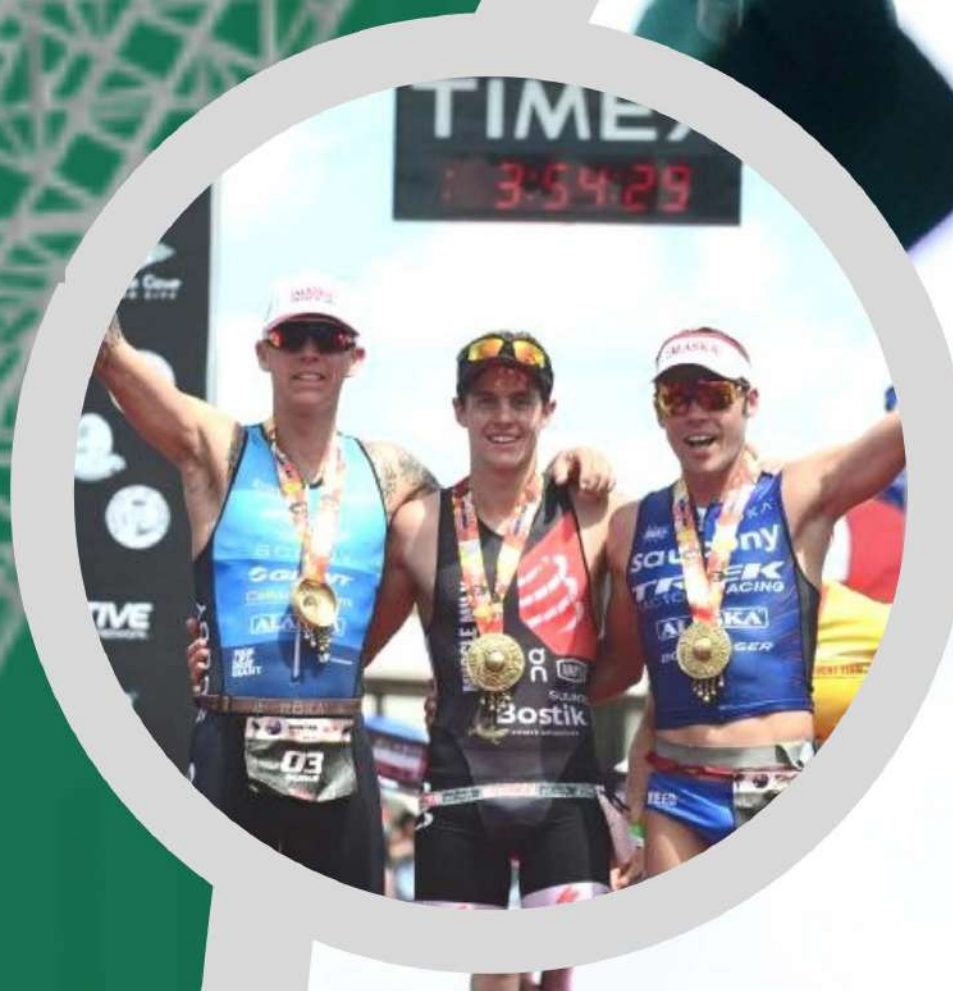




CITY GOVERNMENT OF DAVAO  
**COMPREHENSIVE  
LAND USE  
PLAN**  
2019-2028

VOLUME 3  
SECTORAL STUDIES





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# DEMOGRAPHY



## DEMOGRAPHY

### Human Resource/Demographic Profile

Davao City's household<sup>1</sup> population totaled 1,622,427 in 2015, with an additional 178,537 household members, from the previous population count of 1,443,890 in 2010 (Table DE – 1, see next page). Household population is mostly comprised of working-age population (65.42%) followed by dependent young population (30.54%) and dependent old population (4.04%). Labor force accounted 69.43% while school-age population comprises 38.81% of the total household populace.

Composition of household population:

School-going population – The elementary pupils make up 31.19% of the school-going population, followed by tertiary students with 27.36%, pre-school pupils with 21.41% and secondary students with 20.03%. School-age population climbs up by 10.47% from 2010.

Working-age population – The number of working-age populace aged 15 to 64 years old increased to 1,061,422 in 2015 from 937,21 in 2010. There are 533,994 males and 527,428 females of working age respectively.

Labor force – Household population aged 15 years old and above reached 1,126,469 as of 2015, climbing up from 990,204 in 2010. There are more females than males in the labor force.

Dependent population – There are 53 dependents for every 100 persons (47 young and six old people) in 2015, higher than the dependency ratio in 2010 when there were 35 dependents (31 young and four old people) for every 100 persons.

Sex distribution<sup>2</sup> – There is an equitable share between the male and female population under the working age bracket. On the other hand, there is a predominance of male population in school-going population and dependent young population while females outnumbered males in dependent old population.

<sup>1</sup> Household population is the population enumerated in private households during a census.

<sup>2</sup> Sex distribution is best expressed as sex ratio, i.e., a ratio higher than 100 indicates that there is a predominance of male population in the area while less than 100 indicates a predominance of female population.



**Table DE – 1. Population Composition by School-Age, Working-Age, Dependent-Age Group and Sex, 2015**

Age Group	Both Sexes	%	Male		Female		Sex Ratio
			No.	%	No.	%	
School-going Population							
Pre-school (3-6)	134,824	21.41	70,012	21.89	64,807	20.91	108
Elementary (7-12)	196,430	31.19	101,076	31.60	95,354	30.77	106
Secondary (13-16)	126,156	20.03	63,882	19.97	62,274	20.10	103
Tertiary (17-21)	172,289	27.36	84,879	26.54	87,410	28.21	97
Working Age (15-64)	1,061,422	65.42	533,994	65.26	527,428	65.58	101
Labor Force (15 and over)	1,126,469	69.43	562,867	68.79	564,022	70.13	100
Dependent Population							
Young (0-14)	495,538	30.54	255,350	31.21	240,188	29.87	106
Old (65 and over)	65,467	4.04	28,873	3.53	36,594	4.55	78
<b>Total</b>	<b>1,622,427</b>	<b>100</b>	<b>818,217</b>	<b>100</b>	<b>804,210</b>	<b>100</b>	<b>102</b>

Source: Computed based on the latest PSA data on household population by age-group

## Household Population by Age Group and Sex, Year 2010 and 2015

The largest age group in terms of population is the 15-19 age group, which contributes 10% of the total household population (Table DE – 2). There are 167,020 males and females aged 15 to 19 years old in 2015 from 152,126 in 2010. The least are those aged 80 years old and above with 8,866, a slight increase from 7,946 in 2010. Sex distribution is fairly even with males, slightly outnumbering females by 1.74%.

**Table DE – 2. Household Population by Age Group and Sex, Years 2010 and 2015**

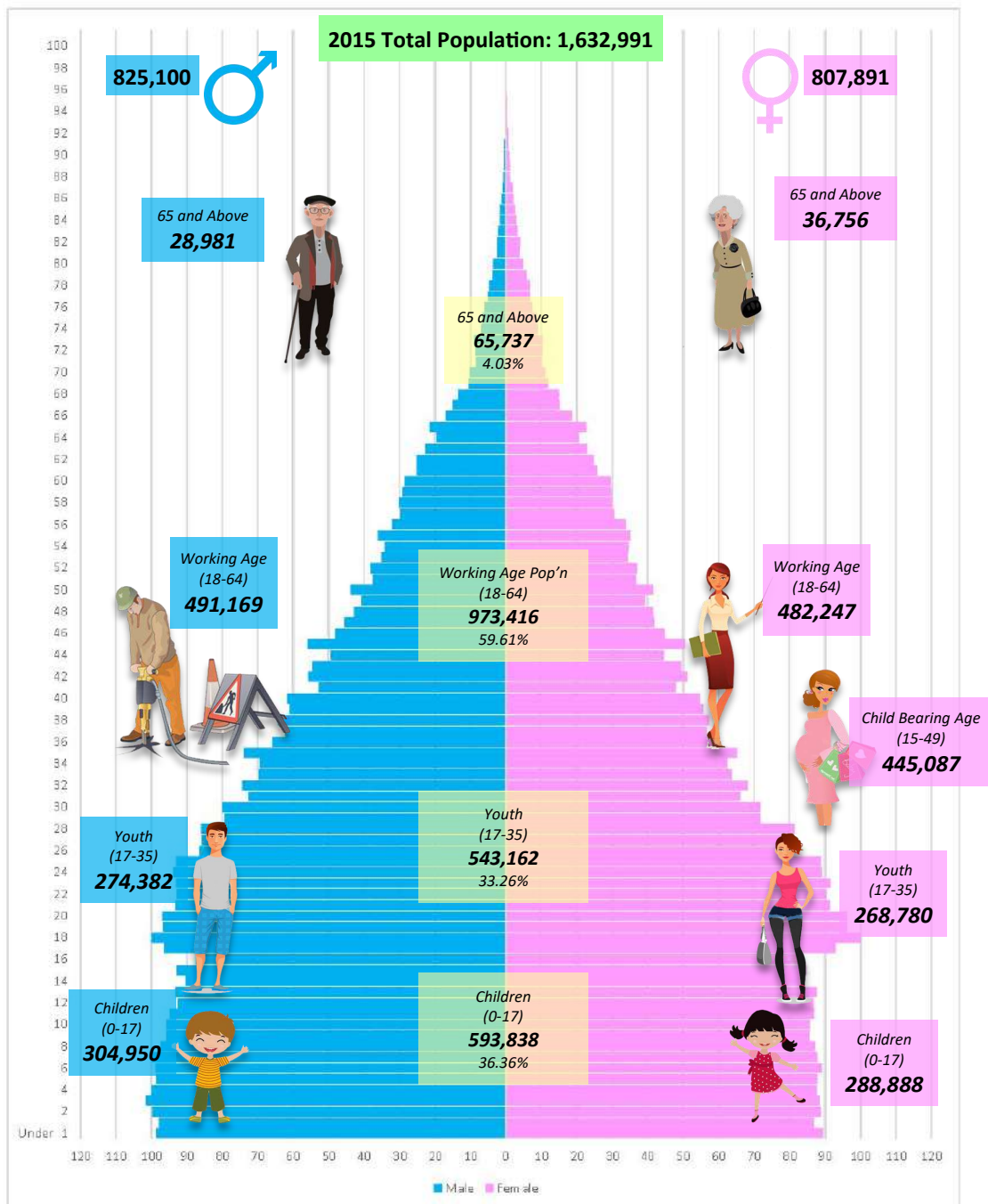
Age Group	Census Year 2 (2015)			Census Year 1 (2010)		
	Male	Female	Total	Male	Female	Total
Under 1	17,312	16,401	33,713	16,823	15,522	32,345
1-4	70,078	64,533	134,611	66,597	61,870	128,467
5-9	86,044	80,260	166,304	77,182	72,222	149,404
10-14	81,916	78,994	160,910	73,167	70,303	143,470
15-19	83,123	83,897	167,020	72,551	79,575	152,126
20-24	82,497	84,101	166,598	71,610	75,090	146,700
25-29	75,650	73,765	149,415	63,466	63,690	127,156
30-34	64,326	60,908	125,234	58,025	56,069	114,094
35-39	57,444	54,020	111,464	50,173	47,966	98,139
40-44	48,117	45,378	93,495	42,578	42,039	84,617
45-49	40,915	39,923	80,338	35,264	35,787	71,051
50-54	33,091	33,776	66,867	30,189	31,295	61,484
55-59	27,638	29,116	56,754	23,759	24,366	48,125
60-64	21,193	22,544	43,737	16,462	17,258	33,720
65-69	13,562	15,278	28,840	9,979	11,227	21,206
70-74	7,512	9,236	16,748	6,799	8,320	15,119
75-79	4,553	6,460	11,013	3,676	5,045	8,721
80 and over	3,246	5,620	8,866	3,053	4,893	7,946
<b>Total</b>	<b>818,217</b>	<b>804,210</b>	<b>1,622,427</b>	<b>721,353</b>	<b>722,537</b>	<b>1,443,890</b>

Source: Philippine Statistics Authority, Region XI



A broad-based pyramid is observed in ages 19 years old to early 20s, which indicates very high fertility (Graph DE – 1). A narrow-based pyramid is observed in ages 65 years old and above, as the average life expectancy of males and females is 69 years old and 73 years old, respectively. The lack of willingness to give importance to one’s health is among the factors why most males, aged 65 years old and above, die younger than females of the same age bracket.

**Graph DE – 1.1 Population Distribution by Age Group and Sex, Year 2015**



Source: Philippine Statistics Authority, Region XI



## Population Distribution

Davao City is composed of three (3) Congressional districts and 11 administrative districts with a total of 182 urban<sup>3</sup> and rural<sup>4</sup> barangays. Of the Congressional districts, the city's First District is largely dominated with urban barangays, registering over 5,000 population each. The Third District, on the other hand, generally comprises of rural barangays or villages and has less than 5,000 population for each barangay.

## Urban and Rural Population

The city's inhabitants mostly lived in urban barangays, comprising 76% (1,238,050) of the total population. Only 24% (394,941) of the total population reside in rural barangays (Table DE – 3, see next page). Barangay Bucana maintains its rank as the city's most populous barangay with 83,964 inhabitants, making up 5.1% of the total population. The second most populous barangay is Barangay Buhangin Proper with 4% share of the total population followed by Barangay Ma-a, and Barangay Talomo Proper with 3.7% share respectively.

Barangay Bucana is the most populated owing to its proximity to the town center, San Pedro Cathedral, malls, schools, terminals and other establishments. It is also near the work places, and adjacent to the City Hall with a distance of 2.79 kilometers. Barangay Buhangin Proper is the second most populous, being close to the airport and different industries while Barangays Ma-a and Talomo Proper are near various establishments and schools like Ateneo de Davao University and University of Mindanao.

The least populated area is Barangay 3-A with 370 persons (0.02%). Although Barangay 3-A is within the Poblacion District, it recorded the least number of residents due to the shift of its land uses to commercial establishments. The next least populated area is Barangay 13-B, also in Poblacion District, with 427 persons. The barangay is the least populated area in 2010 with 0.01% share out of 1,449,296. As with the case of Barangay 3-A, Barangay 13-B is dominated with commercial and institutional establishments.

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<sup>3</sup> Urban barangays are those with population size of 5,000 or more. It is also considered an urban barangay if there is an establishment with a minimum of 100 employees, and five (5) or more establishments with a minimum of 10 employees, and five (5) more facilities within the two (2) – kilometer radius from the barangay hall.

<sup>4</sup> Rural barangays have population size less than 5,000.



**Table DE – 3. Population by Urban and Rural Barangay and Average Household Size, 2015**

District/Barangay	Population	Estimated Number of Households	Average Household Size
<b>Urban</b>	1,238,050	309,513	4
<b>District I</b>	584,795	147,161	4
<b>Poblacion</b>	174,121	43,530	4
Brgy. 1-A	3,103	776	4
Brgy. 2-A	3,589	897	4
Brgy. 3-A	370	93	4
Brgy. 4-A	1,683	421	4
Brgy. 5-A	11,436	2,859	4
Brgy. 6-A	2,084	521	4
Brgy. 7-A	3,984	996	4
Brgy. 8-A	11,075	2,769	4
Brgy. 9-A	5,698	1,425	4
Brgy. 10-A	6,764	1,691	4
Brgy. 11-B	1,901	475	4
Brgy. 12-B	840	210	4
Brgy. 13-B	427	107	4
Brgy. 14-B	1,175	294	4
Brgy. 15-B	2,891	723	4
Brgy. 16-B	840	210	4
Brgy. 17-B	810	203	4
Brgy. 18-B	1,832	458	4
Brgy. 19-B	31,766	7,942	4
Brgy. 20-B	4,581	1,145	4
Brgy. 21-C	7,478	1,870	4
Brgy. 22-C	6,634	1,659	4
Brgy. 23-C	16,489	4,122	4
Brgy. 24-C	2,602	651	4
Brgy. 25-C	1,967	492	4
Brgy. 26-C	2,510	628	4
Brgy. 27-C	2,152	538	4
Brgy. 28-C	2,270	568	4
Brgy. 29-C	1,557	389	4
Brgy. 30-C	1,608	402	4
Brgy. 31-D	8,321	2,080	4
Brgy. 32-D	1,985	496	4
Brgy. 33-D	2,033	508	4
Brgy. 34-D	1,682	421	4
Brgy. 35-D	578	145	4
Brgy. 36-D	1,581	395	4



**Table DE – 3. Population by Urban and Rural Barangay and Average Household Size, 2015**

District/Barangay	Population	Estimated Number of Households	Average Household Size
Brgy. 37-D	6,740	1,685	4
Brgy. 38-D	1,505	376	4
Brgy. 39-D	5,143	1,286	4
Brgy. 40-D	2,437	609	4
<b>Talomo</b>	410,674	102,669	4
Bago Aplaya	15,918	3,980	4
Bago Gallera	17,378	4,345	4
Baliok	16,140	4,035	4
Bucana	83,964	20,991	4
Catalunan Grande	32,461	8,115	4
Catalunan Pequeño	22,809	5,702	4
Dumoy	18,622	4,656	4
Ma-a	59,803	14,951	4
Matina Aplaya	33,384	8,346	4
Matina Crossing	32,436	8,109	4
Matina Pangi	18,081	4,520	4
Talomo Proper	59,678	14,920	4
<b>District II</b>	467,705	116,926	4
<b>Agdao</b>	102,267	25,567	4
Agdao Proper	8,897	2,224	4
Centro San Juan	15,586	3,897	4
Gov. Paciano Bangoy	8,816	2,204	4
Gov. Vicente Duterte	8,904	2,226	4
Kapt. Tomas Monte- verde	5,716	1,429	4
Lapu-Lapu	11,738	2,935	4
Leon Garcia	13,652	3,413	4
Rafael Castillo	5,783	1,446	4
San Antonio	10,306	2,577	4
Ubalde	2,966	742	4
Wilfredo Aquino	9,903	2,476	4
<b>Buhangin</b>	222,796	55,699	4
Angliongto	13,539	3,385	4
Buhangin Proper	65,461	16,365	4
Cabantian	43,758	10,940	4
Communal	16,740	4,185	4
Hizon	11,265	2,816	4
Pampanganga	14,381	3,595	4
Sasa	52,386	13,097	4
Tigatto	36,387	9,097	4



**Table DE – 3. Population by Urban and Rural Barangay and Average Household Size, 2015**

District/Barangay	Population	Estimated Number of Households	Average Household Size
<b>Bunawan</b>	142,642	35,661	4
Alejandro Navarro	10,223	2,556	4
Bunawan Pob.	23,495	5,874	4
Ilang	24,947	6,237	4
Mahayag	6,307	1,577	4
Panacan	35,806	8,952	4
Tibungco	41,864	10,466	4
<b>District III</b>	185,550	46,388	4
<b>Baguio</b>	16,260	4,065	4
Baguio Proper	4,655	1,164	4
Gumalang	5,081	1,270	4
Malagos	6,524	1,631	4
<b>Calinan</b>	28,502	7,126	4
Calinan Proper	23,052	5,763	4
Riverside	5,450	1,363	4
<b>Toril</b>	82,621	20,655	4
Crossing Bayabas	11,490	2,873	4
Daliao	21,124	5,281	4
Eden	2,385	596	4
Lizada	20,112	5,028	4
Lubogan	12,156	3,039	4
Toril Proper	12,140	3,035	4
<b>Tugbok</b>	58,167	14,542	4
Los Amigos	9,722	2,431	4
Mintal	13,227	3,307	4
Sto. Niño	20,103	5,026	4
Tugbok Proper	15,115	3,779	4
<b>Rural</b>	<b>394,941</b>	98,735	4
<b>District I</b>	7,941	1,985	4
<b>Talomo</b>	7,941	1,985	4
Langub	2,883	721	4
Magtuod	5,058	1,265	4
<b>Second District</b>	124,545	31,136	4
<b>Buhangin</b>	70,322	17,581	4
Acacia	3,262	816	4
Callawa	3,553	888	4
Indangan	14,867	3,717	4
Mandug	13,594	3,399	4



**Table DE – 3. Population by Urban and Rural Barangay and Average Household Size, 2015**

District/Barangay	Population	Estimated Number of Households	Average Household Size
Waan	3,925	981	4
<b>Bunawan</b>	9,460	2,365	4
Gatungan	1,190	298	4
Mudiang	2,937	734	4
San Isidro	5,333	1,333	4
<b>Paquibato</b>	44,763	11,191	4
Colosas	4,731	1,183	4
Fatima	3,502	876	4
Lumiad	1,553	388	4
Mabuhay	1,062	266	4
Malabog	10,816	2,704	4
Mapula	2,876	719	4
Pañalum	1,831	458	4
Pandaitan	4,037	1,009	4
Paquibato Proper	2,495	624	4
Paradise Embac	2,654	664	4
Salapawan	2,282	571	4
Sumimao	1,666	417	4
Tapak	5,258	1,315	4
<b>Third District</b>	262,455	65,614	4
<b>Baguio District</b>	17,613	4,403	4
Cadalian	2,446	612	4
Carmen	2,156	539	4
Tambobong	5,993	1,498	4
Tawan-Tawan	3,889	972	4
Wines	3,129	782	4
<b>Calinan</b>	63,573	15,893	4
Biao Joaquin	2,289	572	4
Cawayan	2,295	574	4
Dacudao	4,418	1,105	4
Dalagdag	934	234	4
Dominga	1,607	402	4
Inayangan	4,832	1,208	4
Lacson	5,873	1,468	4
Lamanan	4,538	1,135	4
Lampianao	845	211	4
Megkawayan	3,015	754	4
Pangyan	2,035	509	4
Saloy	2,112	528	4



**Table DE – 3. Population by Urban and Rural Barangay and Average Household Size, 2015**

District/Barangay	Population	Estimated Number of Households	Average Household Size
Sirib	5,199	1,300	4
Subasta	3,641	910	4
Talomo River	6,846	1,712	4
Tamayong	7,273	1,818	4
Wangan	5,821	1,455	4
<b>Marilog</b>	<b>52,201</b>	<b>13,050</b>	<b>4</b>
Baganihan	1,295	324	4
Bantol	2,324	581	4
Buda	1,885	471	4
Dalaglumot	1,864	466	4
Datu Salumay	2,232	558	4
Gumitan	1,756	439	4
Magsaysay	2,425	606	4
Malamba	4,864	1,216	4
Marilog Proper	16,188	4,047	4
Salaysay	4,431	1,108	4
Suawan	4,586	1,147	4
Tamugan	8,351	2,088	4
<b>Toril</b>	<b>65,901</b>	<b>16,475</b>	<b>4</b>
Alambre	2,010	503	4
Atan-Awe	1,119	280	4
Bangkas Heights	7,671	1,918	4
Baracatan	2,895	724	4
Bato	10,007	2,502	4
Bayabas	2,989	747	4
Binugao	6,934	1,734	4
Camansi	1,189	297	4
Catigan	3,044	761	4
Daliaon Plantation	3,214	804	4
Kilate	1,309	327	4
Marapangi	6,889	1,722	4
Mulig	2,477	619	4
Sibulan	2,479	620	4
Sirawan	7,140	1,785	4
Tagluno	1,391	348	4
Tagurano	1,230	308	4
Tibuloy	2,218	555	4
Tungkalan	2,910	728	4



**Table – 3. Population by Urban and Rural Barangay and Average Household Size, 2015**

District/Barangay	Population	Estimated Number of Households	Average Household Size
Tugbok	63,167	15,792	4
Angalan	2,475	619	4
Bago Oshiro	11,932	2,983	4
Balengaeng	2,086	522	4
Biao Escuela	3,294	824	4
Biao Guianga	3,664	916	4
Manambulan	2,661	665	4
Manuel Guianga	6,436	1,609	4
Matina Biao	1,811	453	4
New Carmen	2,626	657	4
New Valencia	1,679	420	4
Tacunan	12,773	3,193	4
Tagakpan	4,208	1,052	4
Talandang	3,392	848	4
Ula	4,130	1,033	4

Source: Philippine Statistics Authority, Region XI

The barangays with the highest population are Bucana (Talomo District) with 83,964 people or around 205 people per hectare of its land area, Buhangin Proper (Buhangin District) with 65,461 people or around 97 people per hectare, and Ma-a (Talomo District) with 59,803 people or around 60 people hectare. These three most populated barangays in the city are considered Central Business District (CBD). While the barangays with the lowest population are 35-D with 578 people or about 83 people only per hectare of its land area, 13-B with 427 people or about 38 people per hectare, and 3-A with 370 or about 18 people per hectare –which are all located in the Poblacion District of the city.

### Urbanization level

Urbanization levels remain stable at 58.13% in 2000 and 2007. It increased by 79.38% in 2010 as majority of the population prefer to reside near or within growth centers, where most of the sources of employment, schools and shopping hubs are situated. Compared to the 2010 figures, it slightly dropped to 75.81% in 2015. The rise of population in urban district prompts subdivision development in suburban areas, as most of the lands especially in Poblacion District, where the midpoint of commerce and trade exists, are already saturated with commercial establishments.



**Table – 4. Urbanization Levels for the Past 20 Years**

Year	City Population			Average Yearly Population Growth Rate (%)		Average 5-Year Tempo of Urbanization (%)	Level of Urbanization (%)
	Urban	Rural	Total	Urban	Rural		City
1995	-	-	1,006,840	-	-	-	-
2000	666,846	480,270	1,147,116	-	-	-	58.13
2007	792,540	570,797	1,363,337	2.4	2.4	0	58.13
2010	1,150,504	298,792	1,449,296	12.4	-21.5	-9.1	79.38
2015	1,238,050	394,941	1,632,991	1.4	5.5	-4.1	75.81

Source: Philippine Statistics Authority, Region XI

### Population Density<sup>5</sup>

The city's population density is seven (7) persons per hectare in 2015, an increase of 18% from 5.94 persons per hectare in 2010 (Table DE – 5). Population density in urban barangays is higher with 46 persons per hectare than in rural barangays with only two (2) persons per hectare. This indicates that there is more population concentration in urban barangays than in rural barangays. The densest is recorded among urban barangays in the First District with 70 persons per hectare. (See Map 1.1)

**Table – 5. Population Density by Barangay, 2015**

Barangay	Population	Gross Area (ha)	Population Density (Gross Barangay Area)
<b>Urban</b>	<b>1,238,050</b>	<b>26,911.88</b>	<b>46</b>
<b>First District</b>	<b>584,795</b>	<b>8,410.65</b>	<b>69.53</b>
<b>Poblacion</b>	<b>174,121</b>	<b>1,165.61</b>	<b>149.38</b>
Brgy. 1-A	3,103	15.36	202.08
Brgy. 2-A	3,589	16.38	219.11
Brgy. 3-A	370	20.78	17.81
Brgy. 4-A	1,683	23.51	71.59
Brgy. 5-A	11,436	38.10	300.16
Brgy. 6-A	2,084	15.00	138.93
Brgy. 7-A	3,984	22.50	177.07
Brgy. 8-A	11,075	179.80	61.60
Brgy. 9-A	5,698	27.50	207.20
Brgy. 10-A	6,764	28.64	236.21
Brgy. 11-B	1,901	9.57	198.72
Brgy. 12-B	840	17.54	47.90
Brgy. 13-B	427	11.26	37.93
Brgy. 14-B	1,175	18.41	63.82
Brgy. 15-B	2,891	31.54	91.66

<sup>5</sup> Population density is the ratio of the total population of area to the total land area.



Table – 5. Population Density by Barangay, 2015

Barangay	Population	Gross Area (ha)	Population Density (Gross Barangay Area)
Brgy. 16-B	840	5.53	151.98
Brgy. 17-B	810	5.63	143.95
Brgy. 18-B	1,832	19.80	92.53
Brgy. 19-B	31,766	362.55	87.62
Brgy. 20-B	4,581	56.58	80.97
Brgy. 21-C	7,478	8.56	873.29
Brgy. 22-C	6,634	8.71	761.48
Brgy. 23-C	16,489	21.31	773.66
Brgy. 24-C	2,602	7.72	337.05
Brgy. 25-C	1,967	4.96	396.81
Brgy. 26-C	2,510	8.05	311.76
Brgy. 27-C	2,152	30.99	69.44
Brgy. 28-C	2,270	15.71	144.48
Brgy. 29-C	1,557	10.20	152.65
Brgy. 30-C	1,608	23.50	68.42
Brgy. 31-D	8,321	22.60	368.23
Brgy. 32-D	1,985	17.90	110.89
Brgy. 33-D	2,033	7.74	262.66
Brgy. 34-D	1,682	19.63	85.69
Brgy. 35-D	578	7.00	82.57
Brgy. 36-D	1,581	6.93	228.14
Brgy. 37-D	6,740	7.10	949.30
Brgy. 38-D	1,505	9.00	167.22
Brgy. 39-D	5,143	12.80	401.80
Brgy. 40-D	2,437	10.02	243.29
<b>Talomo</b>	<b>410,674</b>	<b>7,245.04</b>	<b>56.68</b>
Bago Aplaya	15,918	217.35	73.24
Bago Gallera	17,378	717.82	24.21
Baliok	16,140	248.28	65.01
Bucana	83,964	410.51	204.54
Catalunan Grande	32,461	1,495.06	21.71
Catalunan Pequeño	22,809	594.49	38.37
Dumoy	18,622	530.77	35.08
Ma-a	59,803	999.38	59.84
Matina Aplaya	33,384	315.49	105.82
Matina Crossing	32,436	488.82	66.36
Matina Pangi	18,081	584.12	30.95
Talomo Proper	59,678	642.95	92.82



Table – 5. Population Density by Barangay, 2015, Cont.

Barangay	Population	Gross Area (ha)	Population Density (Gross Barangay Area)
<b>Second District</b>	467,705	8,183.61	57.15
<b>Agdao</b>	102,267	530.45	192.79
Agdao Proper	8,897	38.29	232.37
Centro San Juan	15,586	43.48	358.46
Gov. Paciano Bangoy	8,816	81.47	108.21
Gov. Vicente Duterte	8,904	52.02	171.18
Kapt. Tomas Monte- verde	5,716	19.52	292.81
Lapu-Lapu	11,738	59.99	195.67
Leon Garcia	13,652	19.03	717.47
Rafael Castillo	5,783	44.54	129.84
San Antonio	10,306	89.88	114.67
Ubalde	2,966	9.98	297.16
Wilfredo Aquino	9,903	72.26	137.04
<b>Buhangin</b>	222,796	3,465.85	64.28
Angliongto	13,539	288.36	46.95
Buhangin Proper	65,461	672.24	97.38
Cabantian	43,758	757.62	57.76
Communal	16,740	584.65	28.63
Hizon	11,265	218.66	51.52
Pampanganga	14,381	117.51	122.38
Sasa	52,386	767.66	68.24
Tigatto	36,387	761.31	47.80
<b>Bunawan</b>	142,642	4,187.31	34.07
Alejandro Navarro	10,223	626.58	16.32
Bunawan Pob.	23,495	769.18	30.55
Ilang	24,947	570.60	43.72
Mahayag	6,307	803.81	7.85
Panacan	35,806	698.12	51.29
Tibungco	41,864	719.02	58.22
Alejandro Navarro	10,223	626.58	16.32



Table– 5. Population Density by Barangay, 2015, Cont.

Barangay	Population	Gross Area (ha)	Population Density (Gross Barangay Area)
<b>Third District</b>	185,550	10,317.62	17.98
<b>Baguio</b>	16,260	3,632.11	4.48
Baguio Proper	4,655	848.74	5.48
Gumalang	5,081	1,572.78	3.23
Malagos	6,524	1,210.59	5.39
<b>Calinan</b>	28,502	7,126	21.18
Calinan Proper	23,052	830.55	27.76
Riverside	5,450	514.85	10.59
<b>Toril</b>	82,621	3,005.32	27.49
Crossing Bayabas	11,490	223.35	51.44
Daliao	21,124	194.55	108.58
Eden	2,385	773.77	3.08
Lizada	20,112	436.16	46.11
Lubogan	12,156	208.96	58.17
Toril Proper	12,140	131.60	92.25
<b>Tugbok</b>	58,167	2,334.79	24.91
Los Amigos	9,722	445.49	21.82
Mintal	13,227	752.19	17.58
Sto. Niño	20,103	147.32	136.46
Tugbok Proper	15,115	989.79	15.27
<b>Rural</b>	<b>394,941</b>	<b>191,913.59</b>	<b>2.06</b>
<b>First District</b>	7,941	1,316.09	6.03
<b>Talomo</b>	7,941	1,316.09	6.03
Langub	2,883	853.20	3.38
Magtuod	5,058	462.89	10.93
<b>Second District</b>	124,545	73,400.30	1.70
<b>Buhangin</b>	70,322	5,857.54	12.01
Acacia	3,262	920.34	3.54
Callawa	3,553	1,354.75	2.62
Indangan	14,867	1,474.13	10.09
Mandug	13,594	969.19	14.03
Waan	3,925	436.97	8.98

Table– 5. Population Density by Barangay, 2015, Cont.

Barangay	Population	Gross Area (ha)	Population Density (Gross Barangay Area)
<b>Bunawan</b>	9,460	2,203.64	4.29
Gatungan	1,190	887.01	1.34
Mudiang	2,937	686.30	4.28
San Isidro	5,333	630.33	8.46
<b>Paquibato</b>	44,763	65,339.12	0.69
Colosas	4,731	13,201.08	0.36
Fatima	3,502	3,093.73	1.13
Lumiad	1,553	3,206.09	0.48
Mabuhay	1,062	1,421.06	0.75
Malabog	10,816	8,268.79	1.31
Mapula	2,876	8,957.47	0.32
Pañalum	1,831	1,131.41	1.62
Pandaitan	4,037	4,078.59	0.99
Paquibato Proper	2,495	3,511.00	0.71
Paradise Embac	2,654	2,743.47	0.97
Salapawan	2,282	2,779.91	0.82
Sumimao	1,666	2,539.79	0.66
Tapak	5,258	10,406.75	0.51
<b>Third District</b>	262,455	117,197.20	2.24
<b>Baguio District</b>	17,613	4,430.38	3.98
Cadalian	2,446	628.15	3.89
Carmen	2,156	806.01	2.67
Tambobong	5,993	1,230.05	4.87
Tawan-Tawan	3,889	974.39	3.99
Wines	3,129	791.78	3.95
<b>Calinan</b>	63,573	21,220.65	3
Biao Joaquin	2,289	551.62	4.15
Cawayan	2,295	805.45	2.85
Dacudao	4,418	1,247.05	3.54
Dalagdag	934	535.12	1.75
Dominga	1,607	602.11	2.67
Inayangan	4,832	1,420.54	3.40
Lacson	5,873	896.96	6.55
Lamanan	4,538	2,094.88	2.17
Lampianao	845	935.54	0.90



Table– 5. Population Density by Barangay, 2015, Cont.

Barangay	Population	Gross Area (ha)	Population Density (Gross Barangay Area)
Megkawayan	3,015	1,844.95	1.63
Pangyan	2,035	708.97	2.87
Saloy	2,112	2,291.36	0.92
Sirib	5,199	2,152.65	2.42
Subasta	3,641	1,215.88	2.99
Talomo River	6,846	810.91	8.44
Tamayong	7,273	1,925.20	3.78
Wangan	5,821	1,181.46	4.93
<b>Marilog</b>	52,201	62,886.05	0.83
Baganihan	1,295	1,062.62	1.22
Bantol	2,324	1,403.54	1.66
Buda	1,885	4,292.76	0.44
Dalaglumot	1,864	3,183.86	0.59
Datu Salumay	2,232	2,107.50	1.06
Gumitan	1,756	5,727.67	0.31
Magsaysay	2,425	5,830.15	0.42
Malamba	4,864	11,074.12	0.44
Marilog Proper	16,188	18,031.84	0.90
Salaysay	4,431	4,467.69	0.99
Suawan	4,586	4,571.98	1.00
Tamugan	8,351	1,132.32	7.38
<b>Toril</b>	65,901	16,036.40	4.11
Alambre	2,010	327.41	6.14
Atan-Awe	1,119	330.88	3.38
Bangkas Heights	7,671	247.27	31.02
Baracatan	2,895	1,131.61	2.56
Bato	10,007	851.61	11.75
Bayabas	2,989	1,201.36	2.49
Binugao	6,934	483.32	14.35
Camansi	1,189	363.18	3.27
Catigan	3,044	2,401.89	1.27
Daliaon Plantation	3,214	1,036.93	3.10
Kilate	1,309	644.90	2.03
Marapangi	6,889	703.76	9.79
Mulig	2,477	998.88	2.48
Sibulan	2,479	1,699.90	1.46
Sirawan	7,140	963.70	7.41
Tagluno	1,391	564.16	2.47

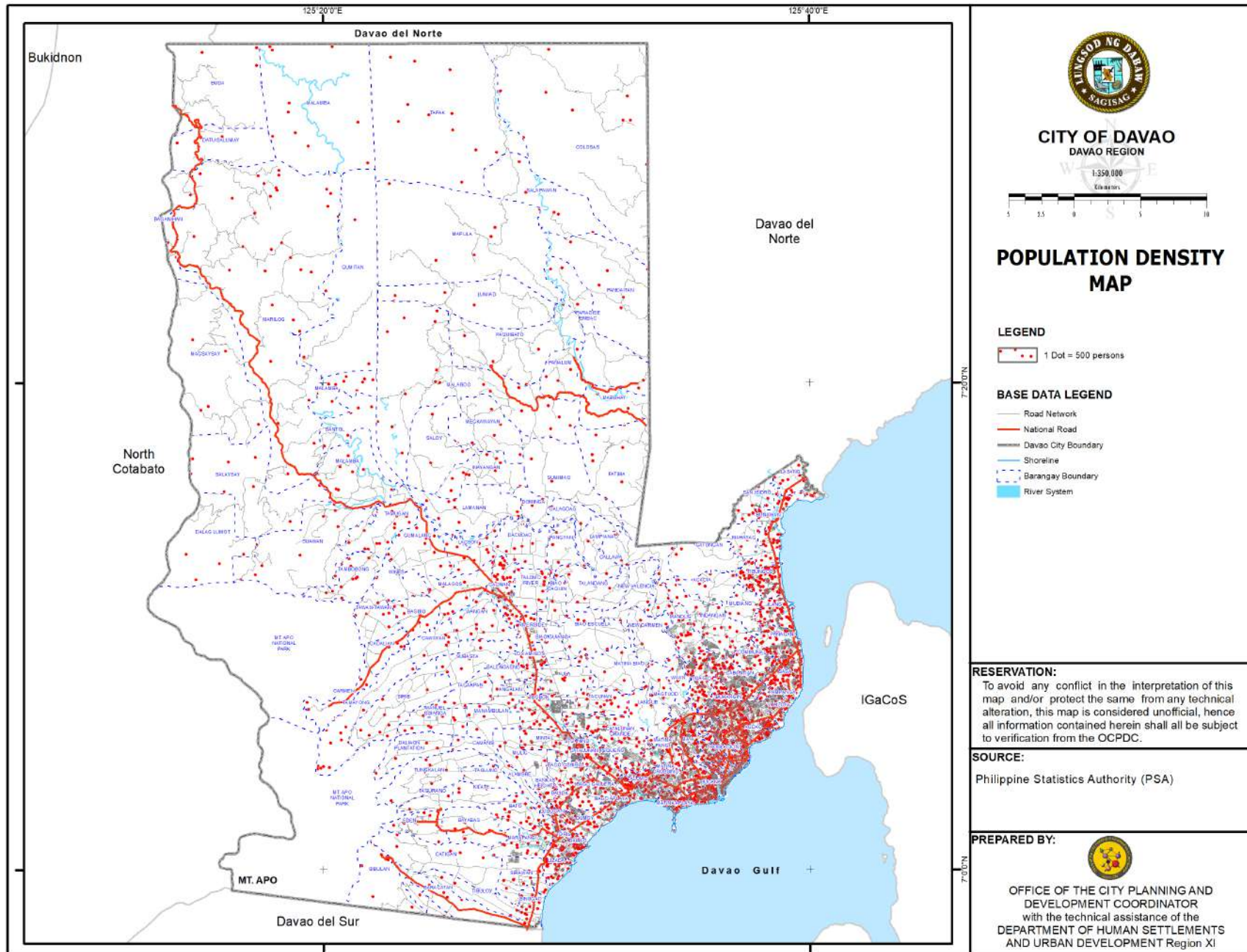
Table – 5. Population Density by Barangay, 2015, Cont.

