						
Amadeo	98.79	82.32	93.21	93.26	81.48	90.03
Indang	99.15	89.76	99.44	98.09	86.23	98.22
Tanza	99.81	82.91	100.00	96.60	81.40	98.88
Trece Martires City	100.00	93.28	100.00	99.95	93.25	100.00
8th District						
Alfonso	99.59	78.74	94.96	99.36	78.59	93.90
Gen. Emilio Aguinaldo	99.83	78.78	104.29	93.71	74.16	99.47

City/Municipality	Percentage of Households					
	Access to basic water supply			Access to basic sanitation facility		
	2018	2019	2020	2018	2019	2020
Magallanes	93.70	77.81	97.26	90.42	74.72	98.10
Maragondon	92.71	83.07	91.75	86.57	78.76	86.17
Mendez	100.00	104.69	100.00	99.84	104.51	99.82
Naic	100.00	75.67	100.00	90.43	68.60	92.35
Tagaytay City	99.98	95.49	98.94	98.89	94.64	97.10
Ternate	78.19	83.75	87.12	83.01	80.41	83.70
TOTAL	98.29	78.50	96.85	95.33	76.37	104.47

^aSilang Proper Only

Note: computed based on the total number of households surveyed by the Provincial Health Office from cities and municipalities

The decrease in percentage in 2018 may be considered in the large increase of total number of households

Source: Provincial Health Office, Trece Martires City

Power

A substation is a high-voltage electrical system that can be used to regulate apparatus, generators, and electrical circuits, among others. The main function of substations is to convert AC (alternating current) to DC (direct current). Some substations are small in size, with an integrated transformer and associated switches. Other substations are massive, containing a variety of transformers, equipment, circuit breakers, and switches (Elprocus, n.d.). Moreover, between the generating station and consumer, electric power may flow through several substations at different voltage levels. Presented below is the existing substation in the province and its location.

Table 5.9 Existing Power Substations, Province of Cavite

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

Source: MERALCO, Ortigas Avenue, Pasig City

registered radio groups operating in the province are presented in Tables 5.10, 5.11, and 5.12, respectively.

Table 5.10 Cellular Mobile Telephone System (CMTS) Providers and Number of Cell Sites by City/Municipality, Province of Cavite: 2020

City/Municipality	Number of Cell sites		Total
	Smart Communications Inc./DMPI	Globe Telecom, Inc.	
1st District	37	26	63
Cavite City	8	8	16
Kawit	12	9	21
Noveleta	7	3	10
Rosario	10	6	16
2nd District	67	31	98
City of Bacoor	67	31	98
3rd District	42	33	75
City of Imus	42	33	75
4th District	78	36	114
City of Dasmariñas	78	36	114
5th District	71	65	136
Carmona	14	11	25
General Mariano Alvarez	4	7	11
Silang	53	47	100
6th District	34	22	56
City of General Trias	34	22	56
7th District	50	56	106
Amadeo	11	14	25
Indang	18	19	37
Tanza	11	14	25
Trece Martires City	10	9	19
8th District	85	63	148
Alfonso	16	10	26
General Emilio Aguinaldo	3	4	7
Magallanes	4	3	7
Maragondon	3	6	9
Mendez-Nuñez	4	6	10
Naic	6	12	18
Tagaytay City	45	21	66
Ternate	4	1	5
TOTAL	464	332	796

Source: National Telecommunications Commission (NTC), Region IV-A, Batangas City

Communication

Based on records from National Telecommunications Commission, Region IV-A, Batangas City, telephone service providers in Cavite are the Philippine Long-Distance Telephone Company (PLDT) and Innove (Globetel). However, data are not available regarding the number of subscribers. Cellular Mobile Telephone System (CMTS) providers and the number of cell sites, radio stations, and

Table 5.11 Operating Radio Stations, Province of Cavite: 2020

Operating Agency	Location
Delta Broadcasting System	Manila-Cavite Road, San Rafael III, Noveleta
De La Salle University	JFH Building, DLSU Campus, City of Dasmariñas
Manila Broadcasting Company	Kristoran Bldg., Burol I, Area B, City of Dasmariñas & 323 Daang Amaya II, Tanza

Source: National Telecommunications Commission (NTC), Region IV-A, Batangas City

Table 5.12 Registered Radio Groups and Location of Base Station, Province of Cavite: 2020

Name of Group/Club	Location of Base Station
Amateur Radio Group	
Cavite Amateur Communication Enthusiast, Inc. (DXI-ACE)	City of Dasmariñas
Communications World of Amateur Phils., Inc.	City of Bacoor
Cavite Ace, Inc.	City of Dasmariñas
Magellan Amateur Radio Repeater Networks Phils., Inc	Tagaytay City
Civic Radio Group	
Kabalikat Civicom, Inc. (Cavite Provincial Council)	City of Dasmariñas

Source: National Telecommunications Commission (NTC), Region IV-A, Batangas City

Philippine Postal Corporation (PHLPost), is a government-owned and controlled corporation responsible for providing postal services in the Philippines including the collection, handling, transportation, delivery, forwarding, returning, and holding of mails, parcels, and like materials, among others (Republic Act No. 7354). Data gathered from PHLPost, Manila revealed that despite the existence of modern means of communications, there are still domestic and international mails being handled by post offices located in every city/municipality of the province. The volume of these mails is shown in Table 5.13.