Barangay	Population	Gross Area (ha)	Population Density (Gross Barangay Area)
Tagurano	1,230	505.28	2.43
Tibuloy	2,218	833.64	2.66
Tungkalan	2,910	1,783.65	1.63
<b>Tugbok</b>	63,167	12,623.72	5
Angalan	2,475	481.31	5.14
Bago Oshiro	11,932	637.28	18.72
Balengaeng	2,086	478.85	4.36
Biao Escuela	3,294	1,284.20	2.57
Biao Guianga	3,664	500.91	7.31
Manambulan	2,661	768.50	3.46
Manuel Guianga	6,436	901.32	7.14
Matina Biao	1,811	1,578.20	1.15
New Carmen	2,626	1,107.90	2.37
New Valencia	1,679	954.12	1.76
Tacunan	12,773	906.70	14.09
Tagakpan	4,208	749.73	5.61
Talandang	3,392	1,333.40	2.54
Ula	4,130	941.30	4.39

Source: Philippine Statistics Authority, Region XI



Map 1.1. Population Density Map, Davao City



DE-19

## Historical Growth of Population

The city's population increased to 1,632,991 in 2015 from only 8,560 over a century ago. A huge increase in population is observed especially in 1939 after the inauguration of Davao as a chartered City by virtue of Commonwealth Act No. 51. At the macro level, one (1) in every three (3) persons in Davao Region lives in Davao City. The city contributes 6.67% to the total population in Mindanao. Throughout Philippines, Davao City is the third highly -urbanized city with population size that surpasses the one million mark next to City of Manila and Quezon City.

**Table DE – 6. Historical Growth of Population, 1975-2015**

Year	Davao City		Annual Growth Rate
	Population	Increase/Decrease	
1903	8,560	-	-
1918	21,538	12,978	6
1939	95,546	74,008	7.25
1948	111,263	15,717	1.57
1960	225,712	114,449	6.42
1970	392,473	166,761	5.57
1975	484,678	92,205	4.31
1980	610,375	125,697	4.72
1990	849,947	339,572	3.37
1995	1,006,840	156,893	2.57
2000	1,147,116	140,276	2.83
2007	1,363,337	216,221	2.44
2010	1,449,296	85,959	2.36
2015	1,632,991	183,695	2.30
<b>Davao Region</b>	<b>4,893,318</b>	<b>424,755</b>	<b>1.74</b>
<b>Mindanao</b>	<b>24,135,775</b>	<b>2,167,601</b>	<b>1.9</b>
<b>Philippines</b>	<b>100,981,437</b>	<b>8,643,585</b>	<b>1.72</b>

Source: Census of Population, PSA, Region XI



## Fertility and Mortality

**Crude Birth Rate (CBR)<sup>6</sup>** –The 2017 CBR demonstrates a sharp decline compared to its four (4) preceding years, which were in the upper 20 levels (Refer to Table DE – 7). It slightly increased by 8.95% in 2018, but still lower compared to 2016 CBR with 26.30 births per 1,000 population. This attributes to the improvement of contraceptive-use prevalence rate at 61.3% in 2018 from 50.7% in 2016. The number of females who avail of reproductive health services, including contraceptives, in the city government also increased to 226 in 2018 from 15 in 2016.

**Crude Death Rate (CDR)<sup>7</sup>** – CDR shows a fluctuating trend, hitting the highest at 6.05 deaths per 1,000 population or an average of 28 deaths a day in 2017 (Refer to Table DE – 7). Though this slightly increased from 5.64 deaths per 1,000 population in 2011, it is considered low as it is below 10 per 1,000 population. The city's CBR is also lower compared to the national average of 6.77 deaths per 1,000 population. Among the top causes of deaths include Pneumonia, Cerebrovascular disease, diseases of the heart, diseases of the arteries, arterioles and capillaries and Diabetes mellitus.

**Table DE – 7. Crude Birth Rate (CBR) and Crude Death Rate (CDR), 2011-2018**

Period	CBR	% Increase/ Decrease from Previous Year	CDR	% Increase/ Decrease from Previous Year
2011	20.98	2.84	5.64	-6.38
2012	21.62	3.05	5.75	1.95
2013	27.97	29.37	5.71	-0.7
2014	27.28	2.47	5.90	3.33
2015	27.91	2.31	5.81	-1.53
2016	26.30	5.77	5.80	-0.17
2017	21.90	-16.73	6.05	4.31
2018	23.86	8.95	7.46	23.31

Source: City Health Office

<sup>6</sup> CBR refers to the number of live births per 1,000 population.

<sup>7</sup> CDR refers to the number of deaths per 1,000 population.

## Literacy Rate<sup>8</sup>

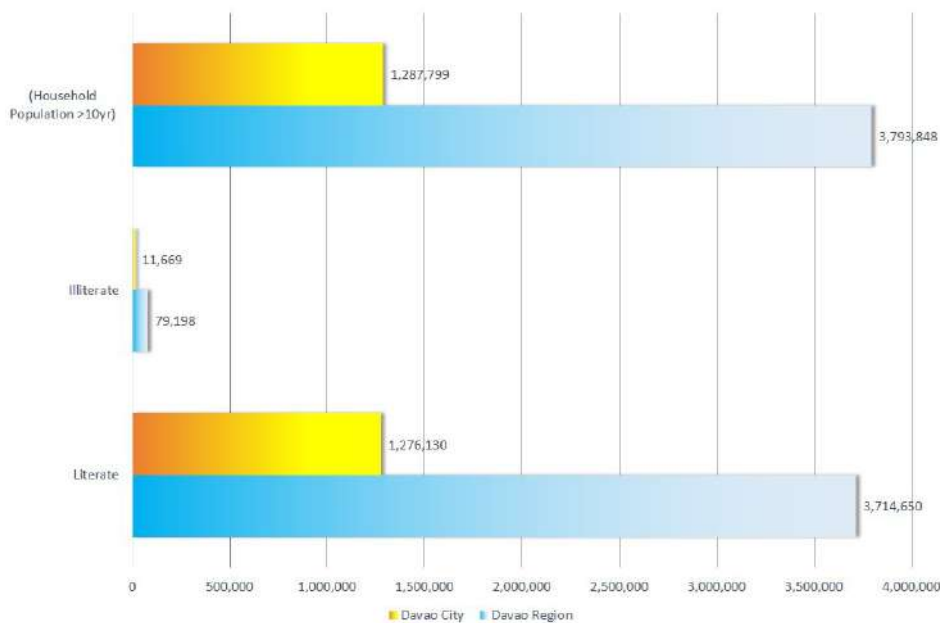
Davao City’s literacy rate improved to 99.09% in 2015 from 98% in 2010 (See Table DE – 8). This shows that majority of the populace aged 10 years old and over are literate. Only 0.91% are illiterate. Literacy rate among females is slightly higher at 99.14% compared to males at 99.05%. Davao Region has a total of 3,714,650 literate population, both male and female, 33.94% of which is from the City of Davao.

**Table DE – 8. Literacy Rate of Population 10 Years Old and Over, by Sex, 2015**

Indicator	Davao City						Davao Region					
	Male		Female		Both Sex		Male		Female		Both Sex	
	No.	Rate %	No.	Rate %	No.	Rate %	No.	Rate %	No.	Rate %	No.	Rate %
Literate	638,657	99.05	637,473	99.14	1,276,130	99.09	1,897,640	97.8	1,817,010	98.03	3,714,650	97.9
Illiterate	6,126	0.95	5,543	0.86	11,669	0.91	42,732	2.2	36,466	1.97	79,198	2.1
(Household Population >10yr)												
	644,783	100	643,016	100	1,287,799	100	1,940,372	100	1,853,476	100	3,793,848	100

Source: Philippine Statistics Authority, Region XI

**Graph DE – 1.2 Literacy of Population 10 Years Old and Over, 2015**



<sup>8</sup>Literacy rate is the percentage of population who have at least completed a year in elementary education to the population 10 years old and over. He or she is considered literate if he or she is able to read and write.



## Other Population Characteristics

### Marital Status<sup>9</sup>

As shown in Table DE-9, only 38.5% of the 1,298,209 total population aged 10 years old and above are married as there are largely single males and females (45.1%). Among singles, 53.4% are males while 46.6% are females. The rest are in common-law/live-in marital arrangement (10.6%), widowed (4.1%), and divorced/separated (1.5%). Of the married populace, there are more married women (250,701) than married men (248,802). The age range for married populace is between 30-49 years old, while the age range for divorced/separated populace is between 35-39 years old.

**Table DE – 9. Marital Status Aged 10 Years Old and Above**

Sex and Age Group	Total Population 10 Years old and Over	Marital Status					
		Single	Married	Widowed	Divorced/ Separated	Common-Law/ Live-in	Unknown
<b>Both sexes</b>	1,298,209	585,632	499,503	52,685	19,927	137,011	3,451
<b>Male</b>	651,571	312,804	248,802	12,478	7,735	68,198	1,554
Below 20	166,863	164,043	663	33	54	1,679	391
20-24	83,886	64,890	6,535	90	229	11,900	242
25-29	76,719	38,152	20,379	148	595	17,211	234
30-34	65,191	18,480	32,429	227	868	12,971	216
35-39	58,064	10,289	37,395	385	1,044	8,763	188
40-44	48,452	5,909	35,154	574	1,105	5,634	76
45-49	41,195	4,170	31,199	828	1,122	3,770	106
50-54	33,238	2,796	25,815	1,181	898	2,505	43
55-59	27,744	1,876	21,827	1,558	785	1,659	39
60-64	21,238	1,012	16,689	1,878	532	1,123	4
65-69	13,597	596	10,386	1,776	288	544	7
70-74	7,543	296	5,497	1,387	118	242	3
75-79	4,575	180	3,027	1,176	63	126	3
80-over	3,266	115	1,807	1,237	34	71	2

Source: Philippine Statistics Authority, Region XI

<sup>9</sup> Marital status refers to the personal status of each individual with reference to the marriage laws or customs of the country. The categories used for marital status include single, married, divorced/ separated, common-law/live-in and unknown. Unknown is a category where a person whose marital status is unknown, or whose status is being concealed by the respondent.

**Table DE – 9. Marital Status Aged 10 Years Old and Above, Count.**

Sex and Age Group	Total Population 10 Years old and Over	Marital Status					
		Single	Married	Widowed	Divorced/ Separated	Common-Law/ Live-in	Unknown
<b>Female</b>	646,638	272,828	250,701	40,207	12,192	68,813	1,897
Below 20	164,239	155,036	2,186	48	139	6,191	639
20-24	84,792	52,310	13,112	131	682	18,247	310
25-29	74,157	27,925	28,287	272	1,120	16,318	235
30-34	61,187	13,029	35,947	515	1,475	10,015	206
35-39	54,277	7,383	37,722	808	1,642	6,535	187
40-44	45,509	4,774	33,400	1,461	1,649	4,142	83
45-49	40,087	3,609	29,385	2,383	1,538	3,060	112
50-54	33,860	2,810	23,860	3,756	1,413	1,973	48
55-59	29,187	2,179	19,524	5,194	1,070	1,177	43
60-64	22,587	1,419	13,440	6,351	736	631	10
65-69	15,312	970	7,602	6,020	393	312	15
70-74	9,267	565	3,513	4,905	180	100	4
75-79	6,508	407	1,830	4,083	114	70	4
80-over	5,689	412	893	4,280	41	42	1

Source: Philippine Statistics Authority, Region XI

## Mother Tongue/Ethnicity

Majority or 36.96% of the total household population are Bisaya, followed by Cebuano with 21.30% and Boholano with 8.14% as of 2010, which signifies migration mostly from Visayas regions (Table DE – 10). Bisaya/Binisaya is a mixture of dialect across Visayan region, while Cebuano is also Bisaya, but with dialect that is distinct and native in Cebu. Davaoeños, Bagobos and Mandayas, who are among the original settlers in Davao City, only account for 7.79%, 1.31%, and 1.26%, respectively, of the dialects spoken..

**Table DE – 10. Population by Mother Tongue, 2010**

Mother Tongue	Household No.	% of Total Household Population
Bisaya/Binisaya	533,645	36.96
Cebuano	307,576	21.30
Boholano	117,481	8.14
Davaoeño	112,425	7.79
Hiligaynon, Ilonggo	71,759	4.97
Tagalog	30,409	2.11
Ilocano	29,534	2.05
Waray	22,611	1.57
Bagobo	18,987	1.31
Mandaya	18,163	1.26
Foreign Ethnicity	2,205	0.15
Others	179,091	12.40
<b>Total</b>	<b>1,443,890</b>	<b>100</b>

Source: Philippine Statistics Authority, Region XI



## Religious Affiliation/Inventory of Religious Establishments, Year 2015

People in Davao City are largely Roman Catholics, comprising 1,277,210, as of 2015 (See Table DE – 11). The number of Roman Catholics increase from 1,161,674 in 2010. The next religions with most members include Evangelicals (Philippine Council of Evangelical Churches) and Islam, which comprised 100,768 and 63,127 respectively. The rest of the populace belong to other religious groups (see Annex for full list of details).

**Table DE – 11. Population by Religious Affiliation, Davao City, 2015**

Religious Affiliation	No. of People	% of Total Population
Roman Catholics/Christians	1,277,210	78.21
Evangelicals (Philippine Council of Evangelical Churches)	100,768	6.17
Islam	63,127	3.87
Iglesia Ni Cristo	36,204	2.22
Buddhist	989	0.06
Tribal Religions	8,768	0.54
Other religious affiliations	195,925	12
<b>Total</b>	<b>1,632,991</b>	<b>100</b>

Source: Philippine Statistics Authority, Region XI

## Labor Force

Table DE – 12 bares an employment figure in the city of 670,535 or 59.53% of the working age population (15 years old and above). Of the total number of employed persons, majority or 64% are males while only 36% of the working age population are females. This shows that for every female employed, there are two (2) males who will also be employed or a ratio of 1:2. On the other hand, the city's total workforce covers 34.83% of the number of employed persons in Davao Region. Sex distribution in Davao City is reflective of the entire region, where there are more employed males (63.3%) than employed females (36.7%).

**Table DE – 12. Labor Force Population by Sex and Employment Status, 2015**

Sex	Davao City					Davao Region <sup>10</sup>					
	Pop. 15 Yrs. and Over	Em- ployed	%	Unem- ployed	%	Pop. 15 Yrs. and Over	Employed	%	Unem- ployed	%	Not in Labor Force
Male	562,867	429,634	64	23	60	1,622,820	1,222,375	63.5	75	63.3	331,449
Fe- male	564,022	240,901	36	16	40	1,559,180	702,625	36.5	43	36.7	807,551
Both Sexes	1,126,469	670,535	100	39	100	3,182,000	1,925,000	100	118	100	1,139,000

Source: 2015 Census of Population and 2015 Labor Force Survey, PSA, Region XI and OCPDC, Davao City

<sup>10</sup>Data on the employment status of Davao Region was based on the 2015 Annual Labor Force Survey.

## Overseas Workers from Davao City

In 2012 and 2013, the number of OFWs increased by 8.94% and 70.68% respectively. However, there was a decrease in years 2014-2017. The downward trend is attributed to the increase of available jobs with the spike of local and foreign investments in the city. Of the overseas workers processed from Davao City, majority are balik-manggagawa (returning workers) who are employed in land-based jobs or those who already went and worked abroad. There are a total of 148,201 balik-manggagawa as land-based job workers and 4,649 as sea-based job workers or 96.96% and 3.04%, respectively, out of the total number of balik-manggagawa workers. Females outnumber males in terms on the number of overseas workers, comprising 67.63% out of the total number of OFWs from Davao City. This links as among the reasons why there are few female workers at the local level as a large number of them prefer to work abroad.

**Table DE – 13. Overseas Workers from Davao City, 2011-2017**

Year	No. of Overseas Workers			Increase/Decrease in No.			Increase/Decrease in Percent (%)		
	Total	M	F	Total	M	F	Total	M	F
2011	18,921	9,288	9,633	1,010	463	547	5.63	5.24	6.02
2012	20,612	10,158	10,454	1,691	870	821	8.94	9.37	8.52
2013	35,181	17,031	18,150	14,569	6,873	7,696	70.68	67.66	73.62
2014	25,127	12,167	12,960	-10,094	-4,884	-5,190	-28.58	-25.56	-28.60
2015	25,294	11,332	13,962	167	-835	1,002	0.66	-6.86	7.73
2016	23,181	9,457	13,724	-2,113	-1,875	-238	-8.35	-16.55	-1.70
2017	16,499	5,365	11,159	-6,682	-4,092	-2,565	-28.83	-43.27	-18.69

Source: Philippine Overseas Employment Administration, Region XI

## Persons with Disabilities (PWDs)

The City Social Services and Development Office (CSSDO) recorded 2,287 persons with disabilities (PWDs) as of 2016 (Table DE – 14). The figures increased by 88.63% from 260 in 2012. Majority of the registered PWDs in 2016 have orthopaedic impairment (883) followed by those with development disability (474), mental disability (250), visual impairment (212), speech impairment (164), hearing impairment (178), and motor disability (127).

**Table DE – 14. Persons with Disabilities issued with Identification Cards, By Sex, 2012-2016**

Persons with Disabilities	2012	2013	2014	2015	2016	Total
Both Sexes	260	609	986	1044	2287	5189
Female	128	247	454	502	983	2317
Male	132	362	532	542	1304	2872

Source: City Social Services and Development Office, Davao City



## Household Population 5 Years Old and Over by Highest Educational Attainment

Almost one-fourth or 39.22% of the household population aged five (5) years old and above are in or have reached secondary/high school level (Table DE – 15). Twenty-eight percent (28%) of the populace have reached or are currently enrolled in elementary. The least are those in special education at 0.045%. On the other hand, nationwide figures show that majority or 38.42% of the household population in Davao Region have reached or currently in the elementary level. The household population who are able to reach or currently in secondary level also share 37.23% out of the total number of household population in Davao Region. Davao City's percentage figures are slightly higher compared to Davao Region in terms of reaching secondary level as the highest educational attainment among household population. This indicates that there are more individuals who are able to reach or are currently enrolled in secondary in Davao City compared to other areas in Davao Region.

**Table DE – 15. Household Population 5 Years Old and Over by Highest Educational Attainment, 2015**

Highest Educational Attainment	Davao City						Davao Region	
	Male		Female		Both Sexes		Both Sexes	
	No.	%	No.	%	No.	%	No.	%
<b>Pre-School</b>	24,290	3.36	21,580	3.03	45,870	3.19	133,978	3.18
<b>Special Education</b>	388	0.054	264	0.037	652	0.045	1,557	0.037
<b>Elementary</b>	218,369	30.22	184,642	25.89	403,011	28.07	1,620,132	38.42
Grade 1-4	115,768	-	94,457	-	210,225	-	836,535	-
Grade 5-6	38,522	-	32,306	-	70,828	-	278,661	-
Graduate	64,079	-	57,879	-	121,958	-	504,936	-
<b>Secondary</b>	284,398	39.36	278,699	39.08	563,097	39.22	1,569,919	37.23
Undergraduate	112,963	-	110,143	-	223,106	-	708,274	-
Graduate	171,435	-	168,556	-	339,991	-	861,645	-
<b>Post-Secondary</b>	6,038	0.84	7,062	0.99	13,100	0.91	60,727	1.44
Undergraduate	961	-	1,024	-	1,985	-	5,613	-
Graduate	5,077	-	6,038	-	11,115	-	55,114	-
<b>College Under-graduate</b>	96,074	13.30	105,216	14.75	201,290	14.02	431,109	10.22
<b>Academic Degree Holder</b>	89,535	12.39	111,810	15.68	201,345	14.02	386,818	9.17
<b>Post Baccalaureate</b>	1,579	0.22	1,752	0.25	3,331	0.23	6,038	0.14
<b>Not Stated</b>	1,956	0.27	2,093	0.29	4,049	0.28	6,777	0.16
<b>Total</b>	722,627	100	713,118	100	1,435,745	100	4,217,055	100

Source: Philippine Statistics Authority, Region XI

## Projected Population and Households

Davao City's population is projected to hit two-million mark beginning 2024. This is 22.71% higher from the current population of 1,632,991. By 2028, the city's population is projected to further increase to 2,194,659. With the growing populace, the number of households is projected to register a total of 550,954 by 2028 from 409,951 in 2015.

**Table DE – 16. Projected Population and Households**

Year	Population	Household
2015 <sup>11</sup>	1,632,991	409,951
2016	1,670,550	419,380
2017	1,708,972	429,026
2018	1,748,279	438,893
2019	1,788,489	448,988
2020	1,829,624	459,314
2021	1,871,706	469,879
2022	1,914,755	480,686
2023	1,958,794	491,742
2024	2,003,847	503,052
2025	2,049,935	514,622
2026	2,097,084	526,458
2027	2,145,317	538,567
2028	2,194,659	550,954

Source: Philippine Statistics Authority, Region XI

## Population Projection by Barangay

Barangay Bucana is projected to continue having the highest population size with 112,843 by 2028 followed by Barangay Buhangin Poblacion with 87,976 and Barangay Ma-a with 80,372 (Table DE – 17, see next page). Barangay 3-A's population size is projected to be the lowest with 497 by 2028.

<sup>11</sup> Data sourced from Census of Population 2015, Philippine Statistics Authority. The 2016-2030 Population and Household Projection is computed using the Geometric Method based on the 2.30% growth rate of 2010-2015.



**Table DE – 17A. Population Estimation Projection of Barangays Bago Aplaya-Talomo Proper, Talomo District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
<b>First District</b>	<b>592,736</b>	<b>0.3630</b>	<b>606,369</b>	<b>620,315</b>	<b>634,583</b>	<b>649,178</b>	<b>664,109</b>	<b>679,384</b>	<b>695,010</b>	<b>710,995</b>
<b>Talomo District</b>	<b>418,615</b>	<b>0.2563</b>	<b>428,243</b>	<b>438,093</b>	<b>448,169</b>	<b>458,477</b>	<b>469,022</b>	<b>479,809</b>	<b>490,845</b>	<b>502,134</b>
Bago Aplaya	15,918	0.0097	16,284	16,659	17,042	17,434	17,835	18,245	18,665	19,094
Bago Gallera	17,378	0.0106	17,778	18,187	18,605	19,033	19,471	19,918	20,376	20,845
Baliok	16,140	0.0099	16,511	16,891	17,279	17,677	18,083	18,499	18,925	19,360
Bucana	83,964	0.0514	85,895	87,871	89,892	91,959	94,074	96,238	98,452	100,716
Catalunan Grande	32,461	0.0199	33,208	33,971	34,753	35,552	36,370	37,206	38,062	38,937
Catalunan Pequeño	22,809	0.0140	23,334	23,870	24,419	24,981	25,556	26,143	26,745	27,360
Dumoy	18,622	0.0114	19,050	19,488	19,937	20,395	20,864	21,344	21,835	22,337
Langub	2,883	0.0018	2,949	3,017	3,087	3,158	3,230	3,304	3,380	3,458
Ma-a	59,803	0.0366	61,178	62,586	64,025	65,498	67,004	68,545	70,122	71,734
Magtuod	5,058	0.0031	5,174	5,293	5,415	5,540	5,667	5,797	5,931	6,067
Matina Aplaya	33,384	0.0204	34,152	34,937	35,741	36,563	37,404	38,264	39,144	40,045
Matina Crossing	32,436	0.0199	33,182	33,945	34,726	35,525	36,342	37,178	38,033	38,907
Matina Pangi	18,081	0.0111	18,497	18,922	19,358	19,803	20,258	20,724	21,201	21,688
Talomo	59,678	0.0365	61,051	62,455	63,891	65,361	66,864	68,402	69,975	71,585

Source: PSA, Region XI

**Table DE – 17B. Population Estimation and Projection of Barangays Bago Aplaya-Talomo Proper,  
Talomo District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
<b>First District</b>	<b>727,348</b>	<b>744,077</b>	<b>761,190</b>	<b>778,698</b>	<b>796,608</b>
<b>Talomo District</b>	<b>513,683</b>	<b>525,498</b>	<b>537,585</b>	<b>549,949</b>	<b>562,598</b>
Bago Aplaya	19,533	19,982	20,442	20,912	21,393
Bago Gallera	21,325	21,815	22,317	22,830	23,355
Baliok	19,805	20,261	20,727	21,204	21,691
Bucana	103,032	105,402	107,826	110,306	112,843
Catalunan Grande	39,833	40,749	41,686	42,645	43,626
Catalunan Pequeño	27,989	28,633	29,291	29,965	30,654
Dumoy	22,851	23,377	23,914	24,464	25,027
Langub	3,538	3,619	3,702	3,787	3,875
Ma-a	73,384	75,072	76,799	78,565	80,372
Magtuod	6,207	6,349	6,495	6,645	6,798
Matina Aplaya	40,966	41,908	42,872	43,858	44,866
Matina Crossing	39,802	40,718	41,654	42,612	43,592
Matina Pangi	22,187	22,698	23,220	23,754	24,300
Talomo	73,231	74,915	76,638	78,401	80,204

*Source: PSA, Region XI*

**Table DE – 17C. Population Estimation and Projection of Barangays 1-A – 20-B, Poblacion District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
<b>Poblacion District</b>	<b>174,121</b>	<b>0.1066</b>	<b>178,126</b>	<b>182,223</b>	<b>186,414</b>	<b>190,701</b>	<b>195,087</b>	<b>199,574</b>	<b>204,165</b>	<b>208,860</b>
Brgy. 1-A	3,103	0.0019	3,174	3,247	3,322	3,398	3,477	3,557	3,638	3,722
Brgy. 2-A	3,589	0.0022	3,672	3,756	3,842	3,931	4,021	4,114	4,208	4,305
Brgy. 3-A	370	0.0002	379	387	396	405	415	424	434	444
Brgy. 4-A	1,683	0.0010	1,722	1,761	1,802	1,843	1,886	1,929	1,973	2,019
Brgy. 5-A	11,436	0.0070	11,699	11,968	12,243	12,525	12,813	13,108	13,409	13,718
Brgy. 6-A	2,084	0.0013	2,132	2,181	2,231	2,282	2,335	2,389	2,444	2,500
Brgy. 7-A	3,984	0.0024	4,076	4,169	4,265	4,363	4,464	4,566	4,671	4,779
Brgy. 8-A	11,075	0.0068	11,330	11,590	11,857	12,130	12,409	12,694	12,986	13,285
Brgy. 9-A	5,698	0.0035	5,829	5,963	6,100	6,241	6,384	6,531	6,681	6,835
Brgy.10-A	6,764	0.0041	6,920	7,079	7,242	7,408	7,578	7,753	7,931	8,114
Brgy.11-B	1,901	0.0012	1,945	1,989	2,035	2,082	2,130	2,179	2,229	2,280
Brgy.12-B	840	0.0005	859	879	899	920	941	963	985	1,008
Brgy.13-B	427	0.0003	437	447	457	468	478	489	501	512
Brgy.14-B	1,175	0.0007	1,202	1,230	1,258	1,287	1,316	1,347	1,378	1,409
Brgy.15-B	2,891	0.0018	2,957	3,026	3,095	3,166	3,239	3,314	3,390	3,468
Brgy.16-B	840	0.0005	859	879	899	920	941	963	985	1,008
Brgy.17-B	810	0.0005	829	848	867	887	908	928	950	972
Brgy.18-B	1,832	0.0011	1,874	1,917	1,961	2,006	2,053	2,100	2,148	2,198
Brgy.19-B	31,766	0.0195	32,497	33,244	34,009	34,791	35,591	36,410	37,247	38,104
Brgy.20-B	4,581	0.0028	4,581	4,581	4,581	4,581	4,581	4,581	4,581	4,581

Source: PSA, Region XI



**Table DE – 17D. Population Estimation and Projection of Barangays 1-A – 20-B, Poblacion District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
<b>Poblacion District</b>	<b>213,664</b>	<b>218,579</b>	<b>223,606</b>	<b>228,749</b>	<b>234,010</b>
Brgy. 1-A	3,808	3,895	3,985	4,077	4,170
Brgy. 2-A	4,404	4,505	4,609	4,715	4,823
Brgy. 3-A	454	464	475	486	497
Brgy. 4-A	2,065	2,113	2,161	2,211	2,262
Brgy. 5-A	14,033	14,356	14,686	15,024	15,369
Brgy. 6-A	2,557	2,616	2,676	2,738	2,801
Brgy. 7-A	4,889	5,001	5,116	5,234	5,354
Brgy. 8-A	13,590	13,903	14,222	14,550	14,884
Brgy. 9-A	6,992	7,153	7,317	7,486	7,658
Brgy.10-A	8,300	8,491	8,686	8,886	9,090
Brgy.11-B	2,333	2,386	2,441	2,497	2,555
Brgy.12-B	1,031	1,054	1,079	1,104	1,129
Brgy.13-B	524	536	548	561	574
Brgy.14-B	1,442	1,475	1,509	1,544	1,579
Brgy.15-B	3,548	3,629	3,713	3,798	3,885
Brgy.16-B	1,031	1,054	1,079	1,104	1,129
Brgy.17-B	994	1,017	1,040	1,064	1,089
Brgy.18-B	2,248	2,300	2,353	2,407	2,462
Brgy.19-B	38,980	39,877	40,794	41,732	42,692
Brgy.20-B	1,031	1,054	5,883	6,018	6,157

Source: PSA, Region XI

**Table DE – 17E. Population Estimation and Projection of Barangays 21-C – 40-D, Poblacion District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
Brgy.21-C	7,478	0.0046	7,650	7,826	8,006	8,190	8,378	8,571	8,768	8,970
Brgy.22-C	6,634	0.0041	6,787	6,943	7,102	7,266	7,433	7,604	7,779	7,958
Brgy.23-C	16,489	0.0101	16,868	17,256	17,653	18,059	18,474	18,899	19,334	19,779
Brgy.24-C	2,602	0.0016	2,662	2,723	2,786	2,850	2,915	2,982	3,051	3,121
Brgy.25-C	1,967	0.0012	2,012	2,059	2,106	2,154	2,204	2,255	2,306	2,359
Brgy.26-C	2,510	0.0015	2,568	2,627	2,687	2,749	2,812	2,877	2,943	3,011
Brgy.27-C	2,152	0.0013	2,201	2,252	2,304	2,357	2,411	2,467	2,523	2,581
Brgy.28-C	2,270	0.0014	2,322	2,376	2,430	2,486	2,543	2,602	2,662	2,723
Brgy.29-C	1,557	0.0010	1,593	1,629	1,667	1,705	1,744	1,785	1,826	1,868
Brgy.30-D	1,608	0.0010	1,645	1,683	1,722	1,761	1,802	1,843	1,885	1,929
Brgy.31-D	8,321	0.0051	8,512	8,708	8,908	9,113	9,323	9,537	9,757	9,981
Brgy.32-D	1,985	0.0012	2,031	2,077	2,125	2,174	2,224	2,275	2,328	2,381
Brgy.33-D	2,033	0.0012	2,080	2,128	2,177	2,227	2,278	2,330	2,384	2,439
Brgy.34-D	1,682	0.0010	1,721	1,760	1,801	1,842	1,885	1,928	1,972	2,018
Brgy.35-D	578	0.0004	591	605	619	633	648	662	678	693
Brgy.36-D	1,581	0.0010	1,617	1,655	1,693	1,732	1,771	1,812	1,854	1,896
Brgy.37-D	6,740	0.0041	6,895	7,054	7,216	7,382	7,552	7,725	7,903	8,085
Brgy.38-D	1,505	0.0009	1,540	1,575	1,611	1,648	1,686	1,725	1,765	1,805
Brgy.39-D	5,143	0.0031	5,261	5,382	5,506	5,633	5,762	5,895	6,030	6,169
Brgy.40-D	2,437	0.0015	2,493	2,550	2,609	2,669	2,730	2,793	2,857	2,923

Source: PSA, Region XI

**Table DE – 17F. Population Estimation and Projection of Barangays 21-C – 40-D, Poblacion District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
Brgy.21-C	9,176	9,387	9,603	9,824	10,050
Brgy.22-C	8,141	8,328	8,519	8,715	8,916
Brgy.23-C	20,234	20,699	21,175	21,662	22,160
Brgy.24-C	3,193	3,266	3,341	3,418	3,497
Brgy.25-C	2,414	2,469	2,526	2,584	2,644
Brgy.26-C	3,080	3,151	3,223	3,297	3,373
Brgy.27-C	2,641	2,701	2,764	2,827	2,892
Brgy.28-C	2,786	2,850	2,915	2,982	3,051
Brgy.29-C	1,911	1,955	1,999	2,045	2,093
Brgy.30-D	1,973	2,019	2,065	2,112	2,161
Brgy.31-D	10,211	10,446	10,686	10,932	11,183
Brgy.32-D	2,436	2,492	2,549	2,608	2,668
Brgy.33-D	2,495	2,552	2,611	2,671	2,732
Brgy.34-D	2,064	2,111	2,160	2,210	2,261
Brgy.35-D	709	726	742	759	777
Brgy.36-D	1,940	1,985	2,030	2,077	2,125
Brgy.37-D	8,271	8,461	8,655	8,855	9,058
Brgy.38-D	1,847	1,889	1,933	1,977	2,023
Brgy.39-D	6,311	6,456	6,605	6,757	6,912
Brgy.40-D	2,990	3,059	3,130	3,202	3,275

Source: PSA, Region XI



Table DE – 17G. Population Estimation and Projection of Barangays Agdao Proper – Wilfredo Aquino, Agdao District, Davao City, 2015-2023

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
<b>Second District</b>	<b>592,250</b>	<b>0.3627</b>	<b>605,872</b>	<b>619,807</b>	<b>634,062</b>	<b>648,646</b>	<b>663,565</b>	<b>678,827</b>	<b>694,440</b>	<b>710,412</b>
<b>Agdao District</b>	<b>102,267</b>	<b>0.0626</b>	<b>104,619</b>	<b>107,025</b>	<b>109,487</b>	<b>112,005</b>	<b>114,581</b>	<b>117,217</b>	<b>119,913</b>	<b>122,671</b>
Agdao Proper	8,897	0.0054	9,102	9,311	9,525	9,744	9,968	10,198	10,432	10,672
Centro (San Juan)	15,586	0.0095	15,944	16,311	16,686	17,070	17,463	17,864	18,275	18,696
Gov. P. Bangoy	8,816	0.0054	9,019	9,226	9,438	9,655	9,878	10,105	10,337	10,575
Gov. V. Duterte	8,904	0.0055	9,109	9,318	9,533	9,752	9,976	10,206	10,440	10,680
Kap. T. Monte- verde Sr.	5,716	0.0035	5,847	5,982	6,120	6,260	6,404	6,552	6,702	6,856
Lapu Lapu	11,738	0.0072	12,008	12,284	12,567	12,856	13,151	13,454	13,763	14,080
Leon Garcia Sr.	13,652	0.0084	13,966	14,287	14,616	14,952	15,296	15,648	16,008	16,376
Rafael Castillo	5,783	0.0035	5,916	6,052	6,191	6,334	6,479	6,628	6,781	6,937
San Antonio	10,306	0.0063	10,543	10,786	11,034	11,287	11,547	11,813	12,084	12,362
Ubalde	2,966	0.0018	3,034	3,104	3,175	3,248	3,323	3,400	3,478	3,558
Wilfredo Aquino	9,903	0.0061	10,131	10,364	10,602	10,846	11,095	11,351	11,612	11,879

Source: PSA, Region XI

Table DE – 17H. Population Estimation and Projection of Barangays Agdao Proper – Wilfredo Aquino, Agdao District, Davao City, 2024 - 2028

Barangay	Projected Population				
	2024	2025	2026	2027	2028
<b>Second District</b>	<b>726,751</b>	<b>743,467</b>	<b>760,566</b>	<b>778,059</b>	<b>795,955</b>
<b>Agdao District</b>	<b>125,492</b>	<b>128,378</b>	<b>131,331</b>	<b>134,352</b>	<b>137,442</b>
Agdao Proper	10,918	11,169	11,426	11,688	11,957
Centro (San Juan)	19,126	19,566	20,016	20,476	20,947
Gov. P. Bangoy	10,818	11,067	11,321	11,582	11,848
Gov. V. Duterte	10,926	11,177	11,434	11,697	11,967
Kap. T. Monteverde Sr.	7,014	7,175	7,340	7,509	7,682
Lapu Lapu	14,404	14,735	15,074	15,421	15,775
Leon Garcia Sr.	16,752	17,138	17,532	17,935	18,348
Rafael Castillo	7,096	7,260	7,427	7,597	7,772
San Antonio	12,647	12,937	13,235	13,539	13,851
Ubalde	3,640	3,723	3,809	3,897	3,986
Wilfredo Aquino	12,152	12,431	12,717	13,010	13,309

Source: PSA, Region XI

**Table DE – 17I. Population Estimation and Projection of Barangays Acacia – Waan, Buhangin District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
<b>Buhangin District</b>	<b>293,118</b>	<b>0.1795</b>	<b>299,860</b>	<b>306,756</b>	<b>313,812</b>	<b>321,030</b>	<b>328,413</b>	<b>335,967</b>	<b>343,694</b>	<b>351,599</b>
Acacia	3,262	0.0020	3,337	3,414	3,492	3,573	3,655	3,739	3,825	3,913
Buhangin	65,461	0.0401	66,967	68,507	70,082	71,694	73,343	75,030	76,756	78,521
Cabantian	43,758	0.0268	44,764	45,794	46,847	47,925	49,027	50,155	51,308	52,488
Callawa	3,553	0.0022	3,635	3,718	3,804	3,891	3,981	4,072	4,166	4,262
Communal	16,740	0.0103	17,125	17,519	17,922	18,334	18,756	19,187	19,628	20,080
Indangan	14,867	0.0091	15,209	15,559	15,917	16,283	16,657	17,040	17,432	17,833
Mandug	13,594	0.0083	13,907	14,227	14,554	14,888	15,231	15,581	15,940	16,306
Pampanga	14,381	0.0088	14,712	15,050	15,396	15,750	16,113	16,483	16,862	17,250
Angliongto	13,539	0.0083	13,850	14,169	14,495	14,828	15,169	15,518	15,875	16,240
Vicente Hizon, Sr.	11,265	0.0069	11,524	11,789	12,060	12,338	12,621	12,912	13,209	13,513
Sasa	52,386	0.0321	53,591	54,823	56,084	57,374	58,694	60,044	61,425	62,838
Tigatto	36,387	0.0223	37,224	38,080	38,956	39,852	40,768	41,706	42,665	43,647
Waan	3,925	0.0024	4,015	4,108	4,202	4,299	4,398	4,499	4,602	4,708

Source: PSA, Region XI



**Table DE – 17J. Population Estimation and Projection of Barangays Acacia – Waan, Buhangin District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
<b>Buhangin District</b>	<b>359,686</b>	<b>367,958</b>	<b>376,422</b>	<b>385,079</b>	<b>393,936</b>
Acacia	4,003	4,095	4,189	4,285	4,384
Buhangin	80,327	82,175	84,065	85,998	87,976
Cabantian	53,696	54,931	56,194	57,486	58,809
Callawa	4,360	4,460	4,563	4,668	4,775
Communal	20,542	21,014	21,497	21,992	22,498
Indangan	18,243	18,663	19,092	19,531	19,981
Mandug	16,681	17,065	17,457	17,859	18,270
Pampang	17,647	18,053	18,468	18,893	19,327
Angliongto	16,614	16,996	17,387	17,787	18,196
Vicente Hizon, Sr.	13,823	14,141	14,466	14,799	15,140
Sasa	64,283	65,761	67,274	68,821	70,404
Tigatto	44,651	45,678	46,728	47,803	48,902
Waan	4,816	4,927	5,040	5,156	5,275

Source: PSA, Region XI

**Table DE – 17K. Population Estimation and Projection of Barangays Alejandro Navarro – Tibungco, Bunawan District and Barangays Colosas – Mapula, Paquibato District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
<b>Bunawan District</b>	<b>152,102</b>	<b>0.0931</b>	<b>155,600</b>	<b>159,179</b>	<b>162,840</b>	<b>166,586</b>	<b>170,417</b>	<b>174,337</b>	<b>178,346</b>	<b>182,448</b>
Alejandro Navarro (Lasang)	10,223	0.0063	10,458	10,699	10,945	11,196	11,454	11,717	11,987	12,263
Bunawan (Pob.)	23,495	0.0144	24,035	24,588	25,154	25,732	26,324	26,930	27,549	28,183
Gatungan	1,190	0.0007	1,217	1,245	1,274	1,303	1,333	1,364	1,395	1,427
Ilang	24,947	0.0153	25,521	26,108	26,708	27,323	27,951	28,594	29,251	29,924
Mahayag	6,307	0.0039	6,452	6,600	6,752	6,908	7,066	7,229	7,395	7,565
Mudiang	2,937	0.0018	3,005	3,074	3,144	3,217	3,291	3,366	3,444	3,523
Panacan	35,806	0.0219	36,630	37,472	38,334	39,216	40,118	41,040	41,984	42,950
San Isidro (Licanan)	5,333	0.0033	5,456	5,581	5,710	5,841	5,975	6,113	6,253	6,397
Tibungco	41,864	0.0256	42,827	43,812	44,820	45,850	46,905	47,984	49,087	50,216
<b>Paquibato District</b>	<b>44,763</b>	<b>0.0274</b>	<b>45,793</b>	<b>46,846</b>	<b>47,923</b>	<b>49,025</b>	<b>50,153</b>	<b>51,307</b>	<b>52,487</b>	<b>53,694</b>
Colosas	4,731	0.0029	4,840	4,951	5,065	5,181	5,301	5,423	5,547	5,675
Fatima (Benawang)	3,502	0.0021	3,583	3,665	3,749	3,835	3,924	4,014	4,106	4,201
Lumiad	1,553	0.0010	1,589	1,625	1,663	1,701	1,740	1,780	1,821	1,863
Mabuhay	1,062	0.0007	1,086	1,111	1,137	1,163	1,190	1,217	1,245	1,274
Malabog	10,816	0.0066	11,065	11,319	11,580	11,846	12,118	12,397	12,682	12,974
Mapula	2,876	0.0018	2,942	3,010	3,079	3,150	3,222	3,296	3,372	3,450

Source: PSA, Region XI

**Table DE – 17L. Population Estimation and Projection of Barangays Alejandro Navarro – Tibungco, Bunawan District and Barangays Colosas – Mapula, Paquibato District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
<b>Bunawan District</b>	<b>186,645</b>	<b>190,938</b>	<b>195,329</b>	<b>199,822</b>	<b>204,418</b>
Alejandra Navarro (Lasang)	12,545	12,833	13,128	13,430	13,739
Bunawan (Pob.)	28,831	29,494	30,172	30,866	31,576
Gatungan	1,460	1,494	1,528	1,563	1,599
Ilang	30,613	31,317	32,037	32,774	33,528
Mahayag	7,739	7,917	8,099	8,286	8,476
Mudiang	3,604	3,687	3,772	3,858	3,947
Panacan	43,938	44,948	45,982	47,040	48,121
San Isidro (Licanan)	6,544	6,695	6,849	7,006	7,167
Tibungco	51,371	52,553	53,762	54,998	56,263
<b>Paquibato District</b>	<b>54,929</b>	<b>56,192</b>	<b>195,329</b>	<b>199,822</b>	<b>204,418</b>
Colosas	5,805	5,939	13,128	13,430	13,739
Fatima (Benowang)	4,297	4,396	30,172	30,866	31,576
Lumiad	1,906	1,950	1,528	1,563	1,599
Mabuhay	1,303	1,333	32,037	32,774	33,528
Malabog	13,272	13,578	8,099	8,286	8,476
Mapula	3,529	3,610	3,772	3,858	3,947

Source: PSA, Region XI



**Table DE – 17M. Population Estimation and Projection of Barangays Pañalum – Tapak, Paquibato District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
Pañalum	1,831	0.0011	1,873	1,916	1,960	2,005	2,051	2,099	2,147	2,196
Pandaitan	4,037	0.0025	4,130	4,225	4,322	4,421	4,523	4,627	4,734	4,842
Paquibato (Pob.)	2,495	0.0015	2,552	2,611	2,671	2,733	2,795	2,860	2,925	2,993
Paradise Embak	2,654	0.0016	2,715	2,777	2,841	2,907	2,974	3,042	3,112	3,184
Salapawan	2,282	0.0014	2,334	2,388	2,443	2,499	2,557	2,616	2,676	2,737
Sumimao	1,666	0.0010	1,704	1,744	1,784	1,825	1,867	1,910	1,953	1,998
Tapak	5,258	0.0032	5,379	5,503	5,629	5,759	5,891	6,027	6,165	6,307

Source: PSA, Region XI

**Table DE – 19N. Population Estimation and Projection of Barangays Pañalum – Tapak, Paquibato District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
Pañalum	2,247	2,299	2,351	2,405	2,461
Pandaitan	4,954	5,068	5,184	5,304	5,426
Paquibato (Pob.)	3,062	3,132	3,204	3,278	3,353
Paradise Embak	3,257	3,332	3,408	3,487	3,567
Salapawan	2,800	2,865	2,931	2,998	3,067
Sumimao	2,044	2,091	2,139	2,189	2,239
Tapak	6,452	6,601	6,752	6,908	7,066

Source: PSA, Region XI

**Table DE – 170. Population Estimation and Projection of Barangays Baguio Proper – Wines, Baguio District and Barangays Biao Joaquin – Inayangan, Calinan District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
<b>Third District</b>	<b>448,005</b>	<b>0.2743</b>	<b>458,309</b>	<b>468,850</b>	<b>479,634</b>	<b>490,665</b>	<b>501,951</b>	<b>513,496</b>	<b>525,306</b>	<b>537,388</b>
<b>Baguio District</b>	<b>33,873</b>	<b>0.0207</b>	<b>34,652</b>	<b>35,449</b>	<b>36,264</b>	<b>37,098</b>	<b>37,952</b>	<b>38,825</b>	<b>39,718</b>	<b>40,631</b>
Baguio	4,655	0.0029	4,762	4,872	4,984	5,098	5,216	5,335	5,458	5,584
Cadalian	2,446	0.0015	2,502	2,560	2,619	2,679	2,741	2,804	2,868	2,934
Carmen	2,156	0.0013	2,206	2,256	2,308	2,361	2,416	2,471	2,528	2,586
Gumalang	5,081	0.0031	5,198	5,317	5,440	5,565	5,693	5,824	5,958	6,095
Malagos	6,524	0.0040	6,674	6,828	6,985	7,145	7,310	7,478	7,650	7,826
Tambobong	5,993	0.0037	6,131	6,272	6,416	6,564	6,715	6,869	7,027	7,189
Tawan-Tawan	3,889	0.0024	3,978	4,070	4,164	4,259	4,357	4,458	4,560	4,665
Wines	3,129	0.0019	3,201	3,275	3,350	3,427	3,506	3,586	3,669	3,753
<b>Calinan District</b>	<b>92,075</b>	<b>0.0564</b>	<b>94,193</b>	<b>96,359</b>	<b>98,575</b>	<b>100,843</b>	<b>103,162</b>	<b>105,535</b>	<b>107,962</b>	<b>110,445</b>
Biao Joaquin	2,289	0.0014	2,342	2,396	2,451	2,507	2,565	2,624	2,684	2,746
Calinan	23,052	0.0141	23,582	24,125	24,679	25,247	25,828	26,422	27,030	27,651
Cawayan	2,295	0.0014	2,348	2,402	2,457	2,514	2,571	2,630	2,691	2,753
Dacudao	4,418	0.0027	4,520	4,624	4,730	4,839	4,950	5,064	5,180	5,299
Dalagdag	934	0.0006	955	977	1,000	1,023	1,046	1,071	1,095	1,120
Dominga	1,607	0.0010	1,644	1,682	1,720	1,760	1,801	1,842	1,884	1,928
Inayangan	4,832	0.0030	4,943	5,057	5,173	5,292	5,414	5,538	5,666	5,796

Source: PSA, Region XI

**Table DE – 17P. Population Estimation and Projection of Barangays Baguio Proper – Wines, Baguio District and Barangays Biao Joaquin – Inayangan, Calinan District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
<b>Third District</b>	<b>549,748</b>	<b>562,392</b>	<b>575,327</b>	<b>588,560</b>	<b>602,096</b>
<b>Baguio District</b>	<b>41,566</b>	<b>42,522</b>	<b>43,500</b>	<b>44,500</b>	<b>45,524</b>
Baguio	5,712	5,844	5,978	6,115	6,256
Cadalian	3,001	3,071	3,141	3,213	3,287
Carmen	2,646	2,706	2,769	2,832	2,898
Gumalang	6,235	6,378	6,525	6,675	6,829
Malagos	8,006	8,190	8,378	8,571	8,768
Tambobong	7,354	7,523	7,696	7,873	8,054
Tawan-Tawan	4,772	4,882	4,994	5,109	5,227
Wines	3,840	3,928	4,018	4,111	4,205
<b>Calinan District</b>	<b>112,985</b>	<b>115,584</b>	<b>118,243</b>	<b>120,962</b>	<b>123,744</b>
Biao Joaquin	2,809	2,873	2,940	3,007	3,076
Calinan	28,287	28,938	29,603	30,284	30,981
Cawayan	2,816	2,881	2,947	3,015	3,084
Dacudao	5,421	5,546	5,674	5,804	5,938
Dalagdag	1,146	1,172	1,199	1,227	1,255
Dominga	1,972	2,017	2,064	2,111	2,160
Inayangan	5,929	6,066	6,205	6,348	6,494

Source: PSA, Region XI



**Table DE – 17Q. Population Estimation and Projection of Barangays Lacson – Wangan, Calinan District and Barangays Baganihan – Marilog Proper, Marilog District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
Lacson	5,873	0.0036	6,008	6,146	6,288	6,432	6,580	6,732	6,886	7,045
Lamanan	4,538	0.0028	4,642	4,749	4,858	4,970	5,084	5,201	5,321	5,443
Lampianao	845	0.0005	864	884	905	925	947	969	991	1,014
Megkawayan	3,015	0.0018	3,084	3,155	3,228	3,302	3,378	3,456	3,535	3,617
Pangyan	2,035	0.0012	2,082	2,130	2,179	2,229	2,280	2,332	2,386	2,441
Riverside	5,450	0.0033	5,575	5,704	5,835	5,969	6,106	6,247	6,390	6,537
Saloy	2,112	0.0013	2,161	2,210	2,261	2,313	2,366	2,421	2,476	2,533
Sirib	5,199	0.0032	5,319	5,441	5,566	5,694	5,825	5,959	6,096	6,236
Subasta	3,641	0.0022	3,725	3,810	3,898	3,988	4,079	4,173	4,269	4,367
Talomo River	6,846	0.0042	7,003	7,165	7,329	7,498	7,670	7,847	8,027	8,212
Tamayong	7,273	0.0045	7,440	7,611	7,786	7,966	8,149	8,336	8,528	8,724
Wangan	5,821	0.0036	5,955	6,092	6,232	6,375	6,522	6,672	6,825	6,982
<b>Marilog District</b>	<b>52,201</b>	<b>0.0320</b>	<b>53,402</b>	<b>54,630</b>	<b>55,886</b>	<b>57,172</b>	<b>58,487</b>	<b>59,832</b>	<b>61,208</b>	<b>62,616</b>
Baganihan	1,295	0.0008	1,325	1,355	1,386	1,418	1,451	1,484	1,518	1,553
Bantol	2,324	0.0014	2,377	2,432	2,488	2,545	2,604	2,664	2,725	2,788
Buda	1,885	0.0012	1,928	1,973	2,018	2,064	2,112	2,161	2,210	2,261
Dalag	1,864	0.0011	1,907	1,951	1,996	2,041	2,088	2,136	2,186	2,236
Datu Salumay	2,232	0.0014	2,283	2,336	2,390	2,445	2,501	2,558	2,617	2,677
Gumitan	1,756	0.0011	1,796	1,838	1,880	1,923	1,967	2,013	2,059	2,106
Magsaysay	2,425	0.0015	2,481	2,538	2,596	2,656	2,717	2,779	2,843	2,909
Malamba	4,864	0.0030	4,976	5,090	5,207	5,327	5,450	5,575	5,703	5,834
Marilog	16,188	0.0099	16,560	16,941	17,331	17,729	18,137	18,554	18,981	19,418

Source: PSA, Region XI

**Table DE – 17R. Population Estimation and Projection of Barangays Lacson – Wangan, Calinan District and Barangays Baganihan – Marilog Proper, Marilog District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
Lacson	7,207	7,373	7,542	7,716	7,893
Lamanan	5,569	5,697	5,828	5,962	6,099
Lampianao	1,037	1,061	1,085	1,110	1,136
Megkawayan	3,700	3,785	3,872	3,961	4,052
Pangyan	2,497	2,555	2,613	2,673	2,735
Riverside	6,688	6,842	6,999	7,160	7,325
Saloy	2,592	2,651	2,712	2,775	2,838
Sirib	6,380	6,526	6,677	6,830	6,987
Subasta	4,468	4,571	4,676	4,783	4,893
Talomo River	8,401	8,594	8,792	8,994	9,201
Tamayong	8,925	9,130	9,340	9,555	9,775
Wangan	7,143	7,307	7,475	7,647	7,823
<b>Marilog District</b>	<b>64,056</b>	<b>65,529</b>	<b>67,036</b>	<b>68,578</b>	<b>70,156</b>
Baganihan	1,589	1,626	1,663	1,701	1,740
Bantol	2,852	2,917	2,984	3,053	3,123
Buda	2,313	2,366	2,421	2,476	2,533
Dalag	2,287	2,340	2,394	2,449	2,505
Datu Salumay	2,739	2,802	2,866	2,932	3,000
Gumitan	2,155	2,204	2,255	2,307	2,360
Magsaysay	2,976	3,044	3,114	3,186	3,259
Malamba	5,969	6,106	6,246	6,390	6,537
Marilog	19,864	20,321	20,789	21,267	21,756

Source: PSA, Region XI

**Table DE – 17S. Population Estimation and Projection of Barangays Salaysay – Tamugan, Marilog District and Barangays Daliao – Tagluno, Toril District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participation Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
Salaysay	4,431	0.0027	4,533	4,637	4,744	4,853	4,965	5,079	5,196	5,315
Suawan (Tuli)	4,586	0.0028	4,691	4,799	4,910	5,023	5,138	5,256	5,377	5,501
Tamugan	8,351	0.0051	8,543	8,740	8,941	9,146	9,357	9,572	9,792	10,017
<b>Toril District</b>	<b>148,522</b>	<b>0.0910</b>	<b>151,938</b>	<b>155,433</b>	<b>159,008</b>	<b>162,665</b>	<b>166,406</b>	<b>170,233</b>	<b>174,149</b>	<b>178,154</b>
Alambre	2,010	0.0012	2,056	2,104	2,152	2,201	2,252	2,304	2,357	2,411
Atan-Awe	1,119	0.0007	1,145	1,171	1,198	1,226	1,254	1,283	1,312	1,342
Bangkas Heights	7,671	0.0047	7,847	8,028	8,213	8,401	8,595	8,792	8,995	9,201
Baracatan	2,895	0.0018	2,962	3,030	3,099	3,171	3,244	3,318	3,395	3,473
Bato	10,007	0.0061	10,237	10,473	10,713	10,960	11,212	11,470	11,734	12,004
Bayabas	2,989	0.0018	3,058	3,128	3,200	3,274	3,349	3,426	3,505	3,585
Binugao	6,934	0.0042	7,093	7,257	7,424	7,594	7,769	7,948	8,130	8,317
Camansi	1,189	0.0007	1,216	1,244	1,273	1,302	1,332	1,363	1,394	1,426
Catigan	3,044	0.0019	3,114	3,186	3,259	3,334	3,411	3,489	3,569	3,651
Crossing Bayabas	11,490	0.0070	11,754	12,025	12,301	12,584	12,874	13,170	13,473	13,782
Daliao	21,124	0.0129	21,610	22,107	22,615	23,135	23,668	24,212	24,769	25,339
Daliaon Plantation	3,214	0.0020	3,288	3,364	3,441	3,520	3,601	3,684	3,769	3,855
Eden	2,385	0.0015	2,440	2,496	2,553	2,612	2,672	2,734	2,797	2,861
Kilate	1,309	0.0008	1,339	1,370	1,401	1,434	1,467	1,500	1,535	1,570
Lizada	20,112	0.0123	20,575	21,048	21,532	22,027	22,534	23,052	23,582	24,125
Lubogan	12,156	0.0074	12,436	12,722	13,014	13,314	13,620	13,933	14,253	14,581
Marapangi	6,889	0.0042	7,047	7,210	7,375	7,545	7,719	7,896	8,078	8,263
Mulig	2,477	0.0015	2,534	2,592	2,652	2,713	2,775	2,839	2,904	2,971
Sibulan	2,479	0.0015	2,536	2,594	2,654	2,715	2,778	2,841	2,907	2,974
Sirawan	7,140	0.0044	7,304	7,472	7,644	7,820	8,000	8,184	8,372	8,565
Tagluno	1,391	0.0009	1,423	1,456	1,489	1,523	1,558	1,594	1,631	1,669

Source: PSA, Region XI



**Table DE – 17T. Population Estimation and Projection of Barangays Salaysay – Tamugan, Marilog District and Barangays Daliao – Tagluno, Toril District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
Salaysay	5,437	5,562	5,690	5,821	5,955
Suawan (Tuli)	5,627	5,757	5,889	6,025	6,163
Tamugan	10,248	10,483	10,724	10,971	11,223
<b>Toril District</b>	<b>182,252</b>	<b>186,443</b>	<b>190,732</b>	<b>195,118</b>	<b>199,606</b>
Alambre	2,466	2,523	2,581	2,641	2,701
Atan-Awe	1,373	1,405	1,437	1,470	1,504
Bangkas Heights	9,413	9,630	9,851	10,078	10,309
Baracatan	3,552	3,634	3,718	3,803	3,891
Bato	12,280	12,562	12,851	13,147	13,449
Bayabas	3,668	3,752	3,838	3,927	4,017
Binugao	8,509	8,704	8,905	9,109	9,319
Camansi	1,459	1,493	1,527	1,562	1,598
Catigan	3,735	3,821	3,909	3,999	4,091
Crossing Bayabas	14,099	14,424	14,755	15,095	15,442
Daliao	25,921	26,517	27,127	27,751	28,390
Daliaon Plantation	3,944	4,035	4,127	4,222	4,319
Eden	2,927	2,994	3,063	3,133	3,205
Kilate	1,606	1,643	1,681	1,720	1,759
Lizada	24,679	25,247	25,828	26,422	27,030
Lubogan	14,917	15,260	15,611	15,970	16,337
Marapangi	8,454	8,648	8,847	9,050	9,258
Mulig	3,181	3,254	3,329	3,406	3,484
Sibulan	3,042	3,112	3,184	3,257	3,332
Sirawan	8,762	8,963	9,169	9,380	9,596
Tagluno	1,707	1,746	1,786	1,827	1,869

Source: PSA, Region XI

**Table DE – 17U. Population Projection of Barangays Tagurano-Tungkalan, Toril District and Barangays Angalan-Ula, Tugbok District, Davao City, 2015-2023**

Barangay	2015 (Base Year)	Participa- tion Rate (PR)	Projected Population							
			2016	2017	2018	2019	2020	2021	2022	2023
Tagurano	1,230	0.0008	1,258	1,287	1,317	1,347	1,378	1,410	1,442	1,475
Tibuloy	2,218	0.0014	2,269	2,321	2,375	2,429	2,485	2,542	2,601	2,661
Toril (Pob.)	12,140	0.0074	12,419	12,705	12,997	13,296	13,602	13,915	14,235	14,562
Tungkalan	2,910	0.0018	2,977	3,045	3,115	3,187	3,260	3,335	3,412	3,491
<b>Tugbok Dis- trict</b>	<b>121,334</b>	<b>0.0743</b>	<b>124,125</b>	<b>126,980</b>	<b>129,900</b>	<b>132,888</b>	<b>135,944</b>	<b>139,071</b>	<b>142,270</b>	<b>145,542</b>
Angalan	2,475	0.0015	2,532	2,590	2,650	2,711	2,773	2,837	2,902	2,969
Bago Oshiro	11,932	0.0073	12,206	12,487	12,774	13,068	13,369	13,676	13,991	14,313
Balengaeng	2,086	0.0013	2,134	2,183	2,233	2,285	2,337	2,391	2,446	2,502
Biao Escuela	3,294	0.0020	3,370	3,447	3,527	3,608	3,691	3,776	3,862	3,951
Biao Gui- anga	3,664	0.0022	3,748	3,834	3,923	4,013	4,105	4,200	4,296	4,395
Los Amigos	9,722	0.0060	9,946	10,174	10,408	10,648	10,893	11,143	11,399	11,662
Manambu- lan	2,661	0.0016	2,722	2,785	2,849	2,914	2,981	3,050	3,120	3,192
Manuel Gui- anga	6,436	0.0039	6,584	6,735	6,890	7,049	7,211	7,377	7,546	7,720
Matina Biao	1,811	0.0011	1,853	1,895	1,939	1,983	2,029	2,076	2,123	2,172
Mintal	13,227	0.0081	13,531	13,842	14,161	14,487	14,820	15,161	15,509	15,866
New Carmen	2,626	0.0016	2,686	2,748	2,811	2,876	2,942	3,010	3,079	3,150
New Valen- cia	1,679	0.0010	1,718	1,757	1,798	1,839	1,881	1,924	1,969	2,014
Santo Niño	20,103	0.0123	20,565	21,038	21,522	22,017	22,524	23,042	23,572	24,114
Tacunan	12,773	0.0078	13,067	13,367	13,675	13,989	14,311	14,640	14,977	15,321
Tagakpan	4,208	0.0026	4,305	4,404	4,505	4,609	4,715	4,823	4,934	5,048
Talandang	3,392	0.0021	3,470	3,550	3,631	3,715	3,800	3,888	3,977	4,069
Tugbok	15,115	0.0093	15,463	15,818	16,182	16,554	16,935	17,325	17,723	18,131
Ula	4,130	0.0025	4,225	4,322	4,422	4,523	4,627	4,734	4,843	4,954

Source: PSA, Region XI

**Table DE – 17V. Population Projection of Barangays Tagurano-Tungkalan, Toril District and  
Barangays Angalan-Ula, Tugbok District, Davao City, 2024-2028**

Barangay	Projected Population				
	2024	2025	2026	2027	2028
Tagurano	1,509	1,544	1,580	1,616	1,653
Tibuloy	2,722	2,784	2,848	2,914	2,981
Toril (Pob.)	14,897	15,240	15,590	15,949	16,316
Tungkalan	3,571	3,653	3,737	3,823	3,911
<b>Tugbok District</b>	<b>148,889</b>	<b>152,314</b>	<b>155,817</b>	<b>159,401</b>	<b>163,067</b>
Angalan	3,037	3,107	3,178	3,251	3,326
Bago Oshiro	14,642	14,979	15,323	15,675	16,036
Balengaeng	2,560	2,619	2,679	2,740	2,803
Biao Escuela	4,042	4,135	4,230	4,327	4,427
Biao Guianga	4,496	4,600	4,705	4,814	4,924
Los Amigos	11,930	12,204	12,485	12,772	13,066
Manambulan	3,265	3,340	3,417	3,496	3,576
Manuel Guianga	7,898	8,079	8,265	8,455	8,650
Matina Biao	2,222	2,273	2,326	2,379	2,434
Mintal	16,231	16,604	16,986	17,377	17,776
New Carmen	3,222	3,296	3,372	3,450	3,529
New Valencia	2,060	2,108	2,156	2,206	2,256
Santo Niño	24,668	25,236	25,816	26,410	27,017
Tacunan	15,674	16,034	16,403	16,780	17,166
Tagakpan	5,164	5,282	5,404	5,528	5,655
Talandang	4,162	4,258	4,356	4,456	4,559
Tugbok	18,548	18,974	19,411	19,857	20,314
Ula	5,068	5,184	5,304	5,426	5,551

Source: PSA, Region XI

## Projected School-Age Population, Labor Force, and Dependent Population

Household population is projected to reach 2,180,461 by 2028. With the continuous growth, the school-going population, aged three (3) to 21 years old, is expected to increase to 846,284; while labor force, aged 15 years old and above, would spur to 1,513,918. Dependent old and young population would also grow to 753,963 by 2028.

**Table DE – 18A. Estimated and Projected School-Age Population, Labor Force, and Dependent Population, Davao City, 2015-2022**

Grouping	2015 (Base Year)	Participation Rate	Projected Population						
			2016	2017	2018	2019	2020	2021	2022
<b>School-going Population</b>	<b>629,699</b>	<b>0.38</b>	<b>644,182</b>	<b>658,998</b>	<b>674,155</b>	<b>689,661</b>	<b>705,523</b>	<b>721,750</b>	<b>738,350</b>
Pre-School	134,824	0.21	137,925	141,097	144,342	147,662	151,059	154,533	158,087
Elementary	196,430	0.31	200,948	205,570	210,298	215,135	220,083	225,145	230,323
Secondary	126,156	0.20	129,058	132,026	135,063	138,169	141,347	144,598	147,924
Tertiary	172,289	0.27	176,252	180,305	184,452	188,695	193,035	197,475	202,017
<b>Labor Force</b>	<b>1,126,469</b>	<b>0.69</b>	<b>1,152,378</b>	<b>1,178,882</b>	<b>1,205,997</b>	<b>1,233,735</b>	<b>1,262,111</b>	<b>1,291,139</b>	<b>1,320,835</b>
<b>Dependent</b>	<b>561,005</b>	<b>0.35</b>	<b>573,908</b>	<b>587,108</b>	<b>600,611</b>	<b>614,426</b>	<b>628,557</b>	<b>643,014</b>	<b>657,803</b>
Young (0-14)	495,538	0.88	506,935	518,595	530,523	542,725	555,207	567,977	581,040
Old (65 and over)	65,467	0.11	66,973	68,513	70,089	71,701	73,350	75,037	76,763
<b>Household Population</b>	<b>1,622,427</b>	<b>1</b>	<b>1,659,743</b>	<b>1,697,917</b>	<b>1,736,969</b>	<b>1,776,919</b>	<b>1,817,788</b>	<b>1,859,598</b>	<b>1,902,368</b>

Source: PSA, Region XI



**Table DE – 18B. Estimated and Projected School-Age Population, Labor Force, and Dependent Population, Davao City, 2023-2028**

Grouping	Projected Population					
	2023	2024	2025	2026	2027	2028
<b>School-going Population</b>	<b>755,332</b>	<b>772,705</b>	<b>790,477</b>	<b>808,658</b>	<b>827,257</b>	<b>846,284</b>
Pre-School	161,723	165,443	169,248	173,141	177,123	181,197
Elementary	235,620	241,040	246,584	252,255	258,057	263,992
Secondary	151,326	154,806	158,367	162,009	165,735	169,547
Tertiary	206,663	211,416	216,279	221,253	226,342	231,548
<b>Labor Force</b>	<b>1,351,215</b>	<b>1,382,292</b>	<b>1,414,085</b>	<b>1,446,609</b>	<b>1,479,881</b>	<b>1,513,918</b>
<b>Dependent</b>	<b>672,933</b>	<b>688,410</b>	<b>704,244</b>	<b>720,441</b>	<b>737,012</b>	<b>753,963</b>
Young (0-14)	594,404	608,076	622,061	636,369	651,005	665,978
Old (65 and over)	78,529	80,335	82,182	84,073	86,006	87,984
<b>Household Population</b>	<b>1,946,123</b>	<b>1,990,884</b>	<b>2,036,673</b>	<b>2,083,517</b>	<b>2,131,438</b>	<b>2,180,461</b>

Source: PSA, Region XI

## Population Doubling Time<sup>12</sup>

With the current population growth rate of 2.30%, the city's population is projected to double by 2045 from its actual population of 1,632,991 in 2015. The city will have to consider in its planning process the allocation of living and working spaces and improving its services to be able to meet the potential demand.

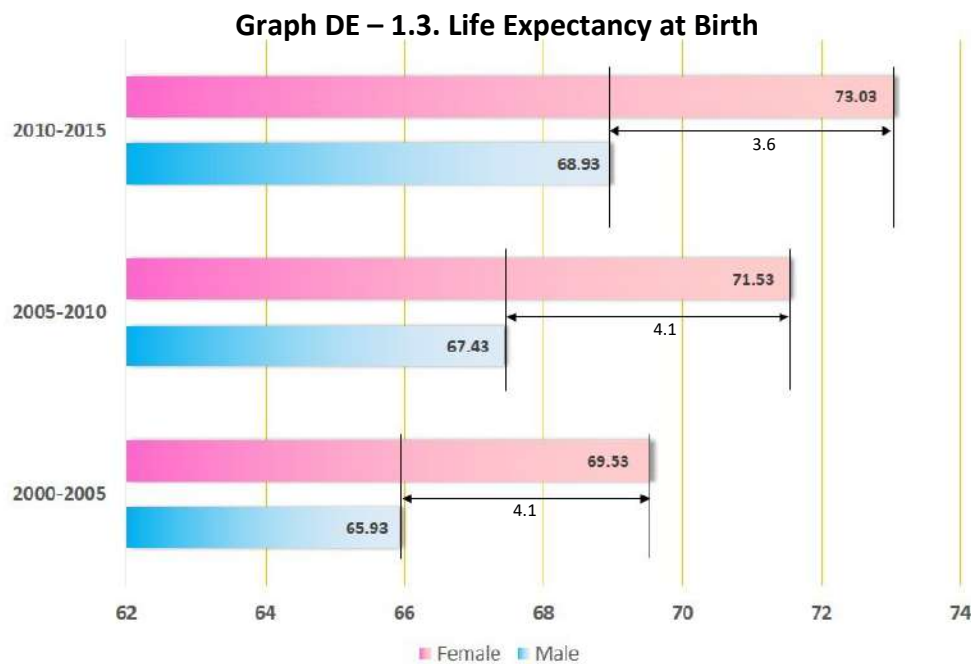
## Life Expectancy

As of 2015, the average life expectancy of males is 68.93 while the average life expectancy of females is 73.03. The average life expectancy of females is four years higher than those of the average life expectancy of males. The lack of willingness to give importance to one's health is among the factors why most males aged 65 years old and above, die younger than females of the same age bracket. This trend is almost similar from two decades ago when the life expectancy of females was higher than of those of males.


**Table DE – 19. Life Expectancy at Birth**

Years	Life Expectancy at Birth		Difference (F-M)
	Male	Female	
2000-2005	65.93	69.53	3.6
2005-2010	67.43	71.53	4.1
2010-2015	68.93	73.03	4.1


Source: PSA, Region XI



<sup>12</sup> Doubling time refers to the length of time a particular population would double its size under a given growth rate.



# PHYSICAL FEATURES



## PHYSICAL FEATURES

### Geographic Location

Davao City is located in the southeastern part of Mindanao, lying in the grid squares of 6 58' to 7 34' N latitude, and 125 14' to 125 40' E longitude. It is bounded in the north by Davao Province; in the east part by Davao Province and Davao Gulf; in the south by Davao del Sur; and in the west by North Cotabato. Davao City is approximately 946 aerial kilometers or 588 statute miles, southeast of Manila.

### Land Area by Barangay

Table 21 shows the land area per barangay distributed in the eleven (11) congressional districts of the City. The largest in terms of land area is the Paquibato District with a size of 65,339.12 hectares followed by Marilog District with an area of 62,886.05 hectares, both located in timberland areas.