It is noted that the Municipality of General Emilio Aguinaldo received their mails through the Municipality of Alfonso while the mails for Magallanes, Maragondon, and Ternate are being delivered in Naic (*Post Office, Alfonso*).

As defined, mails posted are mails received from windows, counters, lobby drop boxes, and street boxes while mails delivered are mails distributed in the locality via letter carriers through the use of the post office (P.O.) boxes (*psa.gov.ph*).

Drainage and Flood Control

As one of the province's efforts to mitigate hazard damage, Cavite undertakes the construction of retarding basins within the locality. Through these basins, the province aims to alleviate flood damage in the lowlands areas and reduce potential negative impacts of floods to the economy and community.

As of 2020, there are six ongoing construction of flood control facilities in the province. These are the Bacoor Retarding Basin I, Bacoor Retarding Basin II, General Trias Retarding Basin I (GTRB-I), General Trias Retarding Basin

II (GTRB-II), Imus Retarding Basin, and the Cavite Industrial Area Flood Risk Management Project (CIA-FRIMP). These retarding basins are constructed near the rivers of flood prone areas in Cavite.

The two retarding basins in General Trias are massive flood control structures and are considered the firsts retarding basins in the Philippines.

CIA-FRIMP covers 148.8 square-kilometers of San Juan River Basin and 4.7 square-kilometers of Maalimango Drainage Area and will cost P7.1 billion funded through the help of Japan International Cooperation Agency (JICA). It will be implemented within nine localities of Cavite; namely, Kawit, Noveleta, Rosario, City of General Trias, and City of Imus.

On the other hand, Imus Retarding Basin will have a 118-meter in length overflow dike, 1.3 kilometer of surrounding dike, 1.1 kilometer of separating dike, standing an average of three meters in height. For Bacoor Retarding Basins, 250,000 cubic meters of soil will be excavated to dig the seven meters in depth within 9.2 hectares of land and construct 30 meters of overflow dike, 1.06 kilometer of surrounding dike, and 590 meters of separating dike, standing an average of 1 meter.

Table 5.13 Volume of Mails Posted and Delivered by Post Offices, Province of Cavite: 2020

Post Office	Posted			Delivered		
	Domestic	International	Total	Domestic	International	Total
1st District	38,258	3,077	41,335	239,483	34,883	274,366
Cavite City Post Office	16,242	1,548	17,790	47,296	9,604	56,900
Kawit Post Office	7,879	525	8,404	54,462	4,002	58,464
Noveleta Post Office	3,645	310	3,955	60,798	4,253	65,051
Rosario Post Office	10,492	694	11,186	76,927	17,024	93,951
2nd District	73,355	3,089	76,444	991,961	22,726	1,014,687
City of Bacoor Post Office	66,448	2,383	68,831	624,813	15,637	640,450
Molino Post Office	6,907	706	7,613	367,148	7,089	374,237
3rd District	112,313	1,660	113,973	627,757	13,970	641,727
City of Imus Post Office	112,236	1,621	113,857	627,757	13,970	641,727
Bahayang Pag-asa Post Office	77	39	116	-	-	-
4th District	34,149	2,448	36,597	949,075	25,868	974,943
City of Dasmariñas Post Office	32,314	1,982	34,296	949,075	25,868	974,943
Robinson Post Office	1,835	466	2,301	-	-	-
5th District	39,526	2,882	42,408	515,978	17,083	533,061
Carmona Post Office	15,566	1,229	16,795	272,053	5,198	277,251
General Mariano Alvarez Post Office	13,497	674	14,171	134,517	1,926	136,443
Silang Post Office	10,463	979	11,442	109,408	9,959	119,367
6th District	13,140	1,231	14,371	137,803	9,815	147,618
City of General Trias Post Office	10,613	958	11,571	78,695	3,434	82,129
Manggahan Post Office	2,527	273	2,800	59,108	6,381	65,489
7th District	85,238	2,546	87,784	605,590	19,771	625,361
Amadeo Post Office	301	70	371	90,439	2,711	93,150
Indang Post Office	3,208	310	3,518	57,713	2,812	60,525
Tanza Post Office	34,178	1,004	35,182	248,653	5,460	254,113
Trece Martires City Post Office	47,551	1,162	48,713	208,785	8,788	217,573
8th District	87,604	3,921	91,525	479,125	24,856	503,981
Alfonso Post Office	7,446	204	7,650	43,322	3,533	46,855
Mendez-Nuñez Post Office	613	160	773	10,040	1,277	11,317
Naic Post Office	18,383	776	19,159	162,108	7,846	169,954
Tagaytay City Post Office	61,162	2,781	63,943	263,655	12,200	275,855
Total	483,583	20,854	504,437	4,546,772	168,972	4,715,744

Source: Philippine Postal Corporation, Manila