**Table PF – 1. Land Area, By Barangay**

Barangay	Land Area (Ha)
<b>Urban</b>	26,911.88
<b>First District</b>	8,410.65
<b>Poblacion</b>	1,165.61
Brgy. 1-A	15.36
Brgy. 2-A	16.38
Brgy. 3-A	20.78
Brgy. 4-A	23.51
Brgy. 5-A	38.10
Brgy. 6-A	15.00
Brgy. 7-A	22.50
Brgy. 8-A	179.80
Brgy. 9-A	27.50
Brgy. 10-A	28.64
Brgy. 11-B	9.57
Brgy. 12-B	17.54
Brgy. 13-B	11.26
Brgy. 14-B	18.41
Brgy. 15-B	31.54
Brgy. 16-B	5.53
Brgy. 17-B	5.63
Brgy. 18-B	19.80
Brgy. 19-B	362.55
Brgy. 20-B	56.58
Brgy. 21-C	8.56

Source: Geographic Information System, OCPDC, Davao City



Table PF – 1. Land Area, By Barangay

Barangay	Land Area (Ha)
Brgy. 22-C	8.71
Brgy. 23-C	21.31
Brgy. 24-C	7.72
Brgy. 25-C	4.96
Brgy. 26-C	8.05
Brgy. 27-C	30.99
Brgy. 28-C	15.71
Brgy. 29-C	10.20
Brgy. 30-C	23.50
Brgy. 31-D	22.60
Brgy. 32-D	17.90
Brgy. 33-D	7.74
Brgy. 34-D	19.63
Brgy. 35-D	7.00
Brgy. 36-D	6.93
Brgy. 37-D	7.10
Brgy. 38-D	9.00
Brgy. 39-D	12.80
Brgy. 40-D	10.02
<b>Talomo</b>	<b>7,245.04</b>
Bago Aplaya	217.35
Bago Gallera	717.82
Baliok	248.28
Bucana	410.51
Catalunan Grande	1,495.06
Catalunan Pequeño	594.49
Dumoy	530.77
Ma-a	999.38
Matina Aplaya	315.49
Matina Crossing	488.82
Matina Pangi	584.12
Talomo Proper	642.95
<b>Second District</b>	<b>8,183.61</b>
<b>Agdao</b>	<b>530.45</b>
Agdao Proper	38.29
Centro San Juan	43.48
Gov. Paciano Bangoy	81.47
Gov. Vicente Duterte	52.02
Kapt. Tomas Monteverde	19.52
Lapu-Lapu	59.99

Source: Geographic Information System, OCPDC, Davao City

Table PF – 1. Land Area, By Barangay

Barangay	Land Area (Ha)
Leon Garcia	19.03
Rafael Castillo	44.54
San Antonio	89.88
Ubalde	9.98
Wilfredo Aquino	72.26
<b>Buhangin</b>	3,465.85
Angliongto	288.36
Buhangin Proper	672.24
Cabantian	757.62
Hizon	218.66
Sasa	767.66
Tigatto	761.31
<b>Bunawan</b>	4,187.31
Alejandro Navarro	626.58
Bunawan Pob.	769.18
Ilang	570.60
Mahayag	803.81
Panacan	698.12
Tibungco	719.02
Alejandro Navarro	626.58
Bunawan Pob.	769.18
Ilang	570.60
Mahayag	803.81
Panacan	698.12
Tibungco	719.02
<b>Third District</b>	10,317.62
<b>Baguio</b>	3,632.11
Baguio Proper	848.74
Gumalang	1,572.78
Malagos	1,210.59
<b>Calinan</b>	7,126
Calinan Proper	830.55
Riverside	514.85
<b>Toril</b>	3,005.32
Crossing Bayabas	223.35
Daliao	194.55
Daliao Plantation	1,036.93
Eden	773.77
Lizada	436.16
Lubogan	208.96

Source: Geographic Information System, OCPDC, Davao City

Table PF – 1. Land Area, By Barangay

Barangay	Land Area (Ha)
Toril Proper	131.60
<b>Tugbok</b>	2,334.79
Los Amigos	445.49
Mintal	752.19
Sto. Niño	147.32
Tugbok Proper	989.79
<b>Rural</b>	191,913.59
<b>First District</b>	1,316.09
<b>Talomo</b>	1,316.09
Langub	853.20
Magtuod	462.89
<b>Second District</b>	73,400.30
<b>Buhangin</b>	5,857.54
Acacia	920.34
Callawa	1,354.75
Communal	584.65
Indangan	1,474.13
Mandug	969.19
Pampanga	117.51
Waan	436.97
<b>Bunawan</b>	2,203.64
Gatungan	887.01
Mudiang	686.30
San Isidro	630.33
<b>Paquibato</b>	65,339.12
Colosas	13,201.08
Fatima	3,093.73
Lumiad	3,206.09
Mabuhay	1,421.06
Malabog	8,268.79
Mapula	8,957.47
Pañalum	1,131.41
Pandaitan	4,078.59
Paquibato Proper	3,511.00
Paradise Embac	2,743.47
Salapawan	2,779.91
Sumimao	2,539.79
Tapak	10,406.75

Source: Geographic Information System, OCPDC, Davao City

Table PF – 1. Land Area, By Barangay

Barangay	Land Area (Ha)
<b>Third District</b>	117,197.20
<b>Baguio District</b>	4,430.38
Cadalian	628.15
Carmen	806.01
Tambobong	1,230.05
Tawan-Tawan	974.39
Wines	791.78
<b>Calinan</b>	21,220.65
Biao Joaquin	551.62
Cawayan	805.45
Dacudao	1,247.05
Dalagdag	535.12
Dominga	602.11
Inayangan	1,420.54
Lacson	896.96
Lamanan	2,094.88
Lampiano	935.54
Megkawayan	1,844.95
Pangyan	708.97
Saloy	2,291.36
Sirib	2,152.65
Subasta	1,215.88
Talomo River	810.91
Tamayong	1,925.20
Wangan	1,181.46
<b>Marilog</b>	62,886.05
Baganihan	1,062.62
Bantol	1,403.54
Buda	4,292.76
Dalaglumot	3,183.86
Datu Salumay	2,107.50
Gumitan	5,727.67
Magsaysay	5,830.15
Malamba	11,074.12
Marilog Proper	18,031.84
Salaysay	4,467.69
Suawan	4,571.98
Tamugan	1,132.32

Source: Geographic Information System, OCPDC, Davao City



**Table PF – 1. Land Area, By Barangay**

<b>Barangay</b>	<b>Land Area (Ha)</b>
<b>Toril</b>	16,036.40
Alambre	327.41
Atan-Awe	330.88
Bangkas Heights	247.27
Baracatan	1,131.61
Bato	851.61
Bayabas	1,201.36
Binugao	483.32
Camansi	363.18
Catigan	2,401.89
Kilate	644.90
Marapangi	703.76
Mulig	998.88
Sibulan	1,699.90
Sirawan	963.70
Tagluno	564.16
Tagurano	505.28
Tibuloy	833.64
Tungkalan	1,783.65
<b>Tugbok</b>	12,623.72
Angalan	481.31
Bago Oshiro	637.28
Balengaeng	478.85
Biao Escuela	1,284.20
Biao Guianga	500.91
Manambulan	768.50
Manuel Guianga	901.32
Matina Biao	1,578.20
New Carmen	1,107.90
New Valencia	954.12
Tacunan	906.70
Tagakpan	749.73
Talandang	1,333.40
Ula	941.30

Source: Geographic Information System, OCPDC, Davao City

## Topography

### A. Elevation

Davao City is rich with resources from ridge to reef. Topographically, a substantial part of Davao City is mountainous, characterized by extensive mountain ranges with uneven distribution of plateaus and lowlands.

Under Table 22, four percent (4%) of the city's total land area is mountainous, which has an elevation of over 1,500 meters above mean sea level (mamsl). Ten percent (10%) are also steep that are located within the bounds of 1,001 to 1,500 mamsl. The City also has areas with slightly high elevation of 501 to 1,000 mamsl, which span to 66,475.32 hectares or 27% of the City's total land area. A large portion of the City, on the other hand, have lower elevation of below 500 mamsl, which span a total of 143,060.23 hectares (Map 1.2, see next page).

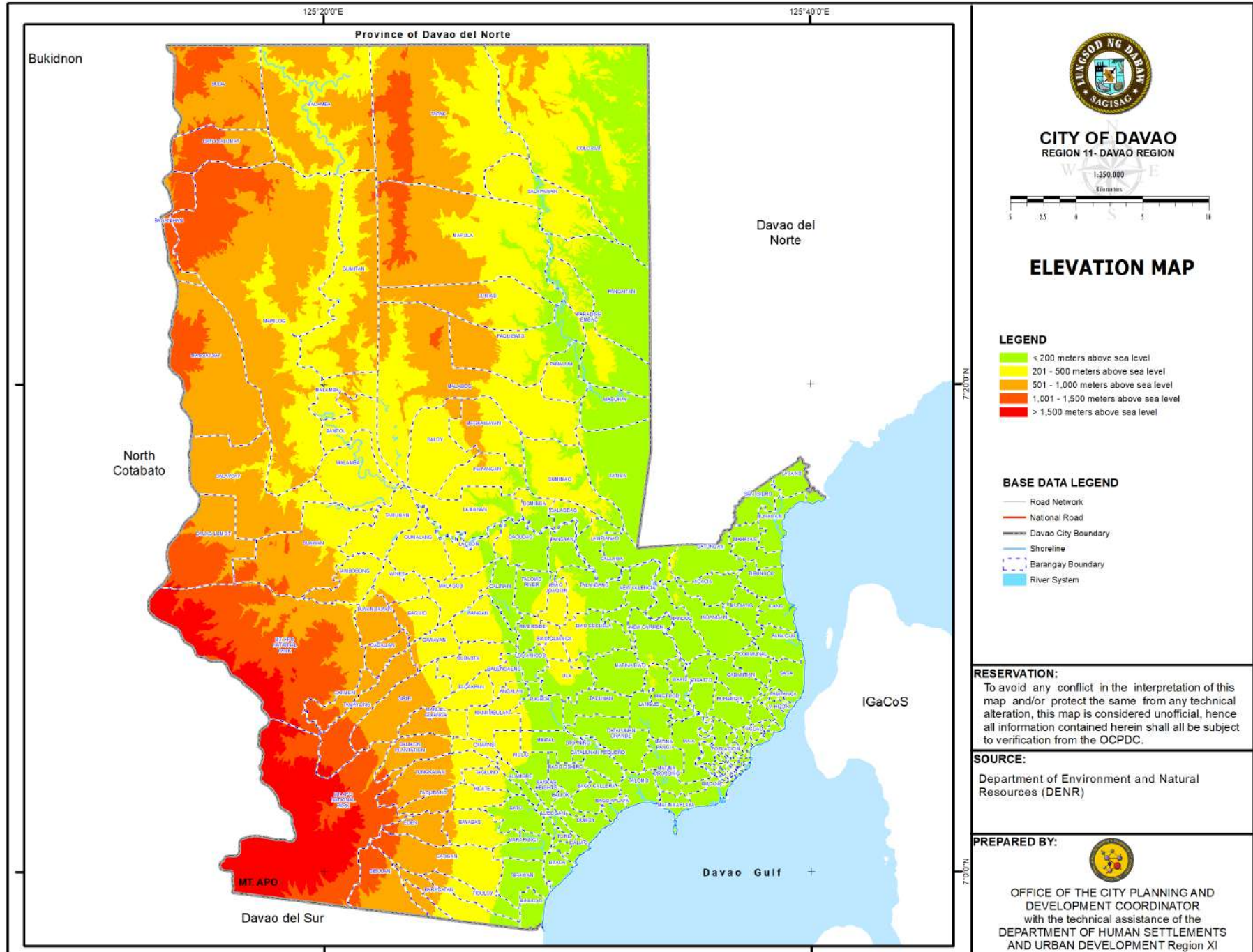
**Table PF – 2. Elevation, Davao City**

<b>Elevation Category (mamsl)</b>	<b>Area (Ha)</b>
<200	67,871.06
201-500	75,189.17
501-1,000	66,475.32
1,001-1,500	24,370.26
>1,500	10,094.59
<b>Total</b>	<b>244,000.39</b>

*Source: Department of Environment and Natural Resources, Region*

*XI*

Map 2.1. Elevation, Davao City



PF-01

## B. Slope

Table 23 shows that 26% of the city's total land area has a slope range of 50% and above. These slopes are very steep, which are often excessively eroded, shallow, rough, and dry for cultivation. The Bureau of Soils and Water Management (BSWM) cites that slopes with over 50% in range are suitable for forest or pasture, provided that there shall be definite restrictions to protect the forest and wildlife. Twenty three percent (23%) of the city's territory, meanwhile, have a slope range of 30-50%. These are steep slopes that are also suitable for forest and pasture. The BSWM explains that these slopes can be as well developed into plantation crops for exotic fruit trees and other permanent crops.

At least 22% of the city's land area has a slope range of zero (0) to eight percent (8%). These are level-gently sloping-undulating slopes. The BSWM cites that these are good lands fit for crop cultivation. Upland plains and river terrace cover slopes that range zero (0) to three percent (3%), which are either irrigated or rain-fed and considered as prime agricultural lands. The rest of the City's territory have slopes that are rolling slopes or rolling to moderately steep slopes. Slopes that range between eight (8) to 18% have to be cultivated with caution as these need carefully planned soil conservation measures to prevent soil erosion. Slopes ranging from 18 to 30% are located in rolling areas, which are best suited for pasture or forest. Cultivation of crops are allowed, provided that proper mitigating measures shall be pursued in rolling areas (Map 1.3, see next page).

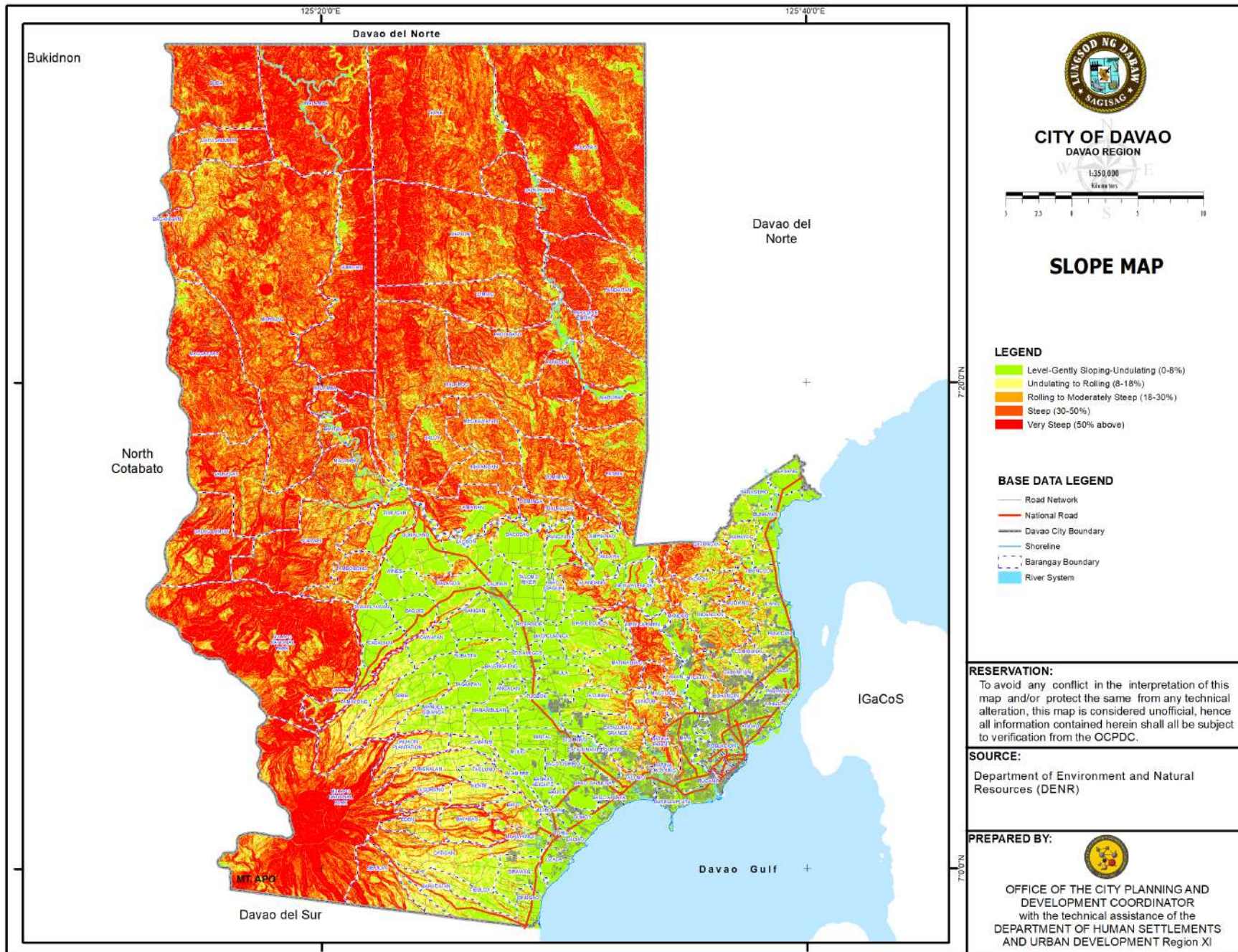
**Table PF-3. Slope, Davao City**

<b>Slope Category</b>	<b>Area (Ha)</b>
Level-Gently Sloping-Undulating (0-8%)	54,680.14
Rolling to Moderately Steep (18-30%)	37,303.87
Steep (30-50%)	55,861.31
Undulating to Rolling (8-18%)	33,643.64
Very Steep (50% above)	62,511.08
<b>Total</b>	<b>244,000.39</b>

*Source: Department of Environment and Natural Resources, Region XI*



Map 2.2. Slope, Davao City



PF-03

## Climate/Rainfall

Davao City falls under the Type IV climate of the Coronas Climate Classification System of the Philippine Atmospheric, Geophysical and Astronomical Sciences Administration (PAGASA). This climate type connotes that the rainfall is almost evenly distributed throughout the year.

In this section, the provincial data of Davao del Sur shows climate trends in baseline period, from 1971 to 2000, and projected changes for the years 2036 to 2065 as bared in the Climate Change in the Philippines publication of PAGASA. A Representative Concentration Pathway (RCP) scenario of 8.5 is integrated in the climate trends to easily determine what would be the climate whenever there are high levels of Greenhouse Gas Emissions. The simulation of worst case scenario provides an image on what are the mitigating measures that should pursued and established to prevent high levels of greenhouse gas emissions.

Table 24 (see next page) shows the projected temperature data of Davao del Sur. By 2036 to 2065, Davao del Sur's temperature is projected to slightly increase to 30°C from 27.8°C particularly in the months of March, April, and May. On the other hand, Table PF – 4 (see next page) bared the projected rainfall data of Davao del Sur. The amount of rainfall is projected to increase by 584.4 millimeters (mm) by 2036 to 2065 from 494.1 mm in base-line period of 1971 to 2000, specifically during Habagat or Southwest Monsoon season from June to August. The Southwest Monsoon is expected to bring heavy rainfall, which usually occurs in the months of June to October.

**Table PF-4A. Seasonal Temperature Increases in 2036-2065 Under High-Range Emission Scenario, Davao del Sur**

Province	Observed (in °C) 1971 – 2000				Scenario	Range	Projected (in °C) 2036-2065							
	DJF	MAM	JJA	SON			DJF (Dec-Jan-Feb)		MAM (Mar-Apr-May)		JJA (Jun-Jul-Aug)		SON (Sept-Oct-Nov)	
							% Change	Projected Value	% Change	Projected Value	% Change	Projected Value	% Change	Projected Value
Davao del Sur	26.9	27.8	26.9	27.1	High Emission (RCP 8.5)	Lower Bound	1.3	28.2	1.4	29.2	1.3	28.2	1.3	28.4
						Median	1.6	28.5	1.7	29.5	1.6	28.5	1.6	28.7
						Upper Bound	2.2	29.1	2.3	30.1	2.3	29.2	2.2	29.3

Source: PAGASA Final Observed Climate Trends and Projected Climate Change in the Philippines, 2018

**Table – PF-4B. Seasonal Rainfall Change in 2036-2065 Under High-Range Emission Scenario, Davao del Sur**

Province	Observed (in mm) 1971 – 2000				Scenario	Range	Projected (in mm) 2036-2065							
	DJF	MAM	JJA	SON			DJF (Dec-Jan-Feb)		MAM (Mar-Apr-May)		JJA (Jun-Jul-Aug)		SON (Sept-Oct-Nov)	
							% Change	Projected Value	% Change	Projected Value	% Change	Projected Value	% Change	Projected Value
Davao del Sur	288.1	347.1	494.1	442.3	High Emission (RCP 8.5)	Lower Bound	-8.4	263.9	-6.4	325	-7.1	459.2	-14.4	378.5
						Median	-0.9	285.6	2.1	354.2	4.4	515.6	-10.1	397.8
						Upper Bound	16	334.2	15.4	400.4	18.3	584.4	8.2	478.4

Source: PAGASA Final Observed Climate Trends and Projected Climate Change in the Philippines, 2018

## Basic Soil Type

The quality of the soil in Davao City differs in terms of color, texture, depth, drainage, relief, permeability, and fertility. Thirty three percent (33%) of the City's total land area are mountain soils, which are generally shallow and stony (Table 25). Another soil type, which is dominant in Davao City, is *Tugbok clay*, which comprises 32% of the city's total land area. These are situated within undulating to gently rising areas that have igneous rock andesite as source of parent material. All these soil types, as shown in the table below, are determined through the Land Resource Information System (LARIS): These are further categorized into three (3) soil groups: 1.) soils in the plains and valleys; 2.) soils in the intermediate uplands; and soils in the hills and mountains.

**Table PF - 5. Basic Soil Type, Davao City**

Topographic/Soil Type	Source of Parent Material	Dominant Relief	Area (Has)
<b>A. Plains and Valley</b>			
San Miguel Silty Clay Loam	Alluvium from weathering of igneous	Nearly flat to level	2,882.50
Matina Clay Loam	Alluvium from limestones, shale and sandstones	Flat to gently undulating	6,649.75
<b>B. Intermediate Upland</b>			
Tugbok Clay	Igneous rock andesite	Undulating to gently	78,545.85
Faraon Clay	Soft coralline limestone	Undulating to gently rolling	5,151.17
Cabantian Clay	Soft shale with mixtures of weathered gravels and pebbles	Undulating to hilly	19,072.62
<b>C. Hills and Mountains</b>			
Camansa Sandy Clay Loam	Shale and sandstones with weathered gravel and sand	Hilly, mountains	49,859.43
Mountain soils, undifferentiated	Different kinds of igneous and metamorphic rocks	These soils are generally shallow and stony with excessive drainage; inaccessible and not suited for agriculture	80,316.62
Cabangan Clay Loam	-	-	1,522.06
<b>Total</b>	-	-	<b>244,000</b>

Source: Bureau of Soils and Water Management, Region XI



## Geologic Study

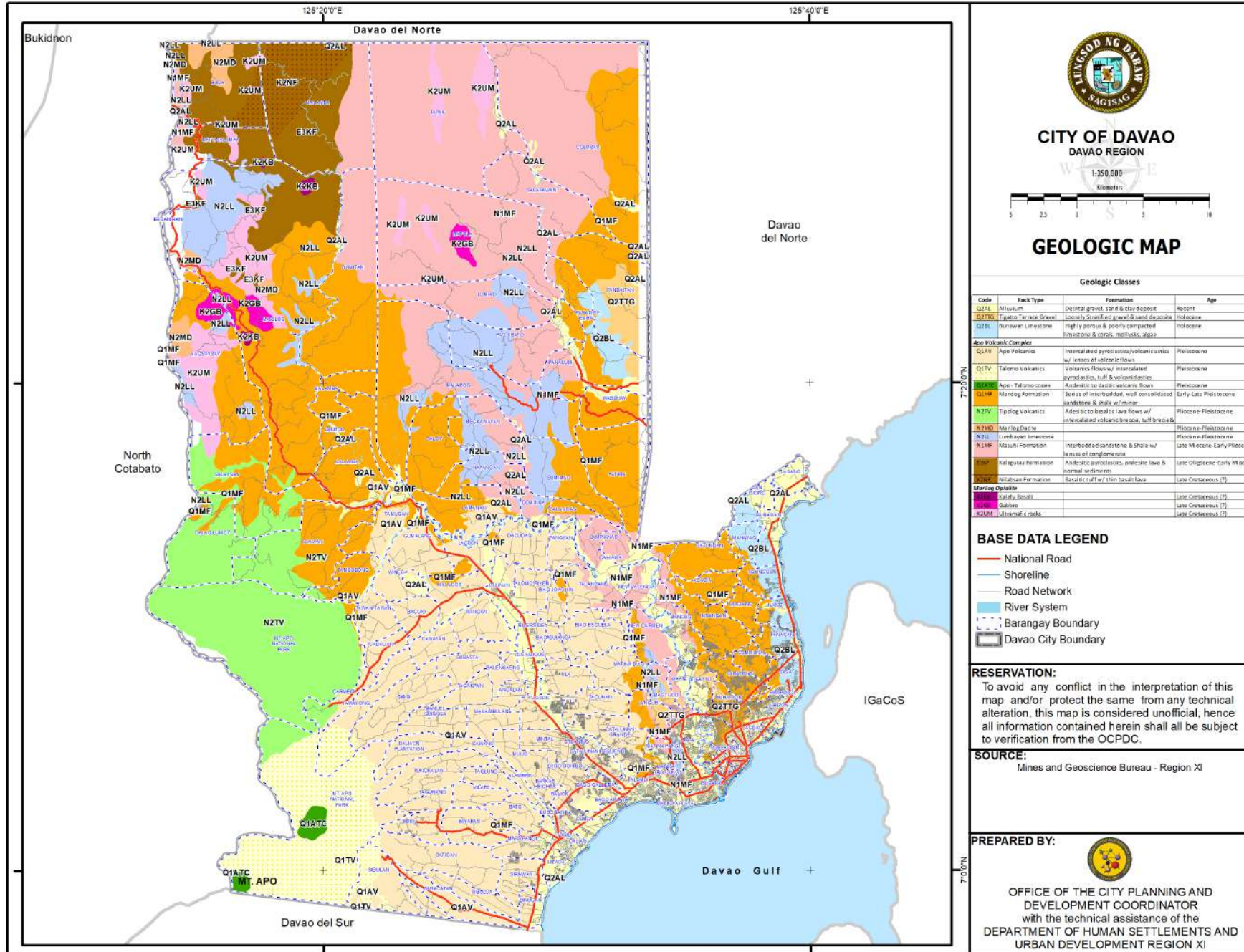
Davao City's geologic strata are largely composed of Apo volcanic complex rocks (Table PF-6). Of the City's total land area, 23% are layered with Mandog formation rocks, which mostly span in Marilog and Paquibato Districts (Map 1.4, see next page). These rocks are formed through a series of well-consolidated sandstones and shales, which already existed in the early to late Pleistocene period. Another dominant rock type in the City is the Apo volcanic rock, which has lenses of volcanic flows that dated in the Pleistocene era. Apo volcanic rocks cover 20% of the City's total land area. These rocks are largely situated in Toril District (17,315.41 hectares) and Tugbok District (10,430.24 hectares). Masuhi formation rocks, on the other hand, comprise 19% of the City's total land area. Most of these rocks are located in Paquibato District (36,183.03 hectares). These are interbedded sandstones and shales with lenses of conglomerate, which existed in the late Miocene and early Pliocene years. The rest of the City have alluvium, Tigatto terrace gravel, Bunawan limestone, Talomo volcanics, Apo-Talomo cores, Tipolog volcanics, Marilog dacite, Lumbayao limestone, Kalagutay formation, Nilabsan formation, Kalafu basalt, gabbro, and ultramafic rocks.

**Table PF – 6. Geologic Study, Davao City**

Rock Type	Area (Ha)
Alluvium	18,593.70
Tigatto Terrace Gravel	2,846.45
Bunawan Limestone	3,606.02
<b><i>Apo Volcanic Complex</i></b>	
Apo Volcanics	47,596.02
Talomo Volcanics	10,122.46
Apo-Talomo Cores	620.56
Mandog Formation	55,896.83
Tipolog Volcanics	18,820.53
Marilog Dacite	1,580.73
Lumbayao Limestone	12,881.87
Masuhi Formation	46,984.37
Kalagutay Formation	9,837.38
Nilabsan Formation	4,128.75
<b><i>Marilog Opiolite</i></b>	
Kalafu Basalt	220.82
Gabbro	1,283.28
Ultramafic Rocks	6,453.96
<b>Total</b>	<b>244,000.39</b>

Source: Mines and Geosciences Bureau, Region XI

Map 2.3. Geological, Davao City



PF-08

## Flood Prone Areas

Davao City is situated in the southern part of Davao Region, facing the Davao Gulf. It also has eight (8) major watersheds.

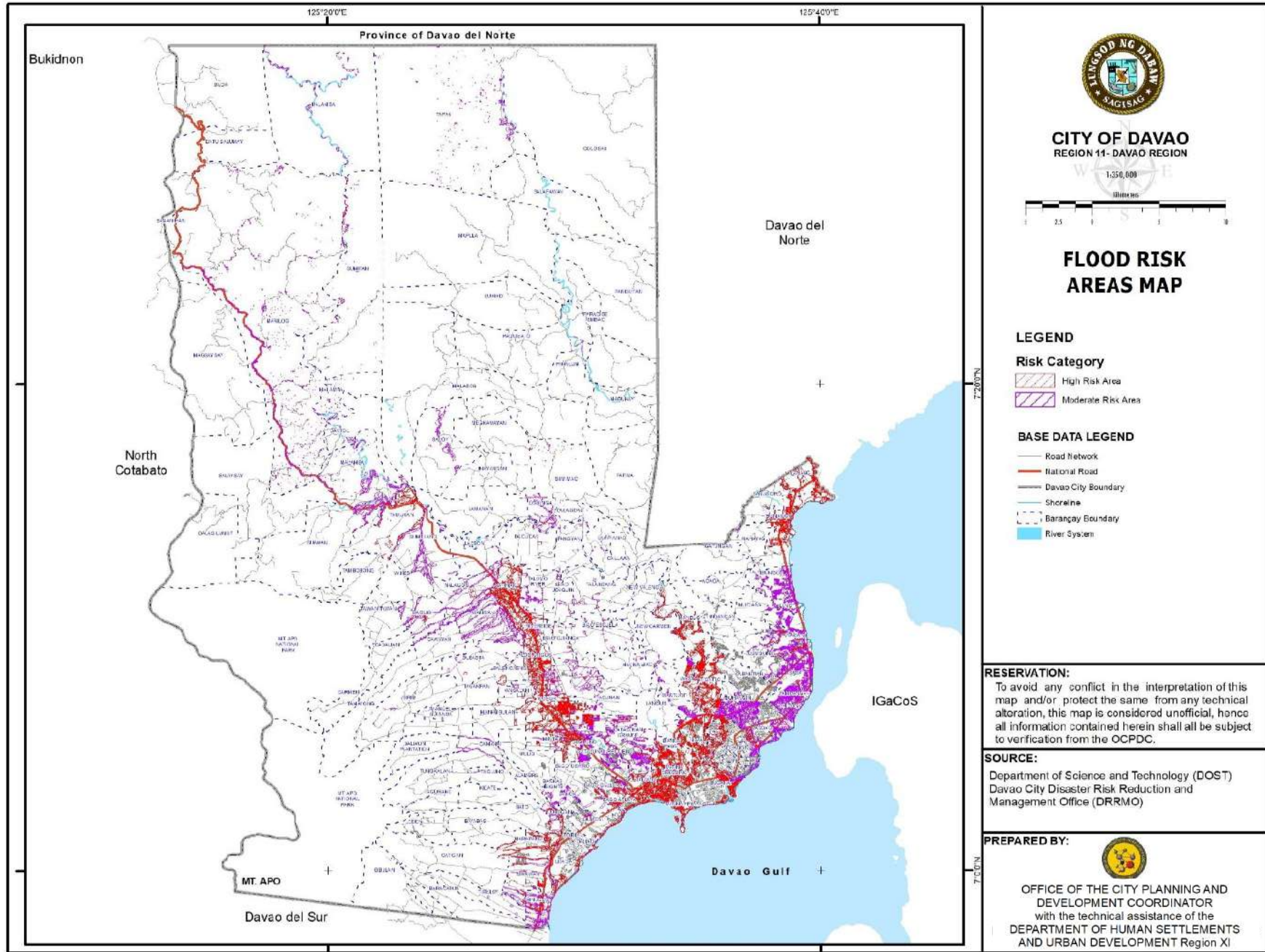
Noting the city's location within this vulnerable topography, almost all of the barangays in Davao City are susceptible to flood except Barangays Baganihan, Buda, Datu Salumay, and Magsaysay in Marilog District.

Seventy-eight percent (78%), or 142 barangays are highly susceptible to flood. These barangays are either located near the watersheds or situated in coastal areas. A total of 124 barangays are also vulnerable to flood, based on the results of the Climate Change Vulnerability Assessment (CCVA).

Flood occurrences have been further observed in 100 barangays, including 21 barangays that are classified as high risk areas (Map 1.5, see next page) where about 20% of the population in a certain village is heavily affected by floods and are in need of immediate assistance. All of these areas immediately experience flooding especially during heavy rainfall occurrences with a flood depth of over one (1) meter.



Map 2.4. Flood Risk Areas, Davao City



PF-70



## Landslide Prone Areas

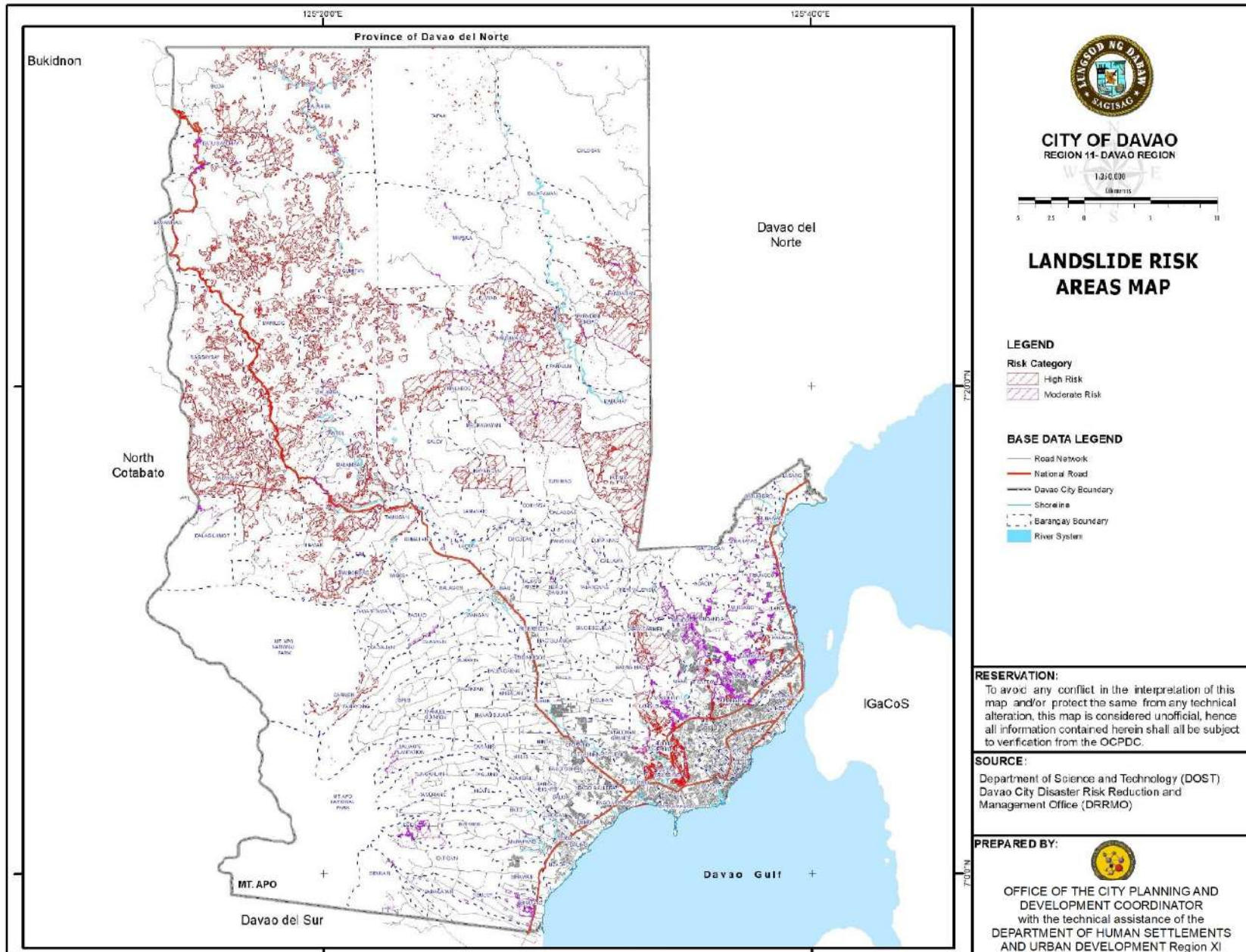
The city is bounded by areas with elevation of less than 200 meters above mean sea level (mamsl) to over 1,500 mamsl. There are also predominance of very steep slopes that cover 26% of the city's total land area.

This location, thus, makes it vulnerable to landslide, which involve the movement of a mass of rock, debris or earth down a slope. Almost all of the areas in Davao City are susceptible to landslide except some portions of Barangays Baganihan, Buda, Datu Salumay, Marilog Proper, and Magsaysay in Marilog District.

Some 50% of the city's barangays are highly susceptible to landslide but notably in the barangays of Gumitan, Malabog, and Eden, which are situated in higher elevation areas. A total of 92 barangays are also classified as both moderately and highly vulnerable to landslide, based on the results of CCVA.

The results of the Disaster Risk Assessment (DRA), on the other hand, bared that 31 barangays have occurrences of landslide, including three (3) barangays that are classified as high risk areas where 20% of the population in a certain village are heavily affected by floods and are in need of immediate assistance (Map 2.5, see next page).

Map 2.5. Land Slide Risk Areas, Davao City



# FOREST ECOSYSTEM

## FOREST ECOSYSTEM

### Situational Analysis

Stakeholders have identified numerous issues when they were engaged in community mapping and group discussion sessions. The issues range from slash-and-burn practices, timber poaching and unsound farming system, to rampant selling of land rights of indigenous peoples' (IPs) to migrants, conversion of forestlands to agricultural use, and undeveloped potential in nature-based tourism. They also cited the high cost of production on high value crops, insufficient agriculture and infrastructure support facilities, as well as presence of armed groups resulting to a challenged peace and order situation in some of the upland barangays.



The threats to forestlands of the city are recurring, intertwined and are mostly by anthropogenic causes. Particular problems are outcome of weak implementation of laws and lack of regulation, but many of these concerns are anchored on poverty-related pressures on community residents. Inequity of land access and access to other basic services which forced people to occupy the protected areas of forestlands to survive were also mentioned.

Given the severe ecosystem changes in the forestlands, the challenge for rehabilitation is an enormous task. Ecosystem alterations are mainly invasive and current environmental restoration efforts may not be sufficient in restoring the area to its ideal condition.

More importantly, finding the balance between the economics of the communities apropos ecological soundness can be efficiently attained by empowering the stakeholders, establishing working procedures on law implementation, and finding sustainable alternative livelihood. This will reduce the use of forest products and lessen the pressure on the forest and forestlands.

### Major Usage and Land Uses of Watersheds/Sub-Watershed

The table below shows us a picture of the prevailing use of the City's watershed areas. Perennial and annual crops can be found in most of the watershed areas while brush and shrubs abound as well.

Other watersheds are utilized as built up areas with inland waters being maximized.



**Table FO–1. Major Usage and Land Uses of Watersheds/Sub-Watershed, 2015**

Watershed	Area in has	Existing Use	Upland-Lowland Link
Davao River Watershed	84,953.09	Annual crop Brush/shrubs Built-up Closed forest Grassland Inland water Open forest Open barren Perennial crop	From Bukidnon to Davao Gulf
Bunawan River Watershed	2,791.22	annual crop brush/shrubs built up fish pond grassland mangrove forest perennial crop	Passing through Davao del Norte draining to Davao Gulf
Lasang River Watershed	25,097.82	Annual crop Brush/shrubs Built up Closed forest Fish pond Grassland Inland water Mangrove forest Open forest Perennial crop	From Davao del Norte passing thru Davao City then back to Davao del Norte draining to Davao Gulf
Lipadas River Watershed	1,479.47	Annual crop Brush/shrubs Built up Perennial crop	Draining to Davao Gulf
Matina River Watershed	93.76	Brush/shrubs Built up Perennial crop	Draining to Davao Gulf
Sibulan River Watershed	107.18	Perennial crop	Going to Davao del Sur, draining to Davao Gulf
Talomo River Watershed	664.84	Brush/shrubs Closed forest Inland water Open forest	Draining to Davao Gulf
Tuganay River Watershed	11,746.49	Brush/shrubs Built up Grassland Inland water Perennial crop	From Davao del Norte passing through Davao City then back to Davao del Norte draining to Davao Gulf

Source: Department of Environment and Natural Resources, Region XI

## Forest Watershed Area of the City of Davao

The Davao River is the largest watershed area of the city with a land area of 84,853.09 hectares. Lasang River comes next with 25,097.82 hectares. Tuganay River is third with 11,746.49 hectares. There are five (5) other watersheds, the land area of which ranges from less than 100 to almost 3,000 hectares.

Brush/shrubs grow in a significant portion of the Davao River covering an area of 64,207.77 hectares, while 19,930.82 hectares are covered with trees and other perennial crops. An area of 18.64 hectares is barren, while 285.77 hectares is utilized as built-up area.

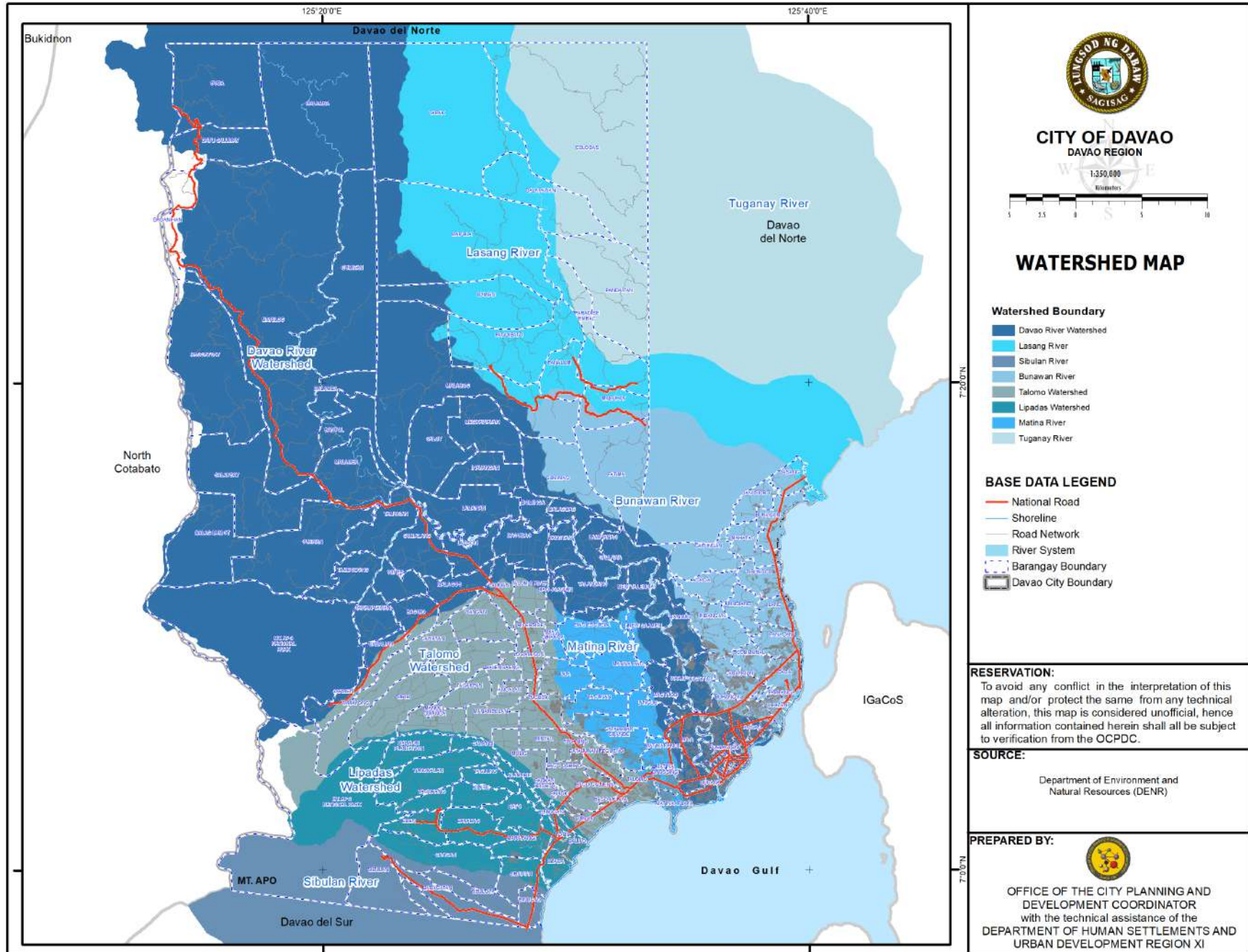
Sibulan River is the most ideal of all the watersheds with 100% vegetative cover, Lipadas River coming in close second at 93%.

**Table FO–2. Forest Watershed Area of the City of Davao, 2015**

Watershed	Area (in ha)	Forest and Other Perennial	Open/Barren	Brush/Shrubs/Grassland	Built-up	%Vegetative Cover
Davao River	84,853.09	19,930.82	18.64	64,207.77	285.77	23.46%
Bunawan River	2,791.22	1,877.02	-	881.01	1.03	67.25%
Lasang River	25,097.82	5,756.13	-	19,184.65	21.66	22.93 %
Lipadas River	1,479.47	1,381.09	-	84.55	13.83	93.35%
Matina River	93.76	40.37	-	45.82	7.56	43.06 %
Sibulan River	107.18	107.18	-	-	-	100.00%
Talomo River	664.84	597.25	-	67.59	-	89.83%
Tuganay River	11,746.49	1,339.95	-	10,352.82	9.63	11.41%

Source: Department of Environment and Natural Resources, Region XI

Map 1.1 Watershed, Davao City



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## Danger Area Per Watershed

The table below illustrates the susceptibility to hazards of the city's eight (8) watershed areas.

Approximately 87.31%, or 74,176.25 hectares, of the areas along the Davao River and almost the whole of Tuganay River, 11,722.41 hectares or 99.79%, of its total area is highly susceptible to landslide. The same is true with Lasang River, Bunawan River, and Lipadas River, with 98.82%, 98.65%, and 88.75% of their total area are exposed to high level of susceptibility to landslide, respectively.

Lipadas River is prone to flood and highly susceptible to landslide, while Tuganay River is also highly susceptible to landslide with a least exposure to flooding with only 23.53 hectares of its land area to be potentially affected.

For liquefaction, 1.32 % of Bunawan River's total area and 0.13% of Lasang River's are exposed to danger while for storm surge, 1.34% of Bunawan's and 0.141% are likely to be affected.

Portions of Bunawan and Lasang are exposed to both liquefaction and storm surge.

**Table FO-3. Danger Area Per Watershed, 2014**

Watershed	Area				
	Total	High Landslide Susceptibility	Flood Prone	Liquefaction	Storm Surge
Davao River	84,953.09	74,176.25	1,324.30	-	-
Bunawan River	2,791.22	2,753.79	21.19	36.93	37.41
Lasang River	25,097.82	24,802.01	310.57	34.80	35.39
Lipadas River	1,479.47	1,313.12	120.71	-	-
Matina River	93.76	93.76	-	-	-
Sibulan River	107.18	107.18	3.43	-	-
Talomo River	664.84	664.84	16.04	-	-
Tuganay River	11,746.49	11,722.41	23.53	-	-

Source: Department of Environment and Natural Resources, Region XI

## Settlements within Hazard-Prone Area in the Watershed

Sections of the city's population are exposed to hazards, particularly with those encroached or settled in watershed areas. They are highly exposed due to the susceptibility of the watershed to landslide, flood, liquefaction, and storm surge.

Susceptibility to landslide is highest in the Davao River watershed with 192.01 hectares or 0.22% of its total area exposed. The least to be affected is the Talomo River with only .50 hectares or 0.075% potentially at risk.



Both the areas along Lasang River and Davao River have the highest exposure to flooding. Lasang River has 4.18 hectares or 0.016% and Davao River has 2.55 hectares or 0.003% of their respective land area are potentially to be affected.

Bunawan and Lasang Rivers are prone to both liquefaction and storm surge.

**Table FO-4. Settlements within Hazard Prone Area in the Watershed**

Watershed	Areas (Ha)				
	Total	High Landslide Susceptibility *	Flood Prone *	Liquefaction	Storm Surge
Davao River	84,953.09	192.01	2.55	-	-
Bunawan River	2,791.22	5.82	0.23	0.98	0.98
Lasang River	25,097.82	61.41	4.18	2.15	2.15
Lipadas River	1,479.47	10.41	0.09	-	-
Matina River	93.76	5.86	-	-	-
Sibulan River	107.18	1.20	0.01	-	-
Talomo River	664.84	0.50	-	-	-
Tuganay River	11,746.49	19.41	-	-	-

Source: Department of Environment and Natural Resources, Region XI

\*data as of 2014

### Distribution of Biodiversity Conservation Area by Watershed

Biodiversity conservation area refers to *“sites which contribute significantly to the persistence of biodiversity in terrestrial, freshwater or marine ecosystems.”*

The city’s conservation areas are found in the Davao River and Talomo River watershed areas, with a land area of 130,143.88 and 22,362.94 hectares respectively.

For the Davao River Watershed, the distribution of the conservation areas are as follows: 0 216.84 hectares in alienable and disposable lands, 0.20 hectares in forestlands and 54.32 hectares in coastal areas while for the Talomo River Watershed on the other hand, the spread of the conservation areas are: 4.43 hectares in alienable and disposable lands, 16.11 hectares in forestlands and 1, 927.31 hectares in coastal areas.

**Table FO-5. Distribution of Biodiversity Conservation Area by Watershed in Hectares, Davao City, 2018**

Watershed	Conservation Area (Ha)				Threats (for each ecosystem)
	Total	Alienable and Disposable Lands	Forestlands	Coastal	
Davao River	130,143.88	216.84	0.20	54.32	Illegal poaching,
Bunawan River	10,619.68	-	-	-	Illegal fishing
Lasang River	28,650.39	-	-	-	Illegal fishing
Lipadas River	16,858.56	-	16.54	3,607.81	Illegal poaching
Matina River	7,758.64	-	-	-	Illegal poaching
Sibulan River	10,180.46	-	0.01	5,514.80	Illegal poaching
Talomo River	22,362.94	4.43	16.11	1,927.31	Illegal poaching
Tuganay River	17,425.44	-	-	-	Illegal poaching

Source: Department of Environment and Natural Resources, Region XI

### Regulations for Inclusion in the Zoning Ordinance

The table below reflects policy options to be considered in determining the city's land use plan, based on two major categories – the protection and production zones.

**Table FO-6. Policy Option for Consideration in the Zoning Ordinance, 2018**

Land Use Plan	Policy Options/Management Description
Protection Zone	<ul style="list-style-type: none"> <li>• Reforestation using endemic tree species</li> <li>• No settlement on protected areas</li> <li>• The community within and around the closed canopy area will be primarily responsible in looking after protection forest</li> <li>• All easement will be under protection zone and its protection will be the same as the MANP</li> </ul>
Production Zone	<ul style="list-style-type: none"> <li>• Eco tourism zone</li> </ul> <p>Agro-forestry</p>

## Sectoral Analysis Matrix

Forest Sector Analysis Matrix		
Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>Encroachment of human activities other than IP settlers in timberlands and forestlands</li> <li>(e.g. Mt. Tipolog, Cadalian)</li> </ul>	<ul style="list-style-type: none"> <li>Forest degradation/forest denudation</li> </ul>	<ul style="list-style-type: none"> <li>Restrict commercial activities in timberlands and forestlands</li> <li>Strict enforcement of policy prohibiting the selling of rights to migrants</li> </ul>
<ul style="list-style-type: none"> <li>Non-implementation of the CENRO phase-out plan of banana plantations in Carmen &amp; Tambobong (situational analysis)</li> </ul>		<ul style="list-style-type: none"> <li>restrict lease of commercial plantation</li> <li>pursue gradual phase-out of monocropping within forestlands</li> </ul>
<ul style="list-style-type: none"> <li>unenforced buffer zones/easement</li> </ul>	<ul style="list-style-type: none"> <li>Encroachment of forest production activities in forest protection areas</li> <li>siltation of the rivers downstream</li> </ul>	<ul style="list-style-type: none"> <li>enforcement of buffer zone</li> <li>Delineation of easement areas in protected zone</li> </ul>
<ul style="list-style-type: none"> <li>Unprotected forests near the headwaters of Panigan River</li> </ul>	<ul style="list-style-type: none"> <li>Forest denudation</li> </ul>	<ul style="list-style-type: none"> <li>strict enforcement of forest laws governing timberlands and forestlands</li> </ul>
<ul style="list-style-type: none"> <li>Exotic trees are planted instead of endemic species</li> </ul>	<ul style="list-style-type: none"> <li>exotic species are invasive</li> </ul>	<ul style="list-style-type: none"> <li>arrest propagation of exotic species in the forest</li> <li>Tagging of endemic species for protection</li> </ul>

## Land Classification in the City of Davao

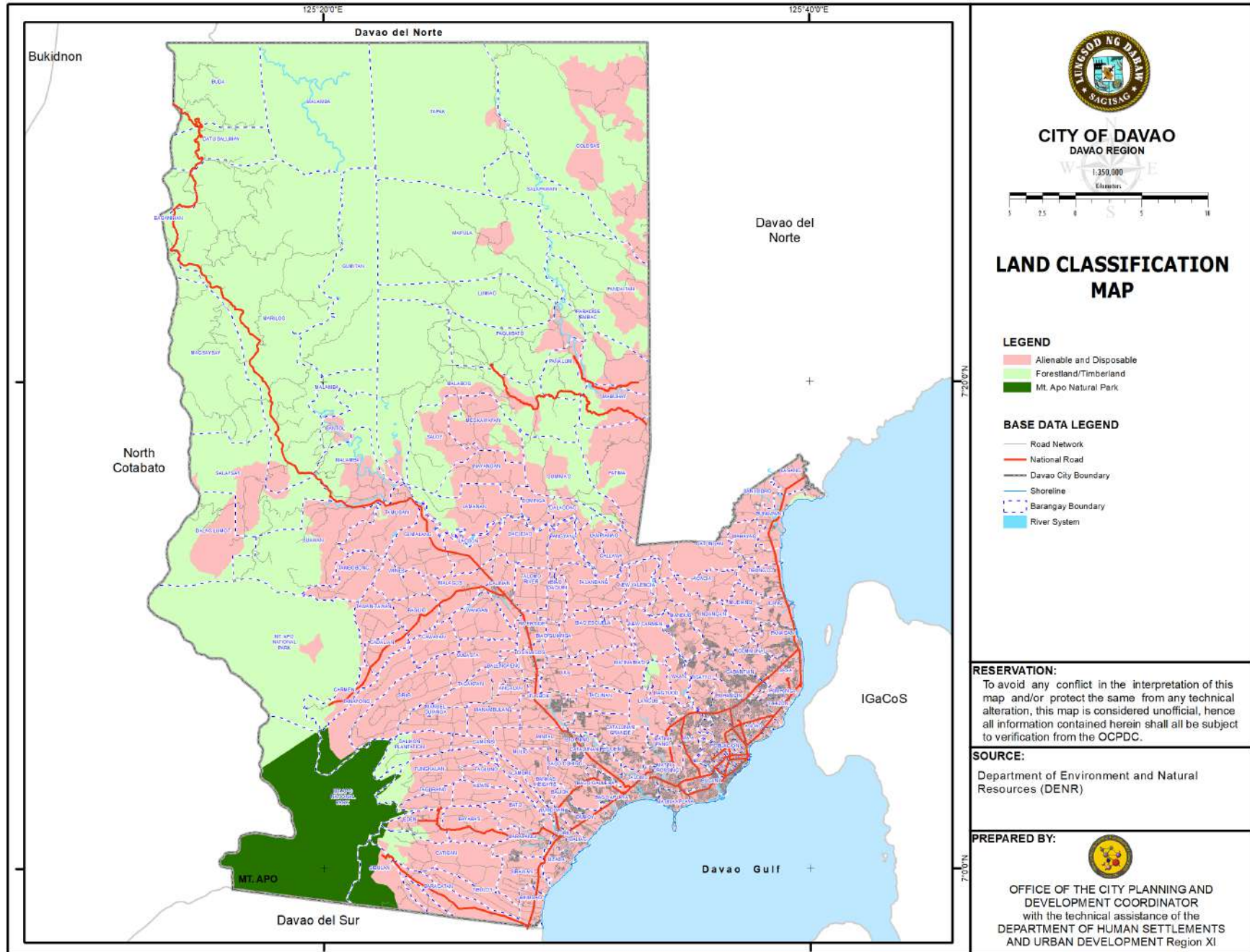
Located in the southeastern part of Mindanao, Davao City covers a total land area of 244,000 hectares, comprising 105,962.00 hectares of Alienable and Disposable Lands (AD) or 43.43% of the total land area; 126,933.87 hectares of Forestland (52.02%), and 11,104.00 hectares of Mt. Apo Natural Park or MANP (4.55%).

**Table FO-7. Land Classification in the City of Davao, 2018**

Land Classification	Area (has)	Percentage (%)
A & D	105,961.95	43.43%
Forestland	126,933.87	52.02%
MANP	11,104.18	4.55%

Source: Department of Environment and Natural Resources, Region XI

Map 1.2 Land Classification Map, Davao City



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## Distribution of Area by Barangay Administrative Coverage

The city's forest area is within 48 barangays with the largest coverage found in Barangay Marilog with 17,683.36 hectares. Mt. Apo National Park, Baguio District with 11, 408.50 hectares comes next and then Barangay Tapak in Paquibato District with 10,237.23 hectares.

Largest forest area in alienable and disposable lands can be found in Barangays Colosas and Fatima, Paquibato district, with a land area of 4,336.66 and 2,551.41 hectares respectively, followed by Barangay Sirib in Calinan district with 2,137.83 hectares.

**Table FO-8. Distribution of Area by Barangay Administrative Coverage, 2018**

Barangay	A & D	Forestland (ha)	MANP
<b>BAGUIO DISTRICT</b>			
Carmen	453.94	346.40	5.67
Tambobong	1,229.74	0.33	
Tawan-Tawan	973.00	1.39	
<b>BUNAWAN DISTRICT</b>			
Bunawan	729.88	47.36	
Lasang	604.27	25.46	
<b>CALINAN DISTRICT</b>			
Dalagdag	386.58	148.53	
Dominga	595.21	6.90	
Inayangan	1,265.14	155.40	
Lamanan	1,550.96	543.92	
Lampianao	831.64	90.66	
Megkawayan	1,435.85	409.17	
Saloy	1,026.89	1,264.47	
Sirib	2,137.83	0.02	14.79
Tamayong	1,501.80	1.60	421.80
<b>MARILOG DISTRICT</b>			
Baganihan		1,062.62	
Bantol	347.77	1,055.77	
Buda		4,293.42	
Dalag Lumot	1,333.75	1,850.21	
Datu Salumay		2,107.50	
Gumitan		5,727.81	
Magsaysay		5,831.10	
Malamba	1,150.28	9,911.72	
Marilog	346.34	17,683.36	
Salaysay	1,176.29	3,291.54	
Suawan	1,647.14	2,507.13	
Tamugan	1,508.63	38.23	

**Table FO-8. Distribution of Area by Barangay Administrative Coverage, 2018, cont.**

Barangay	A & D	Forestland (ha)	MANP
<b>PAQUIBATO DISTRICT</b>			
Colosas	4,336.66	8,872.49	
Fatima	2,551.41	528.86	
Lumiad	27.56	3,178.53	
Mabuhay	980.36	440.70	
Malabog	968.26	7,300.53	
Mapula	466.22	8,491.29	
Pandaitan	1,204.14	2,874.46	
Panalum	205.60	925.82	
Paquibato	594.17	2,916.88	
Paradise Embac	1,138.70	1,604.77	
Salapawan		2,779.92	
Sumimao	941.57	1,533.83	
Tapak	172.17	10,237.23	
<b>TALOMO DISTRICT</b>			
Magtuod	572.64	150.82	
<b>TORIL DISTRICT</b>			
Catigan	1,950.02	380.20	71.71
Daliaon Plantation	543.48	488.39	5.07
Eden	626.57	127.63	19.57
Sibulan	696.39	17.12	987.04
Tagurano	490.73	9.99	4.61
Tungkalan	1,321.27	419.88	42.50
<b>TUGBOK</b>			
New Carmen	1,087.40	24.05	

## Population of Indigenous Cultural Communities (ICC)/IP in Communities

Indigenous Cultural Communities (ICCs) “refer to a group of people or homogenous societies identified by self-ascription and ascription by others, who have continually lived as organized community on communally bounded and defined territory and who have under claims of ownership since time immemorial occupied, possessed and utilized such territories, sharing common bonds of language, customs, traditions and other distinctive cultural traits, or who have through resistance to political, social and cultural inroads of colonization, non-indigenous religions and cultures, become historically differentiated from the majority of Filipinos.” (RA 8371 – IPRA)

There are at least five (5) major indigenous cultural communities in Davao City, with the Bagobo Klata having the biggest number in terms of population at 125,211, and the Bagobo Tagabawa in Mt. Apo as the next populous tribe with 95, 878. The other three (3) ICCs are the Ata, Obu-Manuvu and Matigsalug, Manobo with 30,962, 28,956 and 5,501 estimated population respectively.

In terms of the land area of their respective ancestral domains, the Ata communities has the largest with 77,216.23 hectares and the smallest area is that of the Bagobo Klata communities with 5,739.53 hectares. The highest density is the Bagobo-Tagabawa Tribe relative to the total number of population and the limited CADT Area. The Matigsalug Manobo has the lowest density with 4.75 considering the vast CADT Area vis a vis their population.

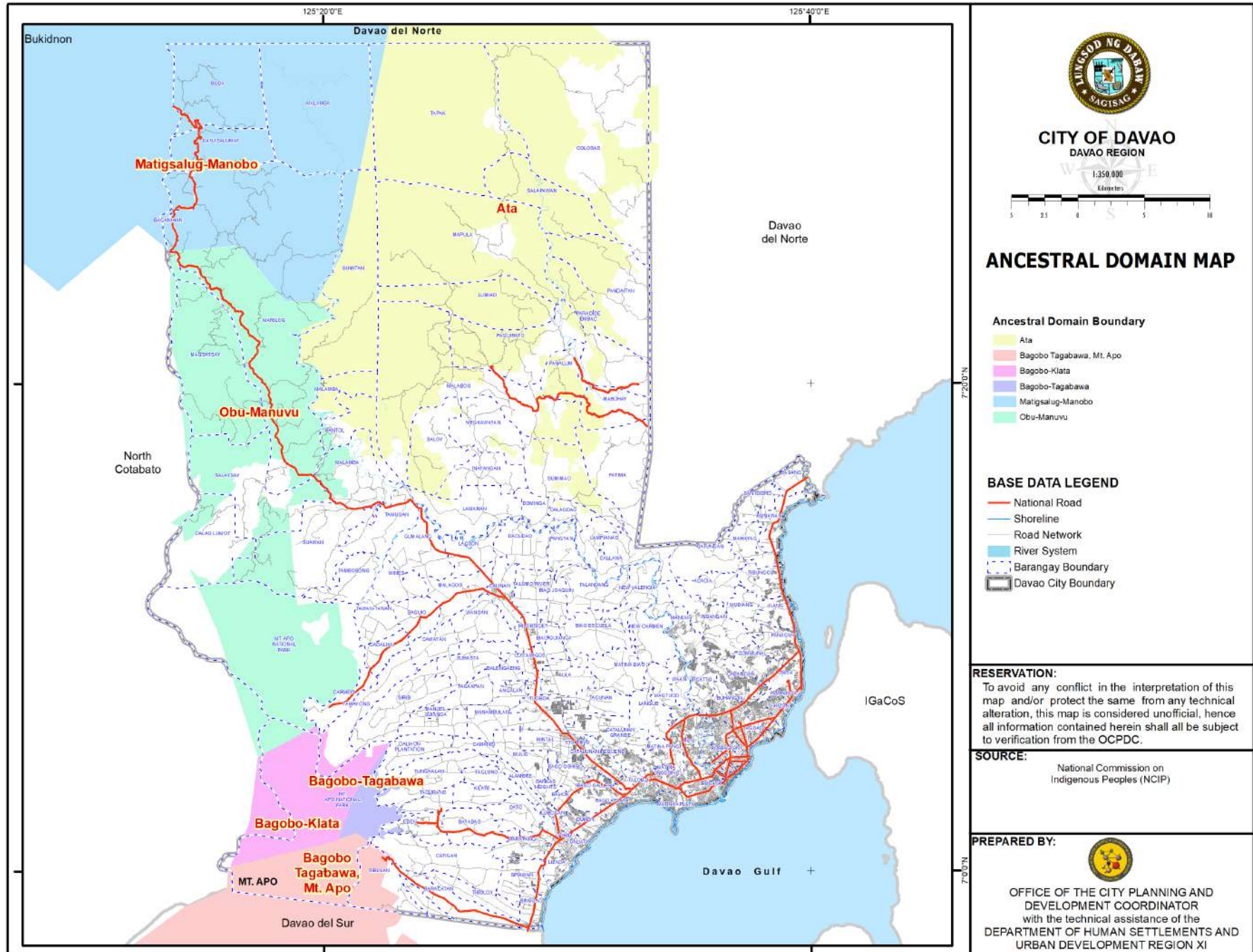
Source: National Commission on Indigenous People

**Table FO-9. Population of Indigenous Cultural Communities (ICC)/IP in Communities,2018**

Tribe	Location	Area in CADT (ha)	Estimated Population
Ata	Tapak, Sumimao, Salapawan, Paradise Embac, Paquibato, Panalum, Pandaitan, Mapula, Malabog, Mabuhay, Lumiad, Fatima, Colosas, Tamugan, Marilog, Malamba, Gumitan, Bantol, Pangyan, Saloy, Megkawayan, Lampionao, Lamanan, Lacson, Inayangan, Dominga, Dalagdag, Dacudao	77,216.23	30,962.00
Bagobo Tagabawa, Mt. Apo	Mt. Apo National Park, Catigan, Sibulan	4,702.32	
Bagobo-Tagabawa	Baracatan, Catigan, Daliaon Plantation, Eden, Mt. Apo National Park, Sibulan, Tagurano, Tungkalan	2,244.07	95,878.00
Matigsalog-Manobo	Baganihan, Buda, Datu Salumay, Gumitan, Malamba, Marilog, Tapak	26,134.34	5,501.00
Obu-Manuvu	Baganihan, Bantol, Carmen, Dalag Lumot, Gumitan, Magsaysay, Malamba, Marilog, Mt. Apo National Park, Salaysay, Suawan, Tamayong, Tambobong, Tamugan	34,158.91	28,956.00
Bagobo-Klata	Mt. Apo National Park, Tamayong, Sirib, Carmen	5,739.53	125,211.00



Map 1.3 Ancestral Domain with Settlement map, Davao City



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## Migration in Forestlands

There are various push and pull factors identified in the movement of peoples in and out of the forestlands. Among the “pull” factors are purchase of land, potential for business and employment in the area. Common “push” factor is the peace and order situation in the communities as well as poverty, lack of employment opportunities and natural disasters. Prevalence of slash and burn practices is also a factor for residents to leave the area. Marriage can either be a push or pull factor.

**Table FO-10. Migration in Forestland,2018**

Migration in Forestland	
Barangay	Cause of Migration
<b>Upland</b>	
Fatima	Accessible roads, invitation from relatives, purchase of agricultural lands; marriage
Sumimao	Purchase of Land
Gumalang	1.Employment
	2.Inter Marriage
	3.Farming/ Residence
	4. Acquisition of Farm Land
	5.Business(livestock)
Carmen	Due to land destruction – landslide
	Insurgency
	Typhoon
Lampiano	Business & affordable price of land
Bantol	For work application purposes
Dalagdag	Acquisition of farm land ; peace and order
Datu Salumay	Inter marriage/ employment
Gumitan	Children marrying in other place; Livelihood
Magsaysay	Poverty/Adopt Farming
Malamba	Fighting against poverty, Employment, Marriage
Marilog	Labor and Employment
Megkawayan	Peace and Order, Research, Hamugaway Farm
Suawan	Marriage, settlement
Malabog	Farming
Salapawan	Business and Farming
Tapak	Business
Lumiad	Farming; Engage in commercial business
Paradise Embac	Farming, land acquisition
Paquibato	Land acquisition
Tungkalan	Slash and burn/Farming
Catigan	Settlement, subdivision laborer
Eden	Housing Infra Project

**Table FO-10. Migration in Forestland,2018, cont.**

Migration in Forestland	
Barangay	Cause of Migration
Sirib	Due to increase in the number of laborers of Sumifru, HBC and DavCo (employment opportunity)
Tagurano	Employment
Matina Biao	Housing
Tamayong	Conflict between soldiers and the NPA
Pandaitan	Land acquisition; hired as tenants
Colosas	Land acquisition; working as farmers
<b>Coastal</b>	
Bunawan Proper	In search of job opportunities; transfer of residency
Lasang	Existence of urban housing, increase of industries, employments, etc

### Past and On-going Projects or Investment in Forest Ecosystem

Past projects led by CENRO from 2016-2018 centered on four (4) areas: integrated social forestry, agro-forestry, watershed and river rehabilitation projects. Initiatives related to these projects range from capacity building to planting of fruits and trees.

**Table FO-11. Past and On-going Projects or Investment in Forest Ecosystem,2018**

Location	Past & On going projects	Period covered	Type of Interventions	Area	Lead Agency
	Integrated social forestry project	2016-2018	<ul style="list-style-type: none"> <li>Conduct of farmers training on modern farming technology</li> <li>Collection, propagation and production of forest/ fruit seedlings</li> <li>Organization of farmers' association</li> </ul>		CENRO
Marilog, Paquibato, Calinan, Baguio	Agro-forestry project		<ul style="list-style-type: none"> <li>Distribution of fruit and forest seedlings</li> </ul>	231.66	CENRO
	Watershed Rehabilitation Project		<ul style="list-style-type: none"> <li>Monitoring and evaluation of mini-watershed/ spring sources rehabilitation projects</li> </ul>		CENRO
Eden, Toril, Upper Kibalang, Suawan and So. Unapan			<ul style="list-style-type: none"> <li>Watershed tree planting</li> </ul>	133.39	CENRO
City Proper			<ul style="list-style-type: none"> <li>Roadside tree planting</li> </ul>	16,607 linear meter	CENRO

**Table FO-11. Past and On-going Projects or Investment in Forest Ecosystem, 2018, cont.**

Location	Past & On going projects	Period covered	Type of Interventions	Area	Lead Agency
Malamboon, Brgy 76-A, Bunawan, Bucana, Lasang, Bolton, Suawan			<ul style="list-style-type: none"> <li>Coastal mangrove area rehabilitation tree planting</li> </ul>	11.18 has	CENRO
Bolton Bridge, Brgy 40-D, Suawan Riverbank and Matina Pangì			<ul style="list-style-type: none"> <li>Riverbank tree planting</li> </ul>	29,104 linear meter	CENRO
Along Davao River area, Lasang River and Toril	Riverbank rehabilitation within the quarry and vacated approved sites		<ul style="list-style-type: none"> <li>Rehabilitation of riverbank thru planting within the approved quarry sites</li> </ul>	45,850 linear meter	CENRO

Source: City Environment and Natural Resources

## Types of Tenure or Ownership Rights in Forestlands

There are mainly two (2) types of tenurial rights, Community-based Forest Management Agreement (CBFMA) and Integrated Forest Management Area (IFMA), with 14 community-based organizations involved, all based in District 3 of the City.

The CBFMA “ is a production sharing agreement between the Department of Environment and Natural Resources and the participating peoples’ organizations (POs ) for a period of 25 years renewable for another 25 years and shall provide tenurial security and incentives to develop, utilize and manage specific portions of forest lands”.

IFMA on the other hand is a production sharing contract entered into by and between the DENR and a qualified applicant wherein the DENR grants to the later the exclusive right to develop, manage, protect and utilize a specified area of forestland and forest resources therein for a period of 25 years and may be renewed for another 25-year period, consistent with the principle of sustainable development and in accordance with an approved Comprehensive Development and Management Plan (CDMP) and under which both parties share in its produce”.

Under the CBFMA, there are 12 organizations involved while two (2) organizations are covered by terms and agreements with IFMA.

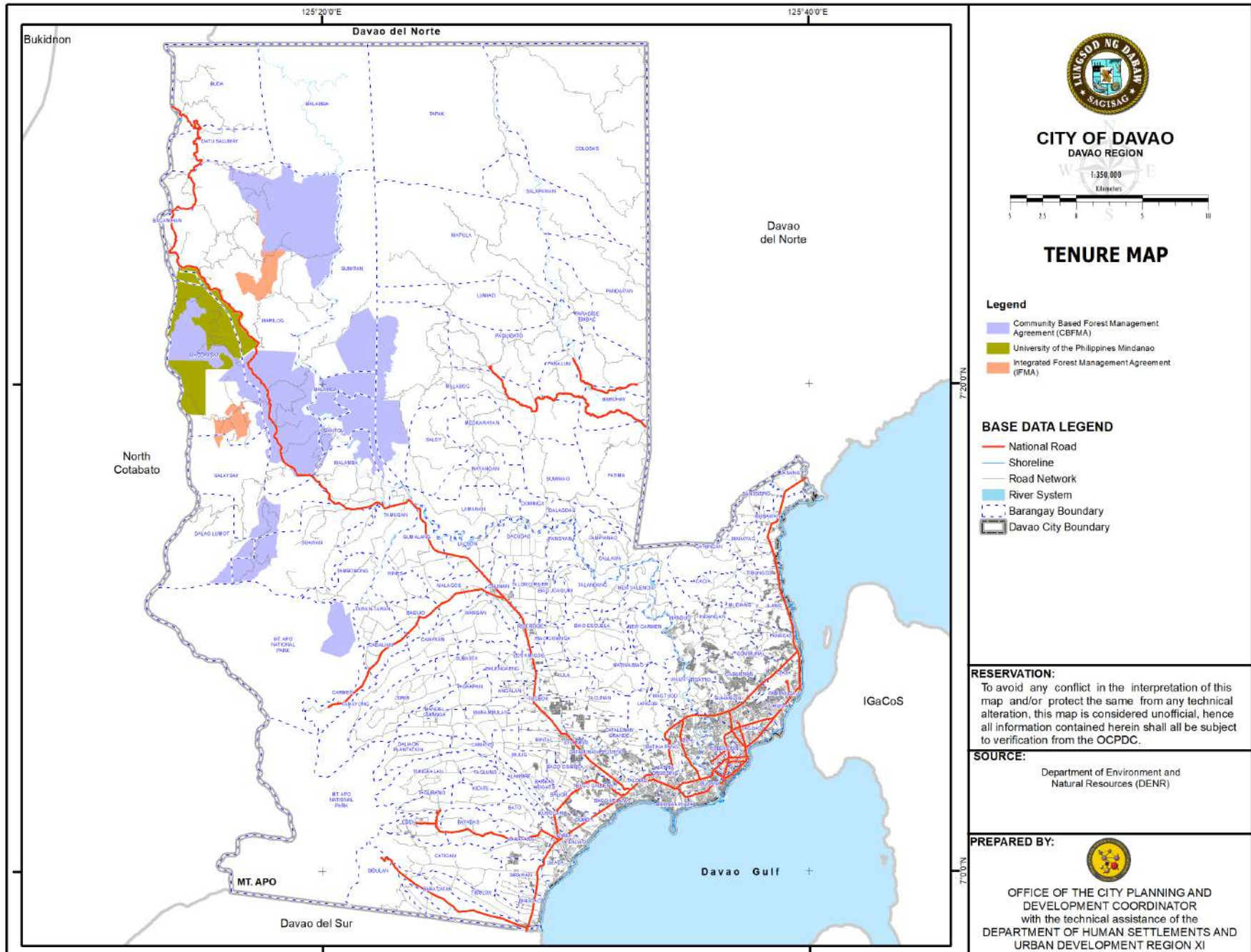
**Table FO-12. Types of Tenure or Ownership Rights in Forestlands, 2018**

Tenure/Ownership Rights	Area Covered	Tenure Holder/Name of Organization
Community-based Forest Management Agreement) (CBFMA)	Dalag Lumot	BABALI Farmers Association
	Mt. Apo National Park	
	Salaysay	
	Suawan	
CBFMA	Bantol	Banuayan Farmers Association
	Malamba	
	Marilog	
	Salaysay	
CBFMA	Marilog	Kaupiyanan sa Matigsalog Association
CBFMA	Magsaysay	Kibalang sa Balikatan sa Kaunlaran at Pagkakaisa
	Marilog	
	Salaysay	
CBFMA	Bantol	Malakiba Peoples Improvement Cooperative
	Gumitan	
	Malamba	
	Marilog	
CBFMA	Gumitan	MAPALA Green View Farmers Association
	Malamba	
	Marilog	
CBFMA	Marilog	Marilog Community-based Multi-Purpose Cooperative
CBFMA	Mt. Apo National Park	Mt. Tipolog Bantay Kinaiyahan Farmers Association
	Tambobong	
CBFMA	Gumitan	Nagkahiusang Lumad Mag-uuma sa Barangay Gumitan
	Malamba	
	Marilog	
CBFMA	Malamba	Patag Environmental and Development and Management
	Marilog	
CBFMA	Bantol	Tagbao Tamugan Consumer Cooperative
	Gumitan	
	Malabog	
	Malamba	
	Saloy	
CBFMA	Magsaysay	Upper Kibalang Agroforestry Farmers Association
	Marilog	
IFMA	Magsaysay	Davao ESP Resource, Inc.
IFMA	Marilog	KKK Multi-Purpose Cooperative

Source: City Environment and Natural Resources



Map 1.4 Tenure map, Davao City



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## Mining Rights in the City of Davao

The table shows a total of 78 applications for mining from 2014 – 2018. There are six (6) applicants which have been granted five (5) years of operation for limestone, while 58 applications for a year's operation have been approved, for sand and the gravel, and the rest is for earthfill.

Only four (4) applications are found in forestlands, with an approved one year operation, which are all recovering sand and gravel from the rivers.

**Table FO-13. Mining Rights in the City of Davao,2018**

Mining Application	A & D	Forestlands	Type of Minerals	Duration	
				Date Approved	Date Expired
Abella, Jan Michael		★	Sand and Gravel	October 17,2018	October 17,2019
Abella, Peter Philip		★	Sand and Gravel	October 17,2018	October 17,2019
Ala, Fatima			Sand and Gravel	October 17,2018	October 17,2019
Alag Marichu			Sand and Gravel	April 10,2018	April 10,2019
Al-ag, Wilmar			Sand and Gravel	September 5, 2018	September 5,2019
Allado, Honorio			Sand and Gravel	September 5,2018	September 5,2019
Allado, Manuel			Sand and Gravel	May 22,2018	May 22,2019
Angus, Victorio			Sand and Gravel	July 30,2018	July 30,2019
Arteche, Jena			Sand and Gravel	October 17,2018	October 17,2019
Astilla, Epifania			Sand and Gravel	April 10, 2018	April 10,2019
Bustamante, Janette			Sand and Gravel	April 10, 2018	April 10, 2019
Cabaguio, Antonieta			Sand and Gravel	January 25,2018	January 25,2019
Cabaguio, Manuel Jr.			Sand and Gravel	July 30, 2018	July 30,2019
Cabaguio, Rosemarie			Sand and Gravel	May 22,2018	May 22,2019
Calapre, Presie			Sand and Gravel	April 10,2018	April 10,2019
Canusa, Mendrado			Sand and Gravel	October 17,2018	October 17,2019
Casona, Liezel			Sand and Gravel	May 22,2018	May 22,2019

**Table FO-13. Mining Rights in the City of Davao,2018, cont.**

Mining Application	A & D	Forestlands	Type of Minerals	Duration	
				Date Approved	Date Expired
Deiparine, Santos			Sand and Gravel	January 25,2018	January 25,2019
Egos, Gilbert			Sand and Gravel	May 22, 2018	May 22,2019
Estacio, Gualberto			Sand and Gravel	May 22,2018	May 22,2019
Estacio, Zenaida			Sand and Gravel	October 17,2018	October 17,2019
Go, Miravit Lea			Sand and Gravel	July 30,2018	July 30,2019
Go, Sheila Marie			Sand and Gravel	February 23,2018	February 23,2019
Guingue,Gerry			Sand and Gravel	May 22,2018	May 22,2019
Ibabao, Mark Joseph			Sand and Gravel	May 22,2018	May 22,2019
Ibabao, Michael Angelo			Sand and Gravel	April 10,2018	April 10, 2019
Jocson, George			Sand and Gravel	April 10,2018	April 10, 2019
Kanapia, Lalaine			Sand and Gravel	September 5,2018	September 5,2019
King, Reynaldo	★		Sand and Gravel	February 23,2018	February 23,2019
Lapitan, Lauro			Sand and Gravel	May 22,2018	May 22,2019
Lim, Joel			Sand and Gravel	April 13,2018	April 13,2019
Lopez, Rudolf			Sand and Gravel	April 10,2018	April 10,2019
Lusotan, Macnell			Sand and Gravel	April 10,2018	April 10,2019
Magulintang, Leon			Sand and Gravel	September 5,2018	September 5,2019
Magulintang, Simon			Sand and Gravel	October 17,2018	October 17,2019
Medija, Lowell			Sand and Gravel	December 12,2017	December 12,2018
Ng, Kerrine Laine			Sand and Gravel	April 19,2018	April 10,2019
Ng, Kerrine Laine			Sand and Gravel	April 10,2018	April 10,2019
Ng, Kessler Lloyd			Sand and Gravel	January 5,2018	January 5,2019
Ong, Catherine Riza			Sand and Gravel	February 23,2018	February 23,2019

**Table FO-13. Mining Rights in the City of Davao,2018, cont.**

Mining Application	A & D	Forestlands	Type of Minerals	Duration	
				Date Approved	Date Expired
Osnan, Joelita			Sand and Gravel	May 31,2018	May 31,2019
Palang, Benett			Sand and Gravel	January 25,2018	January 25,2019
Pinili, Jacques			Sand and Gravel	January 25,2018	January 25,2019
Rala, Edward			Sand and Gravel	October 17,2018	October 17,2019
Rivera, Baltazar			Sand and Gravel	April 10, 2018	April 10, 2019
Rodriguez, Alberto			Sand and Gravel	May 22, 2018	May 22,2019
Rosello, Edgardo			Sand and Gravel	October 17,2018	October 17,2019
Saligumba, Regine			Sand and Gravel	April 10, 2018	April 10,2019
Sarona, Janine Royce			Sand and Gravel	April 13,2018	April 13,2019
Suarez, Miles Lawrence			Sand and Gravel	May 22,2018	May 22,2019
Temporado, Florence John			Sand and Gravel	October 17,2018	October 17,2019
Unabia, Joselito			Sand and Gravel	September 5,2018	September 5,2019
Unabia, Teodoro Leslie			Sand and Gravel	April 10,2018	April 10, 2019
Uy, Danilo			Sand and Gravel	January 25,2018	January 25,2019
Valdez, Rolando			Sand and Gravel	February 23,2018	February 23,2019
Wison, Elma			Sand and Gravel	July 5,2018	July 5,2019
Asencia, Anthony			Earthfill	May 22,2018	May 22,2019
Bato, Anthony			Earthfill	January 26,2018	January 26,2019
Jireh Land Dev't Corp			Earthfill	May 22,2018	May 22,2019
Mac PJ Land Corporation			Earthfill	May 22,2018	May 22,2019
Pacomios, Erlinda			Earthfill	July 30,2018	Jul 30,2019
Rodriguez, Joseph			Earthfill	April 10,2018	April 10,2019
Sarona, Gilberto Jr.			Earthfill	July 30,2018	July 30,2019

**Table FO-13. Mining Rights in the City of Davao,2018, cont.**

Mining Application	A & D	Forestlands	Type of Minerals	Duration	
				Date Approved	Date Expired
Silagan, Carlton			Earthfill	January 26,2018	January 26,2019
Tarbang, Abdullah			Earthfill	May 22,2018	May 22,2019
Valdez, Abraham			Earthfill	July 5,2018	July 5,2019
Holcim Mining Dev't. Corporation	★		Limestone	August 5, 2015	August 5, 2020
Anino, Josephine			Limestone	June 15,2016	June 15,2021
Bundalo, Marino			Limestone	July 6,2015	July 6,2020
Escovilla, Glen	★		Limestone	July 20, 2015	July 20,2020
Magnaye, Honielyn			Limestone	January 3, 2014	January 3,2019
Misa, Fel	★		Limestone	April 29,2016	April 29,2020
Ruta, Gilbert	★		Limestone	September 5,2018	September 5,2023

Source: City Environment and Natural Resources

### Summary of Problems/Issues in Forestlands

Problems encountered in the forestlands mainly stem from practices which have negatively affected the general well-being of its assets and resources. Prevalent among these practices are poaching and slash and burn system, along with the rampant/massive selling of land rights to migrants who introduced development projects in the area.

**Table FO-14. Summary of Problems/Issues in Forestlands,2018**

Watershed	Problems/Issues
Bunawan River	<p>Several farmers are unreceptive to modern agricultural technology</p> <p>Increased poaching of agricultural activities to mangrove, forest and timberland that protects the riverbanks</p> <p>No revenues from several business establishments</p> <p>Illegal fishing</p> <p>Vulnerability to disaster (monsoon waves)</p>



**Table FO-15. Summary of Problems/Issues in Forestlands,2018, cont.**

Watershed	Problems/Issues
Davao River	No land tenure instrument Existence of illegal establishments in agri non-tillage/Conservation Zone Job displacement Poor water facility, National Greening Program area issue Low production of agricultural crops Farm gate price controlled by traders No revenues from several business establishments Poor farm to market roads Rampant selling of rights to migrants Increase poaching of timber Prevalence of slash and burn system Insufficient water supply Boundaries of tenurial instruments undelineated on the ground Soil erosion Illegal tourism operation
Lasang River	Fishing in Marine Protected Areas Water pollution Infestation of diseases (banana plantation) Increase poaching of mangroves Poor farm to market roads No land tenure instrument Insufficient manpower in monitoring quarrying activities No revenues from several business establishments/quarrying activities Low production (agricultural crops) – lack of inputs No established market linkage Prevalence of slash and burn system Rampant selling of rights to migrants
Lipadas River	Rampant selling of rights to migrants Prevalence of slash and burn system 105 hectares of land for summer resort purposes at Brgy. Eden is within CADT area of Bagobo-Tagabawa No updated inventory of vegetative cover
Matina River	Poaching of timber
Talomo River	Rampant selling of rights of migrants Increase poaching of timber Prevalence of slash and burn system
Tuganay River	Low production (agricultural crops) Poor farm to market roads

Source: Department of Environment and Natural Resources, Region XI

## Summary of Conflicts in Forestlands

Conflicts in forestlands are tenurial-related and stem from practices of migrants which prove to be destructive to the over-all condition of the city's forestlands.

On tenurial concerns, the University of the Philippines–Mindanao currently occupies three (3) hectares of land within the CBFMA area of at least 10 (ten) associations in Marilog, but it does not have any legal documentation to support its presence/use of the land.

Proliferation of commercial activities in forestlands have unfortunately resulted to forest denudation.

**Table FO-15. Summary of Conflicts in Forestlands, 2019**

Barangays	Type of Conflict	Entities Responsible for Resolving the Conflict	Status of Conflict
Tambobong	Encroachment of human activities in forestlands		On-going
Marilog	Tenurial	CBFMA, UP Mindanao	On-going

Source: Department of Environment and Natural Resources, Region XI

## Existing/Current Vegetative Cover by Land Classification/Ecosystem

The city's vegetative cover is found in alienable and disposable lands, forestlands and the Mt. Apo National Park, the largest of which is brush/shrubs as it covers a total land area of 90,583.03. Perennial crops also abound covering 85,111.08 hectares while mangrove forest covers the least land area with only 41.30 hectares.

Closed canopy forest found in areas classified as forest or under Mt. Apo National Park (MANP) represents 2.4% of the total land area at 5,893 hectares.

The city's forest is susceptible to both flooding and landslide. Part of the forest cover in alienable and disposable lands, 24,757.20 hectares and in forestlands 82,228.70 hectares are highly susceptible to landslide, while moderately susceptible are 34,183.48 hectares in forestlands and 21,712.99 hectares in alienable and disposable lands.

Highly susceptible to flooding are 12,023.89 hectares of forest cover in alienable and disposable lands while a total of 21,400.01 hectares are low to moderately susceptible to the same.

**Table FO-16. Existing/Current Vegetative Cover by Land Classification/Ecosystem**

Vegetative Cover	Area in ha			
	A and D	Forestland	MANP	Total
Annual Crop	4,609.94	1,358.89	11.27	5,980.10
Brush /Shrubs	11,794.87	76,819.93	1,968.24	90,583.03
Built-up	12,796.60	330.24		13,127.11
Closed Forest		4,719.28	1,174.27	5,893.55
Fishpond	109.70	52.26		162.26
Grassland	1,596.51	15,107.22	48.92	16,752.65
Inland Water	804.27	633.08		1,437.35
Mangrove Forest	28.58	12.72		41.30
Open Forest	550.39	13,145.89	6,823.07	20,519.36
Open/Barren	439.30	17.77	133.00	590.07
Perennial Crop	73,231.78	10,924.89	954.41	85,111.08

Source: Department of Environment and Natural Resources, Region XI

## Forest-related Uses in Forestlands

Davao City has a total forestland area of 12,623.36 hectares. Its dominant use is for growing perennial crops, which cover 10,924.89 hectares or 86.54% of the total land area. These are crops which do not need to be replanted each year as they readily grow back after harvest such as cacao, coffee, and abaca.

Annual crops are grown in 10.76% of the total land area or 1,358 hectares such as rice, corn, and vegetables. The remaining 2.61% or 339.58 hectares or 2.61% of forestlands is currently for settlement use.

**Table FO-17. Forest-related uses in Forestlands**

Land Uses	Forestland (has)	% of Total Forestlands
Annual Crop	1,358.89	10.76%
Perennial Crop	10,924.89	86.54%
Settlements	339.58	2.61%

Source: Department of Environment and Natural Resources, Region XI

## Vegetative Cover in Forestlands

Abundant among the vegetative cover of the city's forestlands is brush/shrubs which are small to medium-sized perennial woody plants covering 79,118.10 hectares of the total forestland area. Grasslands come next with 15,636.12 hectares.

There are 13,651.06 hectares of open forest where agri-industrial activities may take place and 11,073.57 hectares for growing of perennial crops which live for two (2) years.

Closed forest has a total area of 4,920.41 hectares while an area of 1,384.78 hectares are utilized for annual crops.

**Table FO-18. Vegetative Cover in Forestlands, 2015**

Vegetative Cover (2015)	A & D (has)	Forestland (has)	MANP (has)
Annual Crop	4,609.94	1,384.78	11.27
Brush/Shrubs	11,794.87	79,118.10	1,968.24
Built-up	12,796.60	339.48	
Closed Forest		4,920.41	1,174.27
Fishpond	109.70	52.26	
Grassland	1,596.51	15,636.12	48.92
Inland Water	804.27	656.75	
Mangrove Forest	28.58	12.72	
Open Forest	550.40	13,651.06	6,823.07
Open/Barren	439.30	18.64	133.00
Perennial Crop	73,231.78	11,073.57	945.41

Source: Department of Environment and Natural Resources, Region XI

## Biodiversity Inventory

The following are the key biodiversity areas in the City which are home to various animal and plant species: Malagos Watershed Reservation, ancestral domains of the Obu-Manuvu, Matigsalug Manobo, Ata Manobo, Bagobo-Klata, Bagobo Tagabawa tribes.

Listed in the table below are plants and animals and plants according to their conservation status. Under the International Convention of Nature (IUCN) which assess species conservation status in a global scale, species are rated through these categories: Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), and Least Concern (LC). Moreover, for animals and plant species listed under the Department of Environment and Natural Resources updated national list of threated fauna and flora species, categories include: Critically Endangered (CR), Endangered (EN), Vulnerable (VU), and Other Threatened Species (OTS).

Table FO-19 Biodiversity Inventory

LOCATION	Name	Conservation Status
	<b>FAUNA</b>	
Ovu Manuvu Ancestral Bagobo-Klata, Bagobo Tagabawa, and Bagobo Tagabawa-Mt. Apo Domain	Philippine Eagle	CR (DENR, 2019)
	Amethyst Brown Dove	CR (DENR), 2019)
	Celestial monarch	CR (DENR, 2019)
	Philippine Deer	EN (DENR), 2019)
	Giant Scops Owl	EN (DENR, 2019)
	Mindanao Hornbill	EN (DENR, 2019)
	Japanese Night Heron	EN (DENR)
	Philippine Large-headed Fruit Bat	VU (IUCN)
	Philippine Pygmy Fruit Bat	VU (IUCN)
	Harpy Fruit Bat	VU (IUCN)
	Hardwicke's Wooly Bat	LC (IUCN)
	Greater Musky Fruit Bat	LC (IUCN)
	Lesser musky Fruit Bat	LC (IUCN)
	Philippine forest horseshoe bat	LC (IUCN)
	Philippine Rat Snake	LC (IUCN)
	White Lined-water snake	LC (IUCN)
	Graceful short legged skink	LC (IUCN)
	Apo Myna	VU(DENR, 2019)
	Southern Silvery Kingfisher	VU (DENR, 2019)
	Writhed Hornbill	VU (DENR, 2019)
	Spotted Imperial Pigeon	VU (IUCN)
	Black Faced Coucal	VU (IUCN)
	Whiskered Flowerpecker	VU (DENR, 2019)
	Apo summit grass root mealybug (Trionymus summus )	VU (DENR, 2019)
	Apo parachyrrhynchid	VU (DENR, 2019)
	Davao Easter Egg Beetle	VU (DENR, 2019)
	Emerald Butterfly	VU (DENR, 2019)
	Philippine Tarsier	OTS (DENR, 2019)
	Flame crowned flowerpecker	OTS (DENR, 2019 )
	Philippine Duck	VU (IUCN)
	King Cobra	OTS (DENR, 2019)
	Grey hooded sunbird	OTS (DENR, 2019)
	Mindanao Fanged Frog	OTS (DENR, 2019)
	Mindanao Horned Frog	OTS (DENR, 2019)
	Striped bronzeback snake	LC (IUCN)
	Agusan bent-toed gecko	LC (IUCN)
	Muller's Toad	VU(IUCN)
	Southeast Asian Horned Toad	LC (IUCN)
	Pointed Snout Tree Frog	LC (IUCN)
	Smooth skinned Tree Frog	LC (IUCN)
	Common Forest Tree Frog	LC (IUCN)
Guenther's Forest Frog	LC (IUCN)	
White Lipped Tree Frog	LC (IUCN)	
Mottled Tree Frog	VU (IUCN)	
Mindanao racket tail	NT (IUCN)	
Mindanao Scops Owl	NT (IUCN)	
Philippine Fairy Blue Bird	NT (IUCN)	
Mindanao Pygmy Blabber	NT (IUCN)	
Grey-hooded Sunbird	NT (IUCN)	
McGregors Cuckoo Shrike	NT (IUCN)	



Table FO-19 Biodiversity Inventory, cont.

LOCATION	Name	Conservation Status
Ovu Manuvu Ancestral Bagobo-Klata, Bagobo Tagabawa, and Bagobo Tagabawa-Mt. Apo Domain	Palm Civet	LC (IUCN)
	Asian Palm Civet	LC (IUCN)
	Philippine long tailed Macaque	NT (IUCN)
	Tree Shrew	LC (IUCN)
	Philippine Pygmy Squirrel	LC (IUCN)
	Philippine Forest Rat	LC (IUCN)
	Mindanao Fruit Bat	LC (IUCN)
	Spiny Tree Frog	LC (IUCN)
	Stripe-breasted Rhabdornis	LC (IUCN)
	Tawny Grassbird	LC (IUCN)
	Mountain White-eye	LC (IUCN)
	Sulphur-billed Nuthatch	LC (IUCN)
	Coppersmith Barbet	LC (IUCN)
	Philippine Serpent Eagle	LC (IUCN)
	Scarlet Minivet	LC (IUCN)
	White Throated Kingfisher	LC (IUCN)
	Naked Faced Spiderhunter	LC (IUCN)
	Bundok Flycatcher	LC (IUCN)
	Little Pied Flycatcher	LC (IUCN)
	Olive-capped Flowerpecker	LC (IUCN)
	Island Thrush	LC (IUCN)
	Coletto	LC (IUCN)
	White Eared Brown Dove	LC (IUCN)
	Yellow breasted Fruit Dove	LC (IUCN)
	Brush Cuckoo	LC (IUCN)
	Orange-tufted Spiderhunder	LC (IUCN)
	Jungle Fowl	LC (IUCN)
	Bi-colored Flowerpecker	LC (IUCN)
	Buzzing Flowerpecker	LC (IUCN)
	Fire-breasted Flowerpecker	LC (IUCN)
	Orange-bellied Flowerpecker	LC (IUCN)
	Philippine Falconet	LC (IUCN)
	Whiskered Flowpecker	LC (IUCN)
	Whiskered Treeswift	LC (IUCN)
	Philippine Trogon	LC (IUCN)
	Buff-spotted Flameback	LC (IUCN)
	Philippine Falconet	LC (IUCN)
	Philippine Honey Buzzard	LC (IUCN)
	Yellow-bellied Whistler	LC (IUCN)
	Black and Cinnamon Fantail	LC (IUCN)
	Citrine Canary flycatcher	LC (IUCN)
	Cryptic Flycatcher	LC (IUCN)
Little Pied Flycatcher	LC (IUCN)	
Mountain Verditer-Flycatcher	LC (IUCN)	
Philippine Bulbul	LC (IUCN)	
Velvet-fronted Nuthatch	LC (IUCN)	
<b>FLORA</b>		
	Waling-waling	CR (DENR, 2017)
	Almon	VU (DENR, 2017)
	Nato	VU (DENR, 2017)
	Tanguile	VU (DENR, 2017)
	White Lawaan	VU (DENR, 2017)
	Red Lawaan	VU (DENR, 2017)

Table FO-19 Biodiversity Inventory, cont.

LOCATION	Name	Conservation Status
Ovu Manuvu Ancestral Bagobo-Klata, Bagobo Tagabawa, and Bagobo Tagabawa-Mt. Apo Domain	Mayapis	EN (DENR, 2017)
	Bagtikan	CR (DENR, 2017)
	Apitong	EN (IUCN), VU (DENR, 2017)
	Yakal	VU (DENR, 2017)
	Almasiga	VU (IUCN)
	Kamagong	CE (IUCN), VU (DENR, 2017)
	Kalinga/Kaningag	EN (DENR, 2017)
	Tugas (Molave)	EN (IUCN), VU (DENR, 2017)
	Malakawayan	VU (DENR, 2017)
	Dita	LC (IUCN)
	Red Cedar	CE (IUCN)
	Medinilla clementis	EN (DENR, 2017)
	Balete (Ficus bojeri)	VU (IUCN)
	Balete (Ficus salzannaniana)	EN (IUCN)
	Balete (Ficus lateriflora)	CR (IUCN)
	Balete (Ficus aguarguensis)	VU(IUCN)
	Pitcher Plant (Nepenthes copelandii)	EN (DENR, 2017)
	Astrocalyx calycina	EN (DENR, 2017)
	Rafflesia shadenbergiana	CE (DENR, 2017)
	Davao Lipstick Plant (Aeschynanthus littoralis)	EN (DENR, 2017)
Lithocarpus apoensis	VU (DENR, 2017)	
Mt. Makaayat (Under Matigsalug-Manobo Ancestral Domain)	<b>FAUNA</b>	
	Southern Rufous Hornbill	VU (IUCN)
	Giant Scops Owl	EN (DENR, 2019)
	Apo Myna	VU(DENR,2019)
	Philippine Long Tailed Macaque	NT (IUCN)
	Philippine Deer	EN (DENR), 2019)
	Hawk Eagle	EN (IUCN)
	Palm Civet	LC (IUCN)
	Philippine Tarsier	OTS (DENR, 2019)
	Viper	LC (IUCN)
	King Cobra	OTS (DENR, 2019)
	<b>FLORA</b>	
	White Lawaan	VU (DENR, 2017)
	Red Lawaan	VU (DENR, 2017)
	Bagtikan	CR (DENR, 2017)
	Almon	VU (DENR, 2017)
	Almasiga	VU (IUCN)
	Tanguile	VU (DENR, 2017)
	Nato	VU (DENR, 2017)
	Red Cedar	CE (IUCN)
	Balete (Ficus bojeri)	VU (IUCN)
	Balete (Ficus salzannaniana)	EN (IUCN)
	Balete (Ficus lateriflora)	CR (IUCN)
	Balete (Ficus aguarguensis)	VU(IUCN)
	Katmon	VU (IUCN)
Bagtikan	CR (DENR, 2017)	
Mayapis	EN (DENR, 2017)	

Table FO-19 Biodiversity Inventory, cont.

LOCATION	Name	Conservation Status
Mt. Makaayat (Under Matigsalug-Manobo Ancestral Domain)	<b>FAUNA</b>	
	Philippine Eagle	CR (DENR, 2019)
	Southern Rufous Hornbill	VU (IUCN)
	Philippine Deer	EN (DENR, 2019)
	Hawk Eagle	EN (IUCN)
	Giant Scops Owl	EN (DENR, 2019)
	Palm Civet	LC (IUCN)
	Viper	LC (IUCN)
	Apo Myna	VU (DENR, 2019)
	Philippine Long Tailed Macaque	NT (IUCN)
	King Cobra	OTS (DENR, 2019)
	Philippine Warty Pig	VU (DENR, 2019)
	Philippine Tarsier	OTS (DENR, 2019)
	<b>FLORA</b>	
	Almasiga	VU (IUCN)
	Red Lawaan	VU (DENR, 2017)
	Mayapis	EN (DENR, 2017)
	Tanguile	VU (DENR, 2017)
	Nato	<b>VU (DENR, 2017)</b>
	Dita	LC (IUCN)
Balete (Ficus bojeri)	VU (IUCN)	
Balete (Ficus salzannaniana)	EN (IUCN)	
Balete (Ficus lateriflora)	CR (IUCN)	

Source: Department of Environment and Natural Resources Office Administrative Order No. 2019-09, Department of Environment and Natural Resources Office Administrative Order No 2017-11, Birds of Downtown Davao City Volume 1 and Volume 2 by Martin Pineda, 2012 Resource and Socio-Economic Assessment (RSEA) of Interface Development Interventions for Sustainability (IDIS), City Environment and Natural Resources Office, Philippine Eagle Center, and Ancestral Domain Management Office

## Extent of Watershed/Sub-watershed in the City of Davao, by Land Classification

The largest watershed traversing alienable and disposable lands is the Davao River area which covers 45,136.47 hectares, followed by Talomo River with 19,770.80 hectares. Lipadas River is third with 11,771.34 hectares. Fourth and fifth are Bunawan and Matina watersheds with 7,828.46 hectares and 7,664.88 hectares, respectively. Tuganay, Sibulan and Lasang watersheds have the lowest area covered with 5,678.95, 4,558.48 and 3,552.57 hectares respectively.

In forestlands, it is still Davao River which covers the largest area with 84,953.09 hectares followed by Lasang River with 25,097.82 hectares and third is Tuganay River with 11,746 hectares.

Only four (4) watersheds namely Davao River, Lipadas River, Sibulan River and Talomo river traverse the Mt. Apo National Park (MANP) area. Talomo River covers 5,514.80 hectares, being the biggest and the Davao River while it covers a significant land area in both alienable and disposable and forestland, has the least number of hectares covered in the MANP at 54.32 hectares.

**Table FO-20. Extent of Watershed/Sub-watershed in the City of Davao, by Land Classification**

Watershed	A & D (has)	Forestland (has)	MANP (has)
Bunawan River	7,828.46	2,791.22	
Davao River	45,136.47	84,953.09	54.32
Lasang River Water-shed	3,552.57	25,097.82	
Lipadas River	11,771.34	1,479.47	3,607.76
Matina River	7,664.88	93.76	
Sibulan River	4,558.48	107.18	5,514.80
Talomo River	19,770.80	664.84	1,927.30
Tuganay River	5,678.95	11,746.49	

Source: DENR, Region XI

## Forest Cover Change

Over a period of five (5) years, Bunawan River watershed gained grounds for forest cover. In the process, its area for annual crop, built up area, fish pond, grasslands and perennial crops shrunk. The scenario is different in the Davao River, where it gained more areas for brush/shrubs, built-up, closed and open forest, open/barren and perennial crops while losing grounds for annual crop and grasslands.

Lasang River watershed's grassland area also significantly decreased, but there was a spike in its land area for brush/shrubs and a more than 100% increase in its area for perennial crops. A slight increase in Lipadas River's perennial crops area was experienced while the reverse took place in Matina River.

Shrinking areas for brush/shrubs, closed forest and inland water transpired in Talomo River watershed while a gain in area for brush/shrubs took place Tuganay River but almost evened out by the loss suffered in grasslands and inland water combined.

**Table FO-21. Forest Cover Change, Davao City, 2015**

FFL Assets	Vegetative Cover Change Per Sub-Watershed (Ha)								
	Bunawan River			Davao River			Lasang River Watershed		
	2010	2015	loss/ gain	2010	2015	loss/ gain	2010	2015	loss/ gain
Annual Crop	302.96	18.32	Loss	1,651.86	558.02	Loss	925.38	679.46	Loss
Brush/ Shrubs	298.54	795.28	Gain	11,794.72	51,045.65	Gain	3,176.59	16,808.97	Gain
Built-up	2.18	1.03	Loss	115.72	199.15	Gain	13.77	21.66	Gain
Closed Forest	-	-	-	4,113.22	4,335.52	Gain	8.15	37.51	Gain
Fishpond	35.25	29.57	Loss	-	-	-	34.94	22.69	Loss
Grassland	184.66	85.73	Loss	53,141.77	11,400.35	Loss	17,648.80	2,375.68	Loss
Inland Water	-	-	-	692.33	510.10	Loss	237.26	102.56	Loss
Mangrove Forest	-	2.59	Gain	-	-	-	-	10.13	Gain
Open Forest	-	-	-	8,665.84	10,888.89	Gain	1,894.95	1,813.71	Loss
Open/ Barren	-	-	-	-	18.64	Gain	-	-	-
Perennial Crop	1,967.63	1,858.71	Loss	1,985.66	3,204.80	Gain	1,157.97	3,225.45	Gain
<b>Grand Total</b>	2,791.22	2,791.22		82,161.11	82,161.11		25,097.82	25,097.82	



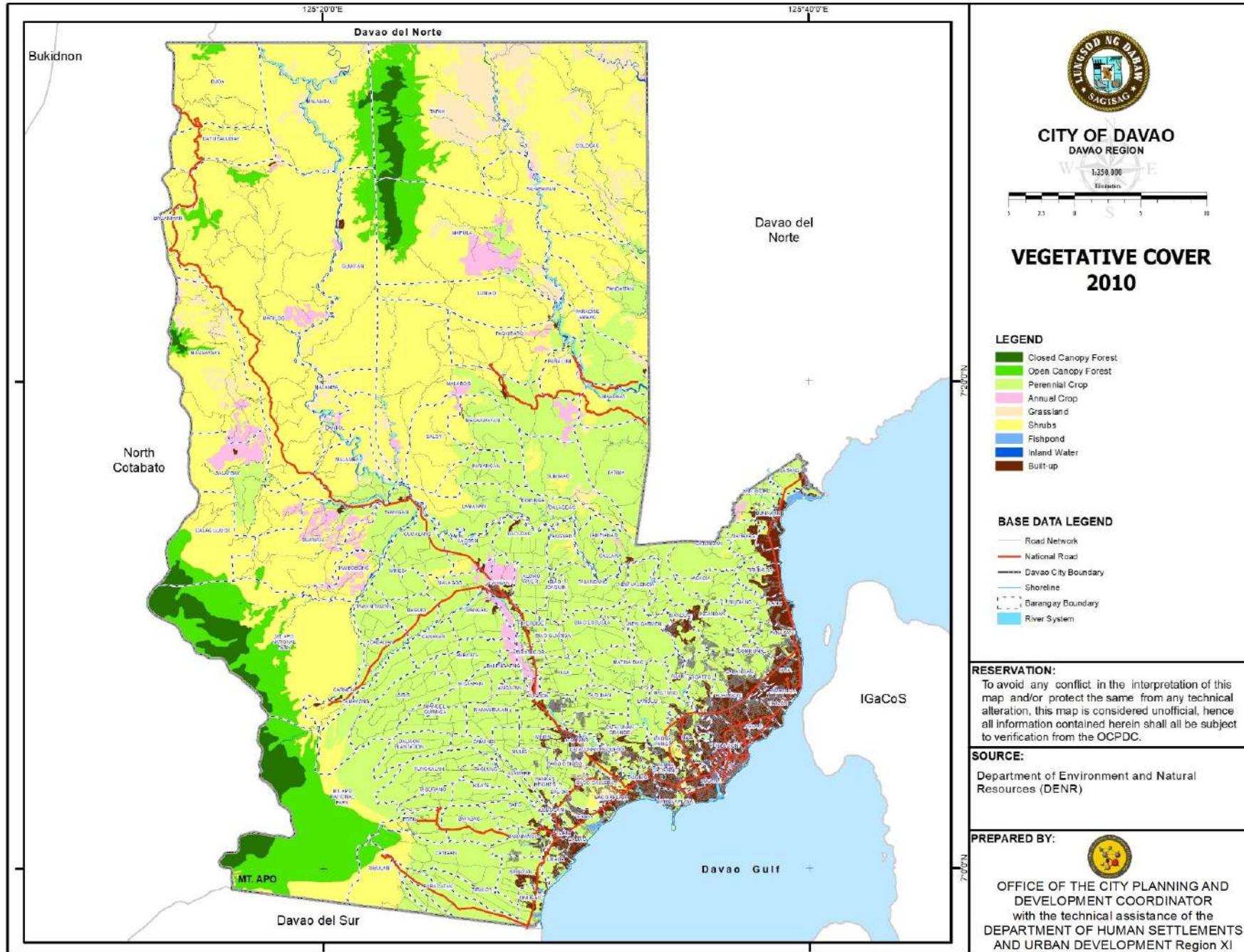
Table FO-21. Forest Cover Change, Davao City, 2015, cont.

FFL Assets	Vegetative Cover Change Per Sub-Watershed (Ha)								
	Bunawan River			Davao River			Lasang River Watershed		
	2010	2015	loss/ gain	2010	2015	loss/ gain	2010	2015	loss/ gain
Annual Crop	-	86.14	Gain	-	-	-	18.46	42.84	Gain
Brush/ Shrubs	-	84.55	Gain	-	45.82	Gain	403.65	1,285.53	Gain
Built-up	-	13.83	Gain	-	7.56	Gain	9.89	86.62	Gain
Closed Forest	-	-	-	-	-	-	252.70	341.69	Gain
Fishpond	-	-	-	-	-	-	-	-	-
Grass- land	176.28	-	Loss	-	-	-	1,906.83	476.24	Loss
Inland Water	-	-	-	-	-	-	-	-	-
Man- grove Forest	-	-	-	-	-	-	-	-	-
Open Forest	134.82	-	Loss	-	-	-	200.44	556.91	Gain
Open/ Barren	-	-	-	-	-	-	-	-	-
Perennial Crop	1,168.37	1,294.95	Gain	93.76	40.37	Loss	-	2.15	Gain
Grand Total	1,479.47	1,479.47	Loss	93.76	93.76		2,791.98	2,791.98	

Table FO-21. Forest Cover Change, Davao City, 2015, cont.

FFL Assets	Vegetative Cover Change Per Sub-Watershed (Ha)											
	Sibulan River			Talomo River			Tuganay River			Grand Total		
	2010	2015	loss/gain	2010	2015	loss/gain	2010	2015	loss/gain	2010	2015	loss/gain
Annual Crop	-	-	-	-	-	-	-	-	-	2,898.67	1,384.78	Loss
Brush/Shrubs	-	-	-	113.80	67.59	Loss	5,975.82	9,054.70	Gain	21,763.12	79,188.10	Gain
Built-up	-	-	-	-	-	-	-	9.63	Gain	141.56	339.48	Gain
Closed Forest	-	-	-	240.27	205.70	Loss	-	-	-	4,614.34	4,920.41	Gain
Fish-pond	-	-	-	-	-	-	-	-	-	70.19	52.26	Loss
Grassland	106.54	-	Loss	-	-	-	4,999.83	1,298.12	Loss	78,164.71	15,636.12	Loss
Inland Water	-	-	-	13.15	-	Loss	81.95	44.08	Loss	1,024.69	656.75	Loss
Man-grove Forest	-	-	-	-	-	-	-	-	-	-	12.72	Gain
Open Forest	0.65	-	Loss	297.62	391.56	Gain	-	-	-	11,194.33	13,651.06	Gain
Open/Barren	-	-	-	-	-	-	-	-	-	-	18.64	Gain
Perennial Crop	-	107.18	Gain	-	-	-	688.89	1,339.95	Gain	7,062.28	11,073.57	Gain
Grand Total	107.18	107.18		664.84	664.84		11,746.49	11,746.49		126,933.87	126,933.87	-

Map 1.5 Vegetative Cover Map, Davao City, 2010



CITY OF DAVAO  
DAVAO REGION



**VEGETATIVE COVER  
2010**

**LEGEND**

- Closed Canopy Forest
- Open Canopy Forest
- Perennial Crop
- Annual Crop
- Grassland
- Shrubs
- Fishpond
- Inland Water
- Built-up

**BASE DATA LEGEND**

- Road Network
- National Road
- Davao City Boundary
- Shoreline
- Barangay Boundary
- River System

**RESERVATION:**

To avoid any conflict in the interpretation of this map and/or protect the same from any technical alteration, this map is considered unofficial, hence all information contained herein shall all be subject to verification from the OCPDC.

**SOURCE:**

Department of Environment and Natural Resources (DENR)

**PREPARED BY:**

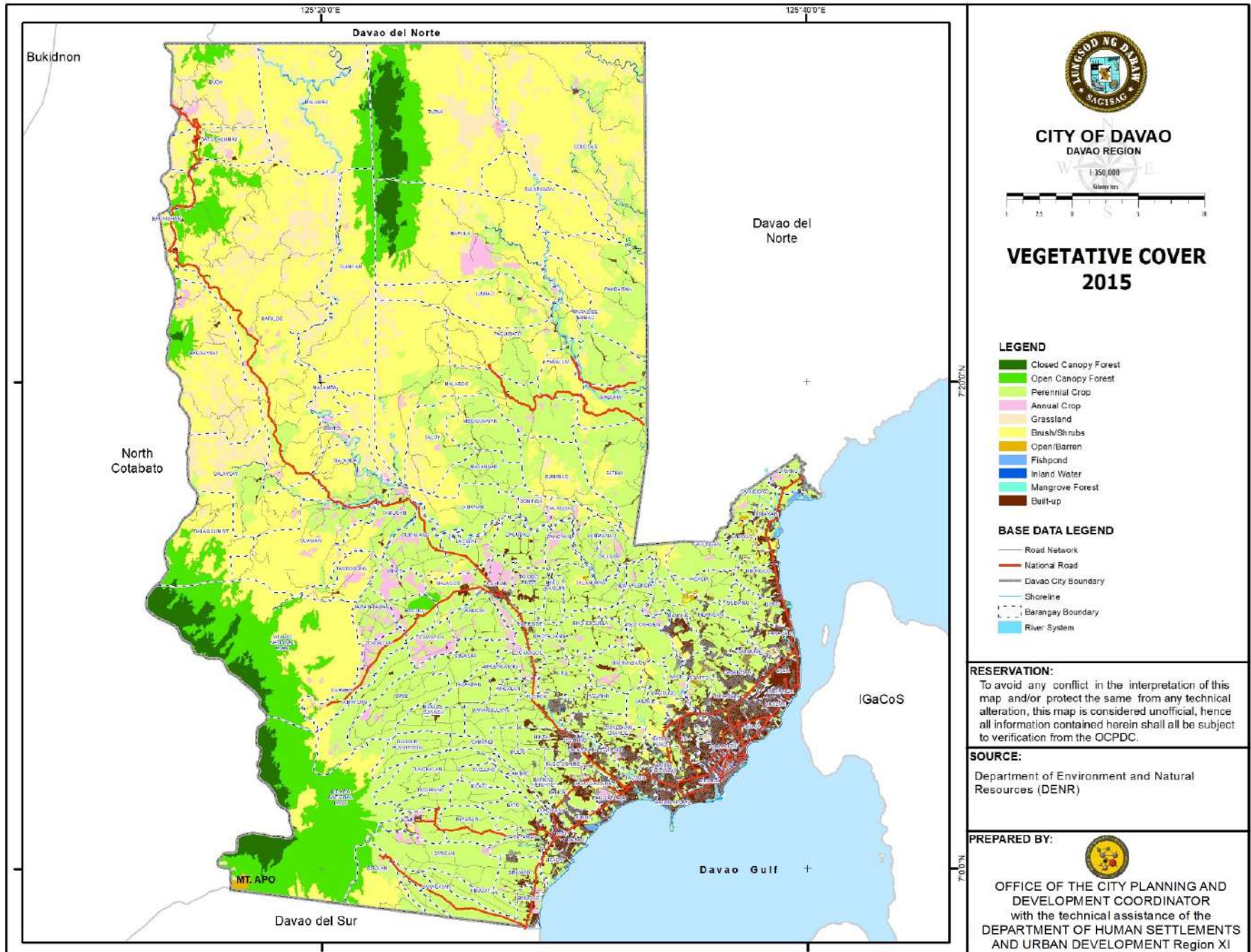


OFFICE OF THE CITY PLANNING AND  
DEVELOPMENT COORDINATOR  
with the technical assistance of the  
DEPARTMENT OF HUMAN SETTLEMENTS  
AND URBAN DEVELOPMENT Region XI

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Map 1.6 Vegetative Cover Map, Davao City, 2015



FO-110

## Perceived Changes in the Condition of FFL Assets/Resources

The table below shows the state of the resources in forest and forestland assets and resources which generally was on a decline resulting from slash and burn practice system, poaching, illegal cutting of timber, land conversion. Another contributing factor is the presence of migrants who introduced development activities adversely affecting the over-all health of the forest and forestland assets.

**Table FO 23. Perceived Changes in the Condition of Resource Assets inside the Ancestral Domains**

Resources (Likas-Yaman)	Situation/Kalagayan last 20 years (walang pagbabago, nadagdagan nabawasan ubos na o nasira na)	Increases (+) or decreases (-) in the number of species (Gaano kadami nabawas / nadagdag)	Reasons for the increase or decrease in the number of species (Mga kadahilanan)
Primary forest / close canopy forest	Majority of CADTs experienced decrease	-40%	The decrease is due to the practice of Slash and burn practice System, illegal cutting of timber and poaching
Open canopy/ second growth forests	Decreased	-45%	Presence of migrants, land grabbing, timber poaching
Mangrove forests	-	-	-
Cultivated lands	Increased	30%	Increase in number of households
Grasslands / brushlands	Decreased	-40%	Practice of slash and burn practice system
Habitats of endangered species	Decreased	-50%	Illegal entry into the habitats/disruption of habitat
No. of wildlife species	For most of the CADTs, there was a decrease but for the Bagobo-Tagabawa area, the situation improved	Decrease of 40% Increase of 60% for Bagobo-Tagabawa area	Decrease is attributed to illegal hunting Increase is due to the observance and strict implementation of existing laws
Nature based tourism	Increased	60%	Advent of resorts
Water resources (quantity / quality)	Decrease in quantity	-50%	Illegal logging, Slash and burn practice, operation of hydropower plant, increase in population
Fishery Resources (catch)	Decreased	-60%	Illegal logging, slash and burn practice system
Other resource assets Farming Income	Decreased	-30%	Occurrence of drought, lack of financial support and technology

Source: City Environment and Natural Resources Office, Davao City



# BIODIVERSITY

## BIODIVERSITY

Davao City has a total of 53,109.77 hectares (has.) , of key biodiversity areas. The largest area is that of the Obu-Manuvu ancestral domain watershed at 20,947.90 has. It is followed by the National Integrated Protected Areas System (NIPAS), which has 13,165.68 has.; the Ata-Manobo Certificate of Ancestral Domain Title (CADT) with 9,607.58 has., the Matigsalug-Manobo ancestral domain, with 5,357.59 has he Shrine Hills with 226.62 has, Malagos with 221.27 has, and Magtuod Forest Zone with 55.81 has.



The Marine Protected Areas (MPAs) have a share of 3,526.31 has. These areas include, Binugao to Talomo with 2,639.60 has., Bunawan to Lasang with 852.69 has., and Punta Dumalag with 34.02 has.

Davao City has medium to high (1,500 mean above sea level or masl) elevation forest, and low to medium elevation forests which are primary or rehabilitated woodlands located up to around 1,500 masl. The Philippine Eagle Center/Malagos Watershed area, Marilog District, and parts of Talomo mountain range (which includes Mt. Apo) all have patches of low to mid-altitude forests with high bird population. These low to medium elevation forests are home to the Philippine Eagle, the country's national bird but also among the endangered birds and animals. There are also declared sightings of Philippine Eagle in Salaysay, Tambobong, Carmen, and Tawan-tawan.

Other than that, Mt. Malambo in Datu Salumay, and Mt. Makaayat of Paquibato District are also dwellings of Palm Civet (Milo), Philippine Long tailed Macaque, Philippine Deer, Mindanao Flying Lemur, Philippine Warty Pig, Tree Shrew, Apo Myna, King Cobra, Philippine Pygmy Squirrel, Mindanao Fruit Bat, Viper and many more. Unfortunately, while these areas are protected forest, but these are not declared as key biodiversity areas.

Aside from forest ecosystems, watersheds also house other rich life forms with Talomo Lipadas and Tamugan as among the largest watersheds. According to the 2012 Resource and Socio-Economic Assessment (RSEA) of Interface Development Interventions for Sustainability (IDIS), 159 species of plants representing 82 genera and 58 families; 143 individual species of trees, 124 species of birds, and 171 species of fauna are in Talomo-Lipadas watershed and its river banks. Sixty-six species of these birds are Philippine endemic while 24 species are Mindanao endemic. It can be noted that these watershed areas are under conservation zones, wherein residential and agro-tourism activities are existing.

The city also has rich marine ecosystems. Punta Dumalag, declared as marine conservation zone, is a nest bed to Hawksbill Turtle, Leatherback Turtle, and Olive Ridley. Marine turtles go there to lay their eggs.

<sup>1</sup> *Birds of Davao City Beyond Downtown Volume Two* by Martin Y. Pineda

The threats to these identified biodiversity areas include continued illegal timber poaching, and lack of wildlife protection. Development sprawling in conservation areas not just in the city but also in the neighboring municipalities pose harm to the forests ecosystem. Commercial agriculture, existence of mono-crop plantations and the use of chemical-based pesticides in conservation areas place species at risk. Moreover, the conservation areas are likewise affected by infrastructure expansion.

The coastal and marine sites are being threatened by the polluted coastal waters streaming inwards from neighboring areas. Waste from industrial and commercial areas in the city end up in marine waters poisoning marine wildlife.

## Key Biodiversity Areas

The areas identified to have the same kind of flora and fauna species are the Ovu Manuvu ancestral domain watershed (Carmen-Tawan-Tawan-Tambobong-Salaysay), Mt. Apo National Park (Tamayong, Eden, Catigan, Sibulan), Talomo-Lipadas, and Panigan-Tamugan watershed.

The Philippine Eagle is identified as critically endangered and its nesting sites are located in Daliaon, Toril, Barangay Sibulan, Barangay Tambobong, and Barangay Salaysay.

Critically endangered, endangered, and vulnerable species of animals and plants can also be found within the Mt. Apo area. Among these are Amethyst Brown Dove, Celestial Monarch, Philippine Deer, Philippine Large Headed Fruit Bat, and Emerald Dragonfly. Waling-waling is among the plants identified as critically endangered based on the Department of Environment and Natural Resources (DENR) Administrative Order 2017-11.

While the plant and animal species thrive in the forestlands, marine animals such as Dugong (Critically Endangered), Hawksbill Turtle (Critically Endangered), and Leatherback Turtle (Critically Endangered) can be found from time to time along Binugao to Talomo and Bunawan to Lasang coastline and Punta Dumalag.

As shown in Table BD—1, flora and fauna species are listed according to their conservation status. Under the International Convention of Nature (IUCN) which assess species conservation status in a global scale, species are rated through these categories: Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), and Least Concern (LC). Moreover, these categories are slightly different from what was used in the updated national list of threatened fauna and flora species by Department of Environment and Natural Resources. The categories include: Critically Endangered (CR), Endangered (EN), Vulnerable (VU), and Other Threatened Species (OTS).

Table BD-1 Key Biodiversity Areas

Location		Name	Conservation Status
<b>FAUNA</b>			
Ovu Manuvu, Bagobo-Klata, Bagobo Tagabawa, and Bagobo Tagabawa-Mt. Apo Ancestral Domain		Philippine Eagle	CR (DENR, 2019)
		Amethyst Brown Dove	CR (DENR), 2019)
		Celestial monarch	CR (DENR, 2019)
		Philippine Deer	EN (DENR), 2019)
		Giant Scops Owl	EN (DENR, 2019)
		Mindanao Hornbill	EN (DENR, 2019)
		Japanese Night Heron	EN (DENR)
		Philippine Large-headed Fruit Bat	VU (IUCN)
		Philippine Pygmy Fruit Bat	VU (IUCN)
		Harpy Fruit Bat	VU (IUCN)
		Hardwicke's Wooly Bat	LC (IUCN)
		Greater Musky Fruit Bat	LC (IUCN)
		Lesser musky Fruit Bat	LC (IUCN)
		Philippine forest horseshoe bat	LC (IUCN)
		Philippine Rat Snake	LC (IUCN)
Ovu Manuvu Ancestral Domain	20,947.90 has	White Lined-water snake	LC (IUCN)
Mt. Apo National Park, Talomo Lipadas and Panigan Tamugan Watershed	13, 165.68 has	Graceful short legged skink	LC (IUCN)
Areas included: Mt. Apo Natural Park (MANP) Talomo Lipadas and Panigan Tamugan Watershed		Apo Myna	VU(DENR, 2019)
		Southern Silvery Kingfisher	VU (DENR, 2019)
		Writhed Hornbill	VU (DENR, 2019)
		Spotted Imperial Pigeon	VU (IUCN)
		Black Faced Coucal	VU (IUCN)
		Whiskered Flowerpecker	VU (DENR, 2019)
		Apo summit grass root mealybug (Trionymus summus )	VU (DENR, 2019)
		Apo parachyrhynchid	VU (DENR, 2019)
		Davao Easter Egg Beetle	VU (DENR, 2019)
		Emerald Butterfly	VU (DENR, 2019)
		Philippine Tarsier	OTS (DENR, 2019)
		Flame crowned flowerpecker	OTS (DENR, 2019 )
		Philippine Duck	VU (IUCN)
		King Cobra	OTS (DENR, 2019)
		Grey hooded sunbird	OTS (DENR, 2019)
Mindanao Fanged Frog	OTS (DENR, 2019)		
Mindanao Horned Frog	OTS (DENR, 2019)		

**Table BD-1 Key Biodiversity Areas**

Location	Name	Conservation Status
	Striped bronzeback snake	LC (IUCN)
	Agusan bent-toed gecko	LC (IUCN)
	Muller's Toad	VU (IUCN)
	Southeast Asian Horned Toad	LC (IUCN)
	Pointed Snout Tree Frog	LC (IUCN)
	Smooth skinned Tree Frog	LC (IUCN)
	Common Forest Tree Frog	LC (IUCN)
	Guenther's Forest Frog	LC (IUCN)
	White Lipped Tree Frog	LC (IUCN)
	Mottled Tree Frog	VU (IUCN)
	Mindanao racket tail	NT (IUCN)
	Mindanao Scops Owl	NT (IUCN)
	Philippine Fairy Blue Bird	NT (IUCN)
	Mindanao Pygmy Blabber	NT (IUCN)
	Grey-hooded Sunbird	NT (IUCN)
	McGregors Cuckoo Shrike	NT (IUCN)
	Palm Civet	LC (IUCN)
	Asian Palm Civet	LC (IUCN)
	Philippine long tailed Macaque	NT (IUCN)
	Tree Shrew	LC (IUCN)
	Philippine Pygmy Squirrel	LC (IUCN)
	Philippine Forest Rat	LC (IUCN)
	Mindanao Fruit Bat	LC (IUCN)
	Spiny Tree Frog	LC (IUCN)
	Stripe-breasted Rhabdornis	LC (IUCN)
	Tawny Grassbird	LC (IUCN)
	Mountain White-eye	LC (IUCN)
	Sulphur-billed Nuthatch	LC (IUCN)
	Coppersmith Barbet	LC (IUCN)
	Philippine Serpent Eagle	LC (IUCN)
	Scarlet Minivet	LC (IUCN)
	White Throated Kingfisher	LC (IUCN)
	Naked Faced Spiderhunter	LC (IUCN)
	Bundok Flycatcher	LC (IUCN)
	Little Pied Flycather	LC (IUCN)
	Olive-capped Flowerpecker	LC (IUCN)



Table BD-1 Key Biodiversity Areas

Location	Name	Conservation Status
	Island Thrush	LC (IUCN)
	Coletto	LC (IUCN)
	White Eared Brown Dove	LC (IUCN)
	Yellow breasted Fruit Dove	LC (IUCN)
	Brush Cuckoo	LC (IUCN)
	Orange-tufted Spiderhunder	LC (IUCN)
	Jungle Fowl	LC (IUCN)
	Bi-colored Flowerpecker	LC (IUCN)
	Buzzing Flowerpecker	LC (IUCN)
	Fire-breasted Flowerpecker	LC (IUCN)
	Orange-bellied Flowerpecker	LC (IUCN)
	Philippine Falconet	LC (IUCN)
	Whiskered Flowpecker	LC (IUCN)
	Whiskered Treeswift	LC (IUCN)
	Philippine Trogon	LC (IUCN)
	Buff-spotted Flameback	LC (IUCN)
	Philippine Falconet	LC (IUCN)
	Philippine Honey Buzzard	LC (IUCN)
	Yellow-bellied Whistler	LC (IUCN)
	Black and Cinnamon Fantail	LC (IUCN)
	Citrine Canary flycatcher	LC (IUCN)
	Cryptic Flycatcher	LC (IUCN)
	Little Pied Flycatcher	LC (IUCN)
	Mountain Verditer-Flycatcher	LC (IUCN)
	Philippine Bulbul	LC (IUCN)
	Velvet-fronted Nuthatch	LC (IUCN)
<b>FLORA</b>		
	<b>Waling-waling</b>	<b>CR (DENR, 2017)</b>
	Almon	<b>VU (DENR, 2017)</b>
	Nato	<b>VU (DENR, 2017)</b>
	Tanguile	VU (DENR, 2017)
	White Lawaan	VU (DENR, 2017)
	Red Lawaan	VU (DENR, 2017)
	Mayapis	EN (DENR, 2017)
	Bagtikan	CR (DENR, 2017)
	Apitong	EN (IUCN), VU (DENR, 2017)
	Yakal	VU (DENR, 2017)

Table BD-1 Key Biodiversity Areas

Location	Name	Conservation Status	
<b>Mt. Makaayat (Under Matig-salug-Manobo Ancestral Domain) 5,537.59 has</b>	Almasiga	VU (IUCN)	
	Kamagong	CE (IUCN), VU (DENR, 2017)	
	Kalinga/Kaningag	EN (DENR, 2017)	
	Tugas (Molave)	EN (IUCN), VU (DENR, 2017)	
	Malakawayan	VU (DENR, 2017)	
	Dita	LC (IUCN)	
	Red Cedar	CE (IUCN)	
	Medinilla clementis	EN (DENR, 2017)	
	Balete (Ficus bojeri)	VU (IUCN)	
	Balete (Ficus salzanniana)	EN (IUCN)	
	Balete (Ficus lateriflora)	CR (IUCN)	
	Balete (Ficus aguarguensis)	VU(IUCN)	
	Pitcher Plant (Nepenthes copelandii)	EN (DENR, 2017)	
	Astrocalyx calycina	EN (DENR, 2017)	
	Rafflesia shadenbergiana	CE (DENR, 2017)	
	Davao Lipstick Plant (Aeschynanthus littoralis)	EN (DENR, 2017)	
	Lithocarpus apoensis	VU (DENR, 2017)	
	<b>FAUNA</b>		
	Southern Rufous Hornbill	VU (IUCN)	
	Giant Scops Owl	EN (DENR, 2019)	
	Apo Myna	VU(DENR, 2019)	
	Philippine Long Tailed Macacque	NT (IUCN)	
	Philippine Deer	EN (DENR), 2019)	
	Hawk Eagle	EN (IUCN)	
	Palm Civet	LC (IUCN)	
	Philippine Tarsier	OTS (DENR, 2019)	
	Viper	LC (IUCN)	
	King Cobra	OTS (DENR, 2019)	
	<b>FLORA</b>		
	White Lawaan	VU (DENR, 2017)	
	Red Lawaan	VU (DENR, 2017)	
	Bagtikan	CR (DENR, 2017)	
	Almon	VU (DENR, 2017)	
Almasiga	VU (IUCN)		
Tanguile	VU (DENR, 2017)		
Nato	VU (DENR, 2017)		

Table BD-1 Key Biodiversity Areas

Location	Name	Conservation Status
	Red Cedar	CE (IUCN)
	Balete (Ficus bojeri)	VU (IUCN)
	Balete (Ficus salzannaniana)	EN (IUCN)
	Balete (Ficus lateriflora)	CR (IUCN)
	Balete (Ficus aguarguensis)	VU(IUCN)
	Katmon	VU (IUCN)
	Malaikmo	LC
	Bagtikan	CR (DENR, 2017)
	Mayapis	EN (DENR, 2017)
<b>Mt. Malambo (Under Ata Manobo CADT) 9607.58 has</b>	<b>FAUNA</b>	
	Philippine Eagle	CR (DENR, 2019)
	Southern Rufous Hornbill	VU (IUCN)
	Philippine Deer	EN (DENR), 2019)
	Hawk Eagle	EN (IUCN)
	Giant Scops Owl	EN (DENR, 2019)
	Palm Civet	LC (IUCN)
	Viper	LC (IUCN)
	Apo Myna	VU(DENR, 2019)
	Philippine Long Tailed Macaque	NT (IUCN)
	King Cobra	OTS (DENR, 2019)
	Philippine Warty Pig	VU (DENR, 2019)
	Philippine Tarsier	OTS (DENR, 2019)
	<b>FLORA</b>	
	Almasiga	VU (IUCN)
	Red Lawaan	VU (DENR, 2017)
	Mayapis	EN (DENR, 2017)
	Tanguile	VU (DENR, 2017)
	Nato	VU (DENR, 2017)
	Dita	LC (IUCN)
	Balete (Ficus bojeri)	VU (IUCN)
	Balete (Ficus salzannaniana)	EN (IUCN)
	Balete (Ficus lateriflora)	CR (IUCN)
Balete (Ficus aguarguensis)	VU(IUCN)	
<b>Malagos 221.27 has</b>	<b>FAUNA</b>	
	Philippine Eagle	CR (DENR, 2019)
	Tarctic Hornbill	EN (IUCN)
	Philippine Deer	EN (DENR), 2019)

Table BD-1 Key Biodiversity Areas

Location	Name	Conservation Status	
	Hawk Eagle	EN (IUCN)	
	Giant Scops Owl	EN (DENR, 2019)	
	Palm Civet	LC (IUCN)	
	Viper	LC (IUCN)	
	Apo Myna	VU(DENR, 2019)	
	Philippine Long Tailed Macaque	NT (IUCN)	
	King Cobra	OTS (DENR, 2019)	
	Philippine Warty Pig	VU (DENR, 2019)	
	Philippine Tarsier	OTS (DENR, 2019)	
	<b>FLORA</b>		
	Almasiga	VU (IUCN)	
	Red Lawaan	VU (DENR, 2017)	
	Mayapis	EN (DENR, 2017)	
	Tanguile	VU (DENR, 2017)	
	Nato	<b>VU (DENR, 2017)</b>	
	Dita	LC (IUCN)	
	Balete (Ficus bojeri)	VU (IUCN)	
	Balete (Ficus salzannaniana)	EN (IUCN)	
	Balete (Ficus lateriflora)	CR (IUCN)	
	Balete (Ficus aguarguensis)	VU(IUCN)	
	<b>FAUNA</b>		
	<b>Malagos 221.27 has</b>	Philippine Eagle	CR (DENR, 2019)
		Tarictic Hornbill	EN (IUCN)
		Philippine Deer	EN (DENR), 2019)
Philippine Sailfin Lizard		VU (IUCN)	
Philippine Eagle Owl		VU (IUCN)	
Rufous-lored Kingfisher		VU (IUCN)	
Silvery Kingfisher		NT (IUCN)	
Mindanao Flying Fox		NT	
Mindanao Scops Owl		NT	
Writhed Hornbill		VU (DENR, 2019)	
Viper		LC (IUCN)	
Black-naped Monarch		LC (IUCN)	
Philippine Bulbul		LC (IUCN)	
Coletto		LC (IUCN)	
Philippine Serpent Eagle		LC (IUCN)	

**Table BD-1 Key Biodiversity Areas**

Location	Name	Conservation Status
	Purple-throated Sunbird	LC (IUCN)
	Black-faced Coucal	LC (IUCN)
	Philippine Drongo-Cuckoo	LC (IUCN)
	Philippine Tarsier	OTS (DENR, 2019)
	Black Crowned Night Heron	LC (IUCN)
	Barred Rail	LC (IUCN)
	White-breasted Water Hen	LC (IUCN)
	White eared Brown Dove	LC (IUCN)
	Plain Bush Hen	LC (IUCN)
	Common Moor hen	LC (IUCN)
	Common Emerald Dove	LC (IUCN)
	Zebra Dove	LC (IUCN)
	Philippine Coucal	LC (IUCN)
	Asian Koel	LC (IUCN)
	Ridgetop Swiftlet	LC (IUCN)
	Collared Kingfisher	LC (IUCN)
	Spotted Dove	LC (IUCN)
	Coppersmith Barbet	LC (IUCN)
	White Breasted Wood-swallow	LC (IUCN)
	Pied Bus Chat	LC (IUCN)
	Pygmy Flowerpecker	LC (IUCN)
	Pied Triller	LC (IUCN)
	Philippine Pied Fantail	LC (IUCN)
	Yellow Vented Bulbul	LC (IUCN)
	Tawny Grassbird	LC (IUCN)
	Everet's White-eye	LC (IUCN)
	Philippine Magpie Robin	LC (IUCN)
	Orange Flowerpecker	LC (IUCN)
	Olive-backed Sunbird	LC (IUCN)
	Plaintive Cuckoo	LC (IUCN)
	Brahminy Kite	LC (IUCN)
	Phillippine Nightjar	LC (IUCN)
	Guiabero	LC (IUCN)
	Grey-streaked Flycatcher	LC (IUCN)
	Everett's White-eye	LC (IUCN)
	Blue Rock Thrush	LC (IUCN)



Table BD-1 Key Biodiversity Areas

Location	Name	Conservation Status
	Ridgetop Swiftlet	LC (IUCN)
	White-bellied Munia	LC (IUCN)
	Blue-throated Bee eater	LC (IUCN)
	Brown-throated Sunbird	LC (IUCN)
	Striated Heron	LC (IUCN)
	Yellow Bittern	LC (IUCN)
	Eastern Castle Egret	LC (IUCN)
	White-browed Cuckoo	LC (IUCN)
	Common moorhen	LC (IUCN)
	Red Turtle Dove	LC (IUCN)
	Little Bronze Cuckoo	LC (IUCN)
	Common Kingfisher	LC (IUCN)
	Clamorous Reed Warbler	LC (IUCN)
	Black Crowned Night Heron	LC (IUCN)
	Spotted Dove	LC (IUCN)
	Hooded Pitta	LC (IUCN)
	Pacific Swallow	LC (IUCN)
	Black-naped Oriole	LC (IUCN)
	Golden-bellied Gerygone	LC (IUCN)
	Crested Myna	LC (IUCN)
	Olive-backed Sunbird	LC (IUCN)
	Red-keeled Flowerpecker	LC (IUCN)
	Barred Rail	LC (IUCN)
<b>FLORA</b>		
	Almon	VU (DENR, 2017)
	Bagtikan	CR (DENR, 2017)
	White Lawaan	VU (DENR, 2017)
	Katmon	CR
	Dita	LC (IUCN)
	Balete (Ficus bojeri)	VU (IUCN)
	Balete (Ficus salzannaniana)	EN (IUCN)
	Balete (Ficus lateriflora)	CR (IUCN)
	Balete (Ficus aguarguensis)	VU(IUCN)
<b>FAUNA</b>		
	Black Crowned Night Heron	LC (IUCN)
	White eared Brown Dove	LC (IUCN)

**Table BD-1 Key Biodiversity Areas**

Location	Name	Conservation Status
	Spotted Dove	LC (IUCN)
	Common Emerald Dove	LC (IUCN)
	Large-billed Crow	LC (IUCN)
	Asian Glossy Starling	LC (IUCN)
	Brown Shrike	LC (IUCN)
	Rock Dove	LC (IUCN)
	Rufous (Nankeen) Night Heron	LC (IUCN)
	Zebra Dove	LC (IUCN)
	Philippine Coucal	LC (IUCN)
	Ridgetop Swiftlet	LC (IUCN)
	White Breasted Wood-swallow	LC (IUCN)
	Pied Tiller	LC (IUCN)
	Philippine Pied Fantail	LC (IUCN)
	Yellow Vented-Bulbul	LC (IUCN)
	Everet's White-eye	LC (IUCN)
	Philippine Magpie Robin	LC (IUCN)
	Orange Flowerpecker	LC (IUCN)
	Olive-backed Sunbird	LC (IUCN)
	Eurasian Tree Sparrow	LC (IUCN)
	Chesnut Munia	LC (IUCN)
	Monitor Lizard	LC (IUCN)
	Plaintive Cuckoo	LC (IUCN)
	Blue-throated Bee eater	LC (IUCN)
	Guiabero	LC (IUCN)
	Grey-streaked Flycatcher	LC (IUCN)
	Blue Rock Thrush	LC (IUCN)
	Pied Bus Chat	LC (IUCN)
	Orange-bellied Flowerpecker	LC (IUCN)
	Pygmy Flowerpecker	LC (IUCN)
	Whiskered Tern	LC (IUCN)
White-bellied Munia	LC (IUCN)	
<b>Binugao to Talomo</b> 2,639.60 ha	<b>FLORA</b>	
	White Lawaan	VU (DENR, 2017)
	Tanguile	VU (DENR, 2017)
	<b>FAUNA</b>	
	Hawksbill Turtle	CR (DENR, 2019)
Olive Ridley	EN (DENR, 2019)	

Table BD-1 Key Biodiversity Areas

Location	Name	Conservation Status	
	Sea Green Turtle	EN (DENR, 2019)	
	Loggerhead Turtle	EN (DENR, 2019)	
	Leatherback Turtle	CR (DENR, 2019)	
	Dugong	CR (DENR, 2019)	
	Butanding	VU (DENR, 2019)	
	Hard Corals	LC (IUCN)	
	<b>FLORA</b>		
	Bakauan Bato	LC (IUCN)	
	Tangal	LC (IUCN)	
	Tinduk-tindukan	NT (IUCN)	
	Saging-saging	LC (IUCN)	
	Piapi	VU (IUCN)	
	Bungalon	LC (IUCN)	
	Dukduk	LC (IUCN)	
	Nypa Palm	LC (IUCN)	
<b>Bunawan to Lasang 852.69 ha</b>	<b>FAUNA</b>		
	Whale Shark	EN (IUCN)	
	Dugong	VU (IUCN)	
	<b>FLORA</b>		
	Bakauan Bato	LC (IUCN)	
	Tangal	LC (IUCN)	
	Tinduk-tindukan	NT (IUCN)	
	Saging-saging	LC (IUCN)	
	Piapi	VU (IUCN)	
	Bungalon	LC (IUCN)	
	Dukduk	LC (IUCN)	
	Nypa Palm	LC (IUCN)	
	<b>Punta Dumalag 34.02 has</b>	<b>FAUNA</b>	
		Hawksbill Turtle	CR (DENR, 2019)
		Leatherback Turtle	CR (DENR, 2019)
Olive Ridley		EN (DENR, 2019)	
Green Sea Turtle		EN (DENR, 2019)	
Loggerhead Turtle		EN (DENR, 2019)	
Collared Kingfisher		LC ( IUCN)	
Brown Shrike		LC ( IUCN)	
Barn Swallow		LC ( IUCN)	
Yellow Vented-Bulbul		LC ( IUCN)	

**Table BD-1 Key Biodiversity Areas**

Location	Name	Conservation Status
	Everet's White-eye	LC ( IUCN)
	Olive-backed Sunbird	LC ( IUCN)
	Eurasian Sparrow	LC ( IUCN)
	Chestnut Munia	LC ( IUCN)
	Pacific Red Heron	LC ( IUCN)
	Pacific Golden Plover	LC ( IUCN)
	Whimbird	LC ( IUCN)
	Black Noddy	EN (DENR)
	Black-headed Gull	LC (IUCN)
	Pink-necked Green Pigeon	LC (IUCN)
	Yellow -breasted Fruit Dove	LC (IUCN)
	Golden-headed Cisticola	LC (IUCN)
	Asian Koel	LC (IUCN)
<b>FLORA</b>		
	Dukduk	LC (IUCN)
	Piapi	LC (IUCN)
	Tinduk-tindukan	NT (IUCN)
	Saging-saging	LC (IUCN)
	Tangal	VU (IUCN)
	Bungalon	LC (IUCN)
	Bakauan Bato	LC (IUCN)
	Nypa Palm	LC (IUCN)

Source: Department of Environment and Natural Resources Office Administrative Order No. 2019-09, Department of Environment and Natural Resources Office Administrative Order No 2017-11, Birds of Downtown Davao City Volume 1 and Volume 2 by Martin Pineda, 2012 Resource and Socio-Economic Assessment (RSEA) of Interface Development Interventions for Sustainability (IDIS), City Environment and Natural Resources Office, Philippine Eagle Center, and Ancestral Domain Management Office

TABLE BD-2 Biodiversity Analysis Matrix

Technical finding/ Observation/ Issues and Concerns	Effects, Impacts, Implication ,	Policy Options/ Interventions
continued timber poaching	Threatened existence of species, habitat loss, and food depletion	strict Implementation of national laws Strengthen Bantay Bukid organization in all KBAs`
lack of awareness on the importance of wildlife preservation and protection		more or massive IEC to be conducted by CSOs, Academe and Government  consolidation of studies of stakeholders
lack of updated database on Wildlife Flora and Fauna	difficulties in mapping out areas to be declared as KBAs	conduct of regular biodiversity monitoring
urban sprawling on conservation areas;  existence of monocrop plantations and use of chemical based and conventional agricultural methods.  Inappropriate aquaculture practices	air and water pollution  reduced population of crop pollinators reduction of food production  flooding  change of local micro-climate and ecosystem	dwellers should use organic pesticide  strict regulation on Chemicals  Designate aquaculture areas
undeclared Key Biodiversity areas	unprotected wildlife  Urban uses heading towards undeclared areas  Threatens ground water quality	Recognize the following as KBAs. 1. Mt. Makaayat 1. Mt. Malambo 2. Shrine Hills 3. Bago Gallera Sanctuary 4. Coast from Binugao to Talomo 5. Lasang/Bunawan



**TABLE BD-2 Biodiversity Analysis Matrix**

Technical finding/ Observation/ Issues and Concerns	Effects, Impacts, Implication ,	Policy Options/ Interventions
lack of budget allocation for greening program	limited numbers of hectarage to develop	Strengthen LGU initiative in greening program and provide budget threof
existing wetlands are not declared as KBA	Unprotected wetlands	ensure co-management, Strengthen policies for wetlands incorporated under the Water Code. Forestry Code, NIPAS and Public Lands Act or legislate local code for wetlands

### Land Use Issues

High build up rate of infrastructure developments for settlements and agro-industrial use threaten the protected forest and conservation zones. Based on the analysis from the existing land use, agro-industrial activities, particularly poultry, are starting to build up near key biodiversity areas that are located in protected forest. It is noted that the agro-industrial areas found in the existing Land Use Map are previously not identified as agro-industrial zone in the previous CLUP.

The Mt. Apo National Park is being threatened by the impending urban build up in Eden, Toril. Identified as tourism development zone, the build-up is expected due to mixed residential and commercial uses.

There is also no buffer zones for the KBAs. Most of the communities are within or along the edges of the forest lands, which are supposed to serve as buffer and for multiple use zone. In Sibulan, aside from IPs, migrants also occupy the area. The Multiple Use Zone (MUZ) is identified as buffer.

It was recommended to include buffer zones as protective measures for KBAs. These buffer zones are particularly needed in the conservation zone which was recently amended as Conservation Zone 1 and Conservation Zone 2 both covering a total of 62,269 hectares. Conservation 1 will cover national park, watershed reserves, recharge areas for water requirement, and canopy reserves, which cannot be touched because it is critical for sustainable development. Conservation Zone 2, with a total area of 37,000 hectares, consists of the areas previously classified as tourism development zone, in Datu Salumay and including other areas within District 2 and 3, which are by definition of the existing national environmental laws, can be classified as conservation area but not within watershed reserves and watershed recharge areas.

There is also conflicting land uses among industrial establishments, informal settlers, and KBA in marine protected areas. Urban sprawl, and population boom are some of the threats to the conservation areas.



# ANCESTRAL DOMAIN



## ANCESTRAL DOMAIN

### Existing Situation

Davao City is home to 11 tribes/ethnic groups living harmoniously and thriving in their respective areas where their cultural identity as Indigenous People are preserved and their communities nourished. Of the indigenous cultural communities in Davao City, six (6) tribes are issued with Certificates of Ancestral Domain Title (CADT) by the National Commission on Indigenous Peoples (NCIP) by virtue of Republic Act No. 8371 or the Indigenous People Rights Act, namely Ata, Bagobo-Klata, Bagobo-Tagabawa, Bagobo-Tagabawa (Mt. Apo), Matigsalug-Manobo, and Obu-Manuvu.

Pursuant to the said law, the tribes situated within their respective ancestral domains have the freedom and right to practice customary laws, protect and conserve their forest resources. With the intervention of the government and private sector, programs are implemented in their areas to increase their capabilities as a community and as individuals. Their lives are infused with modern technology useful in their common day to day and livelihood practices.

#### A. Physical Attributes

Certificates of Ancestral Domain Titles (CADT) contain the technical descriptions of particular lands to establish boundaries or the tribe's respective area of responsibility. Based on the titles, their areas stretch beyond Davao City and onto the next town/municipality. Table AD-1 shows the extent of the coverage of every CADT issued by the NCIP and the size of the land. Every title is based on the approved political boundaries of the Department of Environment and Natural Resources.

The Ata area includes barangays under the Municipality of Sto. Tomas, Davao del Norte while the land under the Bagobo-Klata CADT shows that its boundary includes parts of the Province of North Cotabato, the same goes with the ancestral domain of the Obu-Manuvu tribe. The Bagobo-Tagabawa area is within the Mount Apo Natural Park, declared a Protected Area.

Majority of the lands within ancestral domain are classified as forestland or timberland. A large portion in the CADTs, which are mountainous, have an elevation ranging from 200 meters above mean sea level (mamsl) to over 1000 mamsl. Due to this land characteristic, these CADT areas are susceptible to the occurrence of landslides.

The geohazard maps indicate that all of the areas are highly vulnerable to flooding while only the Ata area, particularly, Barangay Colosas is susceptible to the occurrence of earthquake, where a fault line traverses through the area, thus, the same area will likely experience liquefaction which is an earthquake-induced hazard.

Table AD-1 Ancestral Domain, Year 2019

AD Name	CADT No.	Date Registered	Date Approved	Area (Has.)		Hazard Susceptibility Map		
		(mmddy y)	(mmddy y)			Flood	Fault Line	Landslide
1. ATA AD	R11-DAV-0213-160		02/02/2013	*87,664.67	Whole AD (With areas outside Davao City)	Low/Medium/High/Very High	Colosas Fault/Medium/High/Very high	Low/Medium/High/Very High
				75844.97	Within Davao City			
2. Bagobo-Tagabawa, Mt. Apo (Unified Bagobo Tagabawa AD)	R11-SCR-1005-034		10/22/05	*40,733.38	Whole AD (With areas outside Davao City)	High		M/H
				4456.77	Within Davao City			
3. Bagobo-Klata AD	R11-DAV-003-2014	10/10/2018	5/28/14	*6,378.0865	Whole AD (With areas outside Davao City)	High		Low/Medium/High
				5,586.42	Within Davao City			
4. Bagobo-Tagabawa (Toril) AD	R11-TOR-0915-185		09/08/2015	*2,244.0725		High		M/H
5. Matigsalug-Manobo AD	R10-KIT-0703-0011		7/25/03	*26,632.6500		High		L/M/H/VH
6. Obu-Manuvu AD	R11-DAV-1108-091		09/12/2008	*35,160.9259	Whole AD (With areas outside Davao City)	Medium/High/Very High		Low/Medium/High/VH
				34097.53	Within Davao City			

Source: National Commission of Indigenous Peoples, Office of the City Planning and Development coordinator, Ancestral Domain Management Office

\*Original Plan, unsegregated

Note: Number of hectares within Davao City, per CADT is based from the DENR Approved Political Boundary.

## 1. Ata Ancestral Domain

Per the Department of Environment and Natural Resources (DENR) Region XI data, the Ata tribes' ancestral domain based on the technical description of the Certification of Ancestral Domain Title (CADT), covers the barangays listed below with the corresponding land area coverage.

The total land area is 87,664. 6687 hectares covering 33 barangays.

<i>BARANGAY</i>	<i>AREA (HECTARES)</i>
Tapak	13,791.886
Colosas	7,766.877
Pandaitan	2,227.581
Mapula	9,692.885
Lumiad	2,356.34
Paradise Embac	845.592
Panalum	1,469.212
Paquibato Proper	5,189.978
Malabog	8,137.153
Salapawan	2,550.571
Sumimao	1,901.534
Fatima	1,335.634
Megkawayan	1,842.945
Saloy	2,289.303
Lamanan	1,252.511
Dalagdag	484.529
Dominga	544.532
Tamugan	12.248
Malamba*	2,085.843
Bantol	1,213.19
New Visayas	404.056
Bubongon	1,182.427
Tulalian	59.644
Balagunan	155.123
Inayangan	1,419.8048
Mabuhay	1,171.88
Gumitan	5,243.876
Magwawa	175.878
Marilog	550.602
Dacudao	83.135
Pangyan	27.503
Lampianao	33.737
Sto. Niño (Municipality)	10,166.658
<b>33 Barangays</b>	<b>87,664.6687</b>



## Population

The Ata tribe has a total population of 14,146, with the highest concentration in Barangay Tapak, Paquibato District, 4,185 individuals and the lowest concentration in Barangay Tulalian with 88 individuals.

BARANGAY	Number Households	%	Total Population	%
Tapak	1,163		4,185	30
Malabog	604	19	2,905	21
Malamba	242	8	1,081	8
Pandaitan	163	5	783	6
Colosas	135	1	733	5
Salapawan	126	4	581	4
Panalum	89	3	436	3
Mapula	87	3	518	4
Bantol	74	2	382	3
Tamugan	71	2	262	2
Paradise Embac	68	2	341	2
New Bisayas	60	2	261	2
Sumimao	56	2	236	2
Lamanan	52	2	255	2
Paquibato Proper	38	1	169	1
Dominga	36	1	194	1
Bubongon	36	1	194	1
Dalagdag	35	1	161	1
Saloy	28	1	137	1
Megkawayan	20	1	106	1
Tulalian	20	1	88	1
Balagunan	20	1	138	1
Fatima	No Data			
Lumiad	No Data			
<b>TOTAL</b>	<b>3,223</b>	<b>100</b>	<b>14,146</b>	<b>100</b>

## 2. Bagobo-Klata Ancestral Domain

The total land area of 6,378.0865 hectares cover portions of Barangays Sirib and Tamayong of Calinan District, and Manuel Guianga of Tugbok District.

### Population

The Bagobo-Klata tribe are found in three barangays of the city, with most of the population living in Barangay Tamayong with a total of 7,886 individuals, followed by Barangay Manuel Guianga with 6,895, and Barangay Sirib with 5,775, with a combined total population of 20,556.

Barangay	Number Of Household	%	Total Population	%
Manuel Guianga	1,429	31.43%	6,895	33.54%
Sirib	1,392	30.62%	5,775	28.09%
Tamayong	1,725	37.95%	7,886	38.36%
Total	4546	100%	20556	100%

## 3. Bagobo-Tagabawa Ancestral Domain

The ancestral domain of the Bagobo-Tagabawa ICCs/IPs issued with Certificate of Ancestral Domain Title No. R11-TOR-0915-185 covers portion of the five barangays of Toril District namely Barangay Daliaon Plantation, Eden, Tungkalan, Catigan and Tagurano. It has a total land area of 2,244.0725 hectares with 4,112 claimants.

This ancestral domain is situated in the Mt. Apo Natural Park declared under 9237 covering 60,000 hectares.

Barangay	Area (Hectares)	Percentage
Daliaon Plantation	84.9038	3.78%
Tungkalan	79.6632	3.55%
Tagurano	40.2141	1.79%
Eden	157.3711	7.01%
Catigan	438.5711	19.54%
Baracatan	34.0346	1.52%
Sibulan	1.3139	0
MANP Area	1,402.5460	62.50%
Total	2,244.0725	100%

#### 4. Obu-Manuvu Ancestral Domain

There are 11 barangays in the city covered by the ancestral domain of the Obu-Manuvu tribe, while a section traverses the Municipality of Arakan and Magpet, North Cotabato, with 1,042.42 and 671.82 hectares respectively.

Total area coverage is 36,713.52 hectares.

BARANGAY	CITY / PROV	TOTAL
Carmen	Davao City	2,928.11
Tawan-tawan	Davao City	867.52
Tambobong	Davao City	2,939.32
Marilog	Davao City	8,342.88
Baganihan	Davao City	264.20
Magsaysay	Davao City	5,546.63
Malamba	Davao City	1,290.14
Dalag	Davao City	4,166.71
Suawan	Davao City	2,411.22
Bantol	Davao City	315.96
Salaysay	Davao City	4,368.83
Arakan (Municipality)	North Cotabato	1,042.42
Magpet (Municipality)	North Cotabato	671.82
<b>TOTAL</b>		<b>36,713.52</b>

Currently, the Obu-Manuvu ancestral domain are within three area classifications: Agro-Non-Tillage, Conservation Area, and Production Forest, with the last two classifications having the largest coverage at 15,376.78 hectares and 13,786.72 hectares, respectively.

BARANGAY	Agro-Non-tillage	Conservation Area	Protection Forest
Carmen	126.68	2,644.68	2,087.16
Tawan-tawan	0.49	750.94	561.45
Tambobong		2,797.74	2,211.49
Marilog	540.87	86.62	858.95
Baganihan			42.72
Magsaysay	167.14		2,135.80
Malamba	48.14	43.70	
Dalag	326.17	3,724.42	2,011.64
Suawan	43.52	2,251.61	
Bantol			1,600.14
Salaysay	2,601.72	1,588.04	687.38
Arakan (Municipality)	7.06	232.90	265.38
Magpet (Municipality)		24.57	671.82
<b>TOTAL</b>	<b>3,890.70</b>	<b>15,376.78</b>	<b>13,786.72</b>

## B. Resource Assessment

Ancestral Domain lands are possessed with vast natural resources that need to be protected, managed, and conserved. Section 7 of RA 8371 provides that *“The rights of ownership and possession of ICCs/IPs to their ancestral domains shall be recognized and protected. This shall include:*

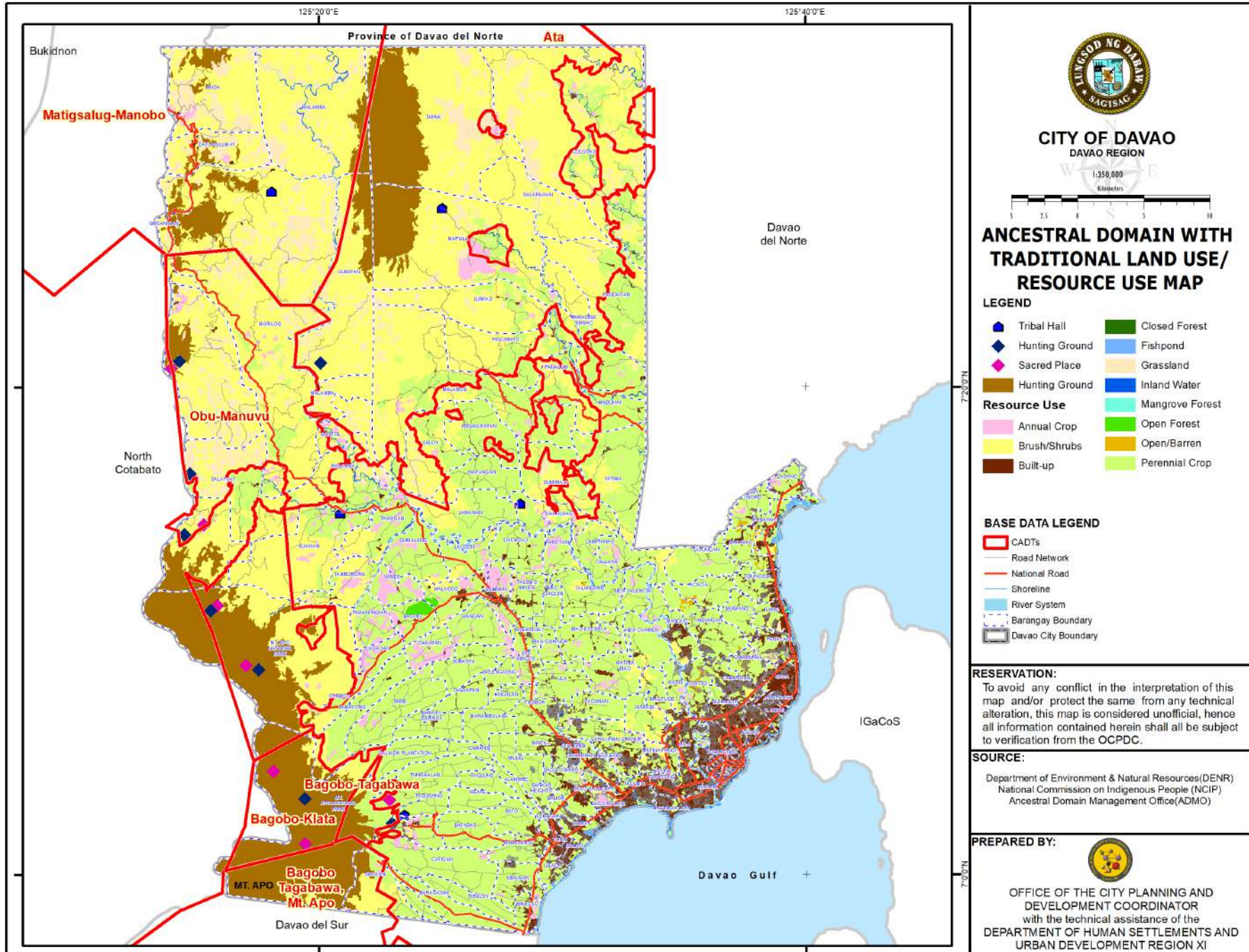
*b. Right to Develop Lands and Natural Resources. - Subject to Section 56 hereof, right to develop, control and use lands and territories traditionally occupied, owned, or used; to manage and conserve natural resources within the territories and uphold the responsibilities for future generations; to benefit and share the profits from allocation and utilization of the natural resources found therein; the right to negotiate the terms and conditions for the exploration of natural resources in the areas for the purpose of ensuring ecological, environmental protection and the conservation measures, pursuant to national and customary laws; the right to an informed and intelligent participation in the formulation and implementation of any project, government or private, that will affect or impact upon the ancestral domains and to receive just and fair compensation for any damages which they sustain as a result of the project; and the right to effective measures by the government to prevent any interfere with, alienation and encroachment upon these rights;”*

It is then inherent to the tribes living within their CADT areas to conserve, protect and manage resources available to them. The traditional Land Use Map/Resource Use Map of Davao City shows which areas the tribes use as hunting grounds, sacred places and tribal halls. Physical resources shown in the map are annual crops, brush/shrubs, built-up areas, closed forest, fishpond, grassland, inland water, mangrove forest, open forest, open/barren land, and perennial crops.

The people thrive on resources within their area. They engage in farming as their primary means of livelihood. Others work as laborers or employees in large farms and banana plantations. (find supporting data on banana plantations)

Majority of the area within Ancestral Domain is timberland/forest land which is preserved by the inhabitants to protect the natural resources inherent to every ancestral domain area. A portion of the area is under the Mount Apo National Park where programs are implemented for its conservation as home to the Philippine Eagle and other wildlife.

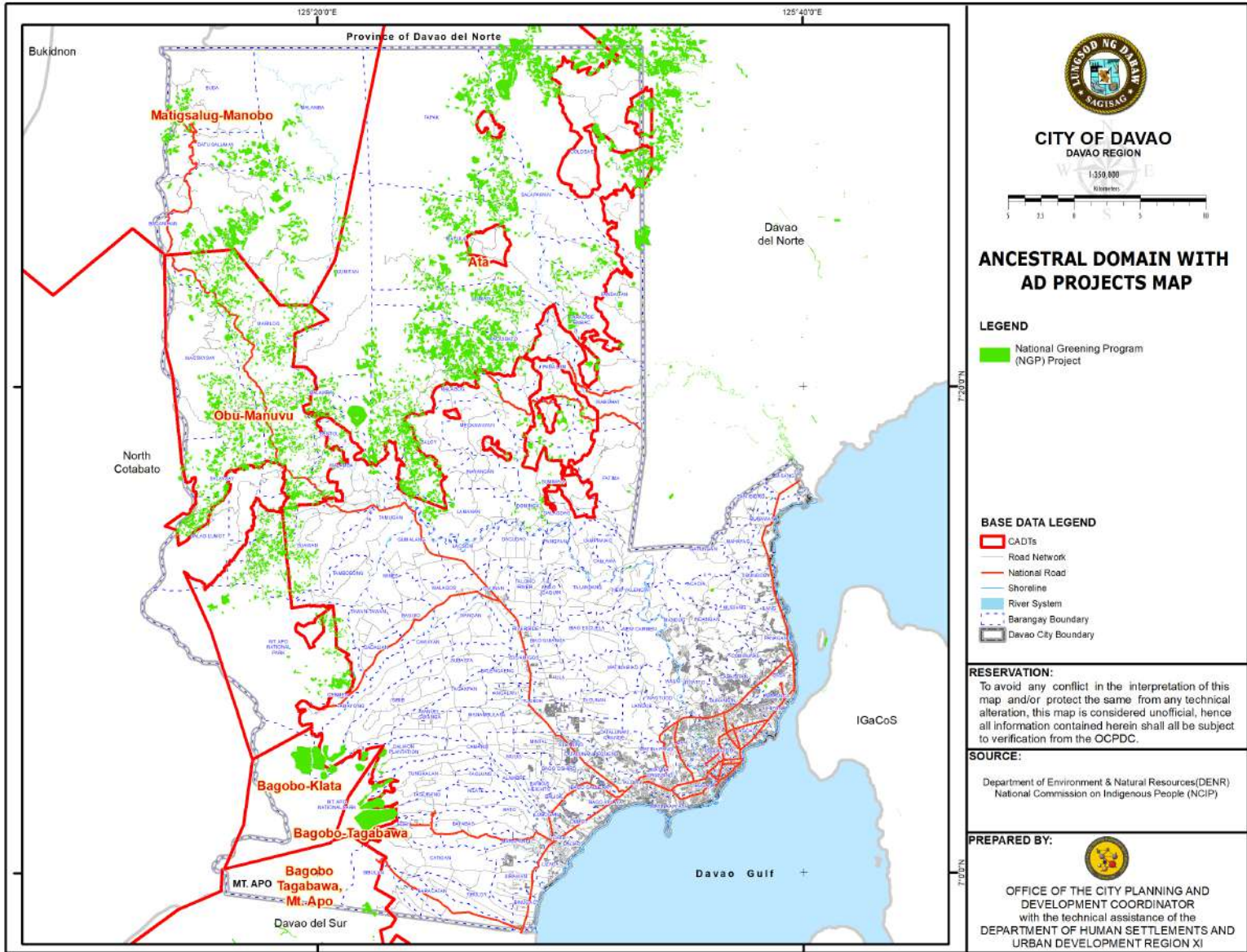
Map 4.1 Ancestral Domain Traditional Land Use/Resources Use, Davao City



AD-136



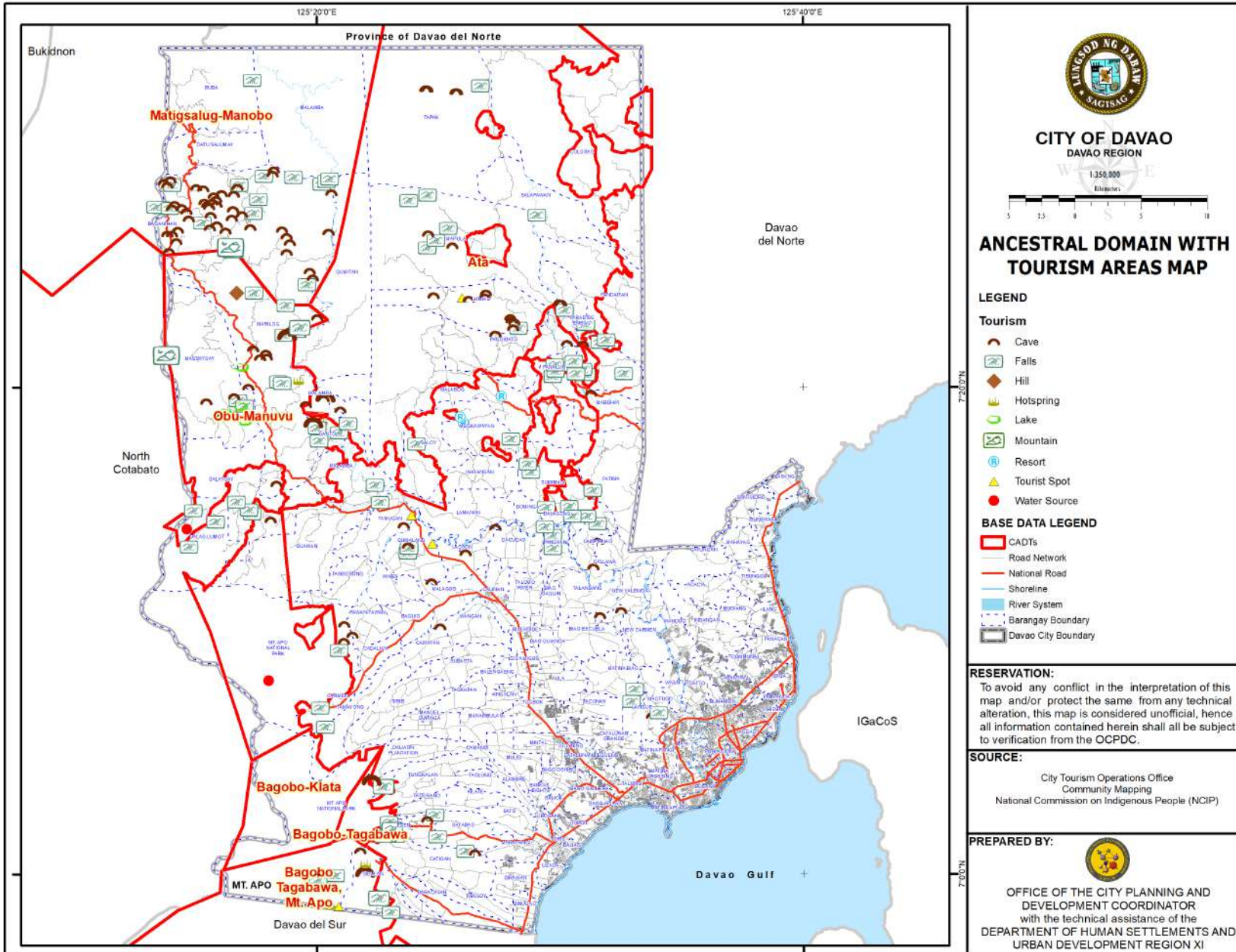
Map 4.2 Ancestral Domain with AD Projects, Davao City



AD-137

Government programs being implemented such as the National Greening Project of the Department of Environment and Natural Resources (DENR) covers almost all ancestral domain areas. This program is instrumental in augmenting the reforestation efforts of the tribes. Other interventions by the national and local government as well as civil society organizations capacitate the tribes in the area through livelihood programs using their agricultural produce. Forest protection programs, and biodiversity conservation are also implemented by the government in coordination with the private sector. Roads and other infrastructure projects are being improved in the barangays under the ancestral domain areas.

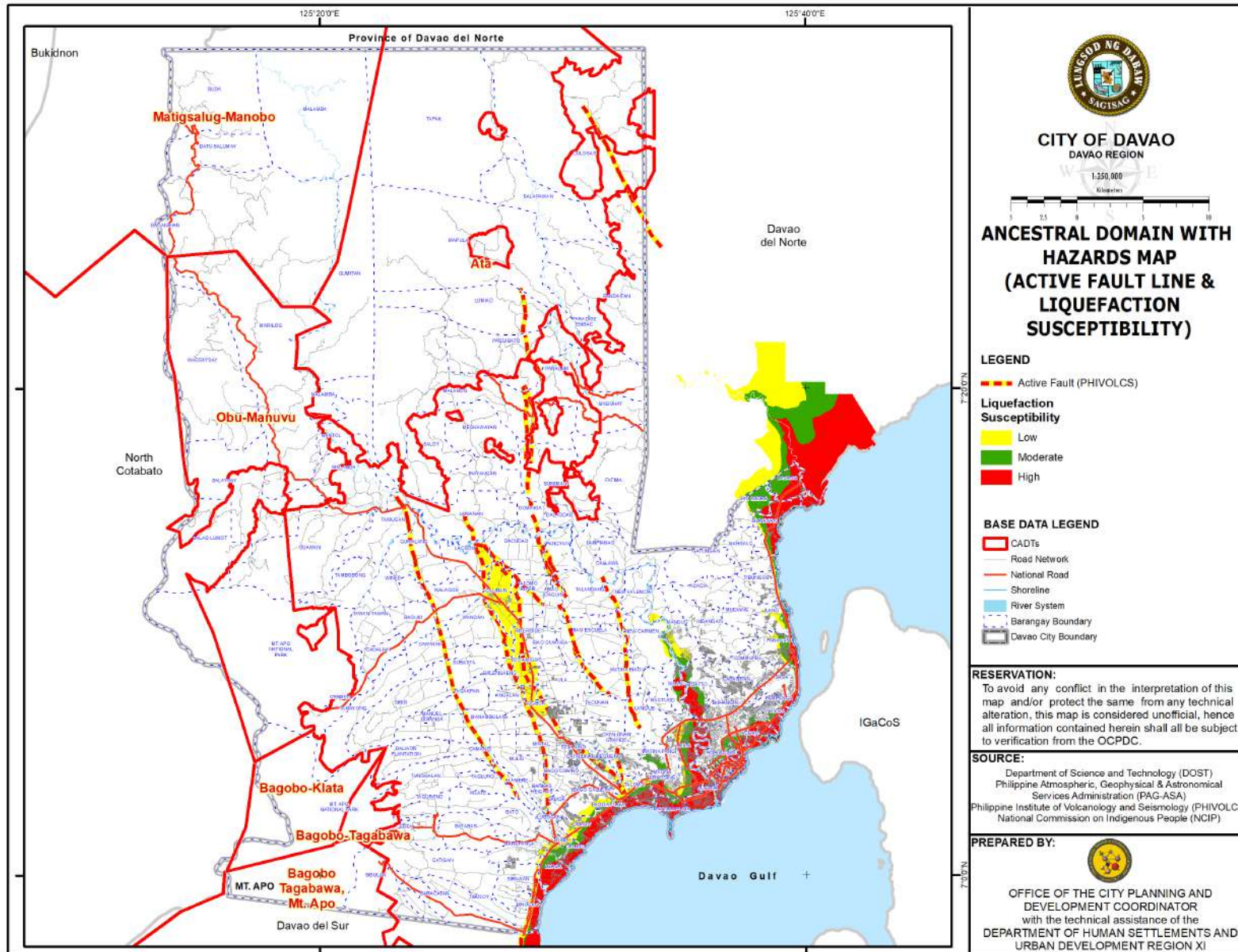
Map 4.3 Ancestral Domain with Tourism Areas, Davao City



Ancestral Domain areas are likewise rich in natural physical features which are potential eco-tourism destinations such as falls, caves and cultural sites as shown in the map below. These areas though, are still subject to existing laws that govern tourism development, ancestral domains, and the like. The tribes within the CADT may claim share from the eco-tourism income.



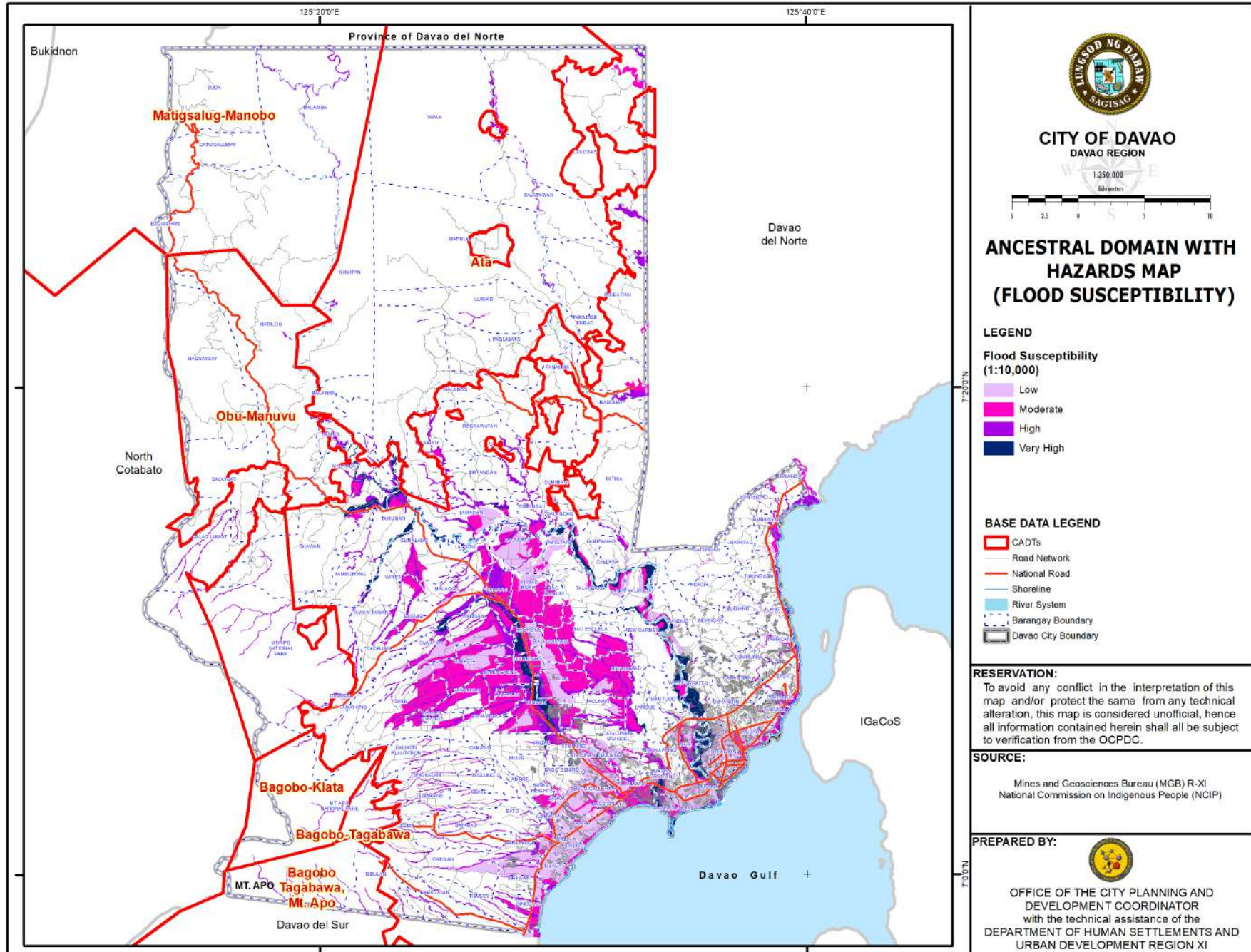
**Map 4.4 Ancestral Domain with Hazards (Liquefaction Susceptibility), Davao City**



One of the drawbacks of these CADT areas are their susceptibility to various hazards mainly due to their topographical location such as steep slopes, which expose them to landslide, and river systems, which expose them to flood. Active fault lines also traverse some CADT areas exposing Ata CADT to liquefaction. All CADTs of the six tribes have areas exposed to flood and landslide with levels ranging from low to very high (see the next map). The City Disaster Risk Reduction and Management Office is currently capacitating communities that are vulnerable to hazards.

AD-139

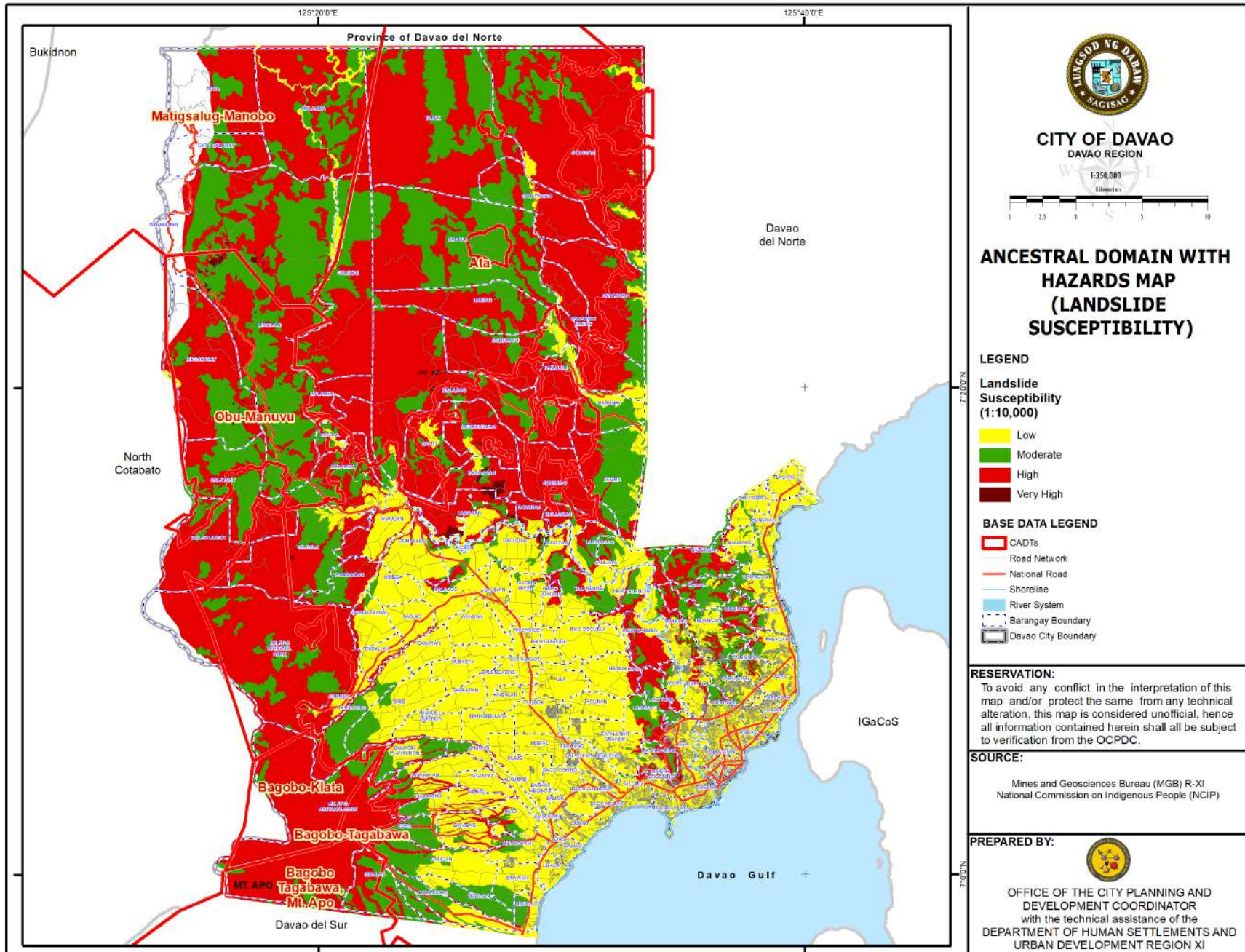
Map 4.5 Ancestral Domain with Hazard (Flood Susceptibility), Davao City



AD-140



Map 4.6 Ancestral Domain with Hazard (Landslide Susceptibility), Davao City

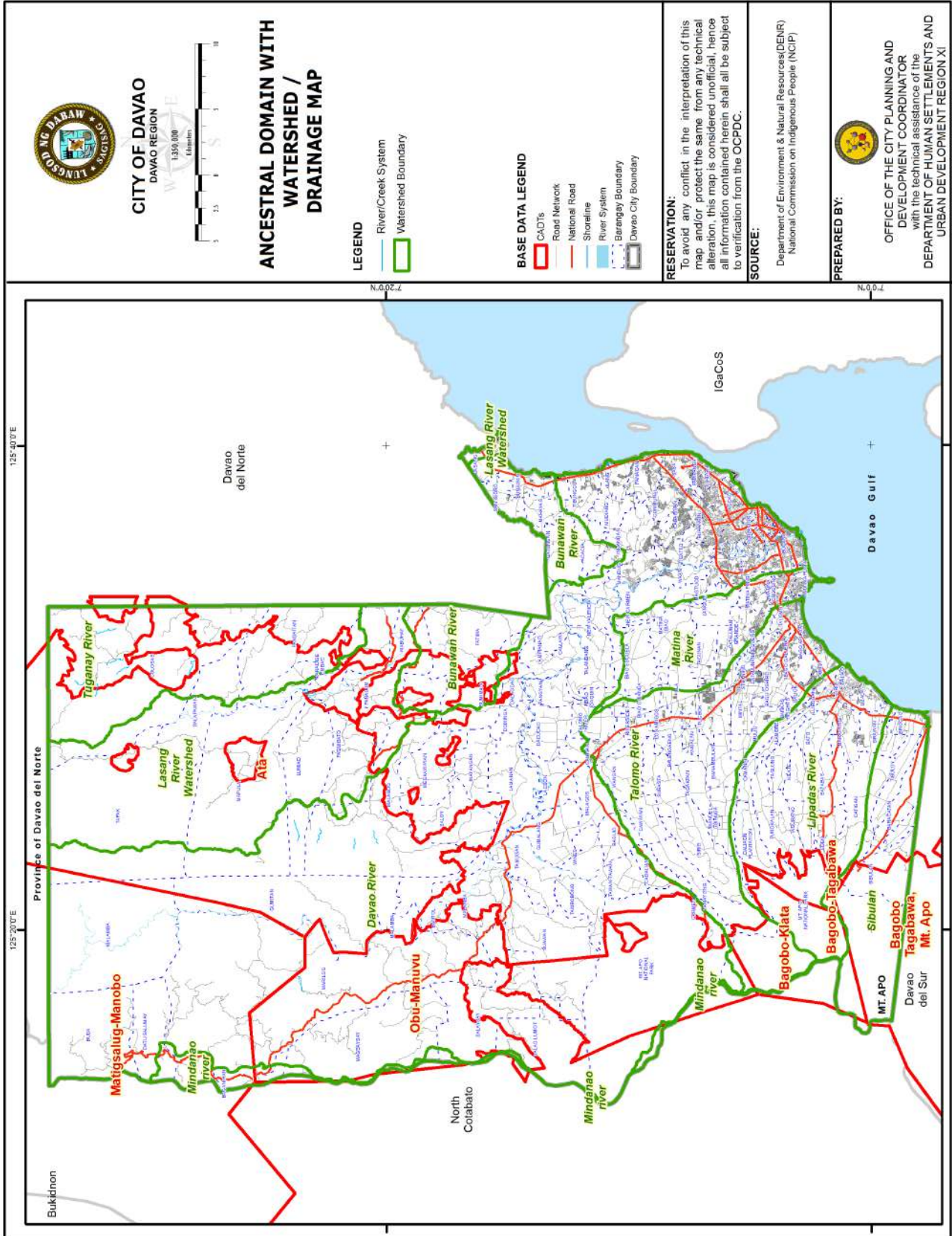


AD-141

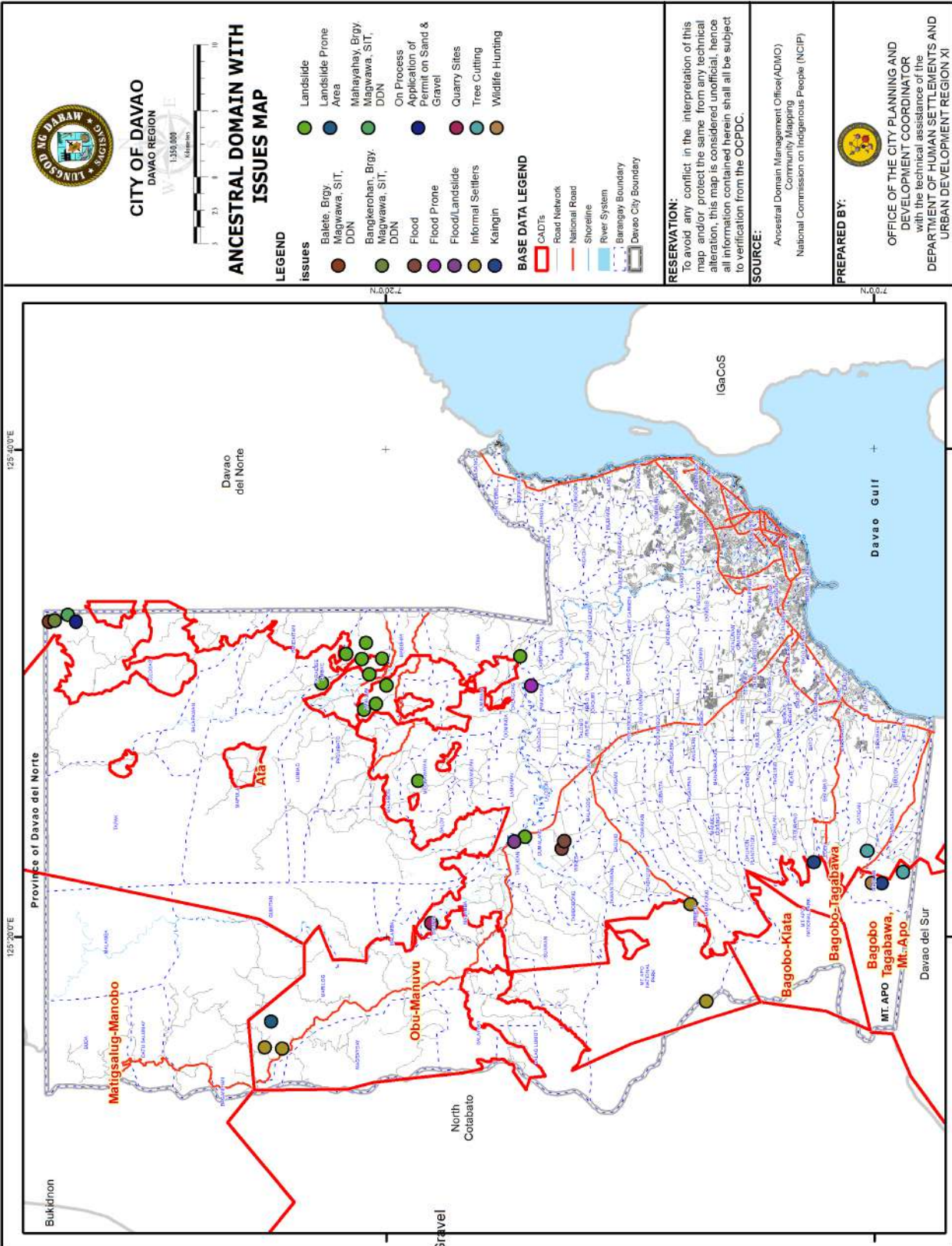


Ancestral domain areas are also strategically located in watershed areas while some have bodies of water within their CADTs as can be seen in the map below. As an important water source, watersheds are within conservation areas where protection is prioritized to preserve the ecosystem. Other features or activities are hinged on the existence of the watersheds.

Map 4.7 Ancestral Domain with Watershed\Drainage, Davao City



Map 4.7 Ancestral Domain with Issues, Davao City



**Table AD-2 Resource Assets, Uses and Locations within the Ancestral Domain**

Type of Resources (indicate local terms for these resources)	Location (barangay or sitios)	Area (Hectares)	Traditional Uses (areas for hunting, fishing, rattan gathering, honey collection, kaingin, pic- nic, water source, etc.)	Relevant IKSP for sustainable man- agement of assets
<b>Primary forest / close canopy forest</b>		<b>4,539.82</b>		
	<i>GUMITAN</i>	<i>0.21</i>	Water Source (Mt. Makaayat)	Ritual before the use of the water source, hunting, fishing, etc. Use white feathered chicken, egg, bunga, buyo, tobac- co,lantoy and kulin- tang coducted by the buyyahon/ elders
	<i>MAGSAYSAY</i>	<i>42.78</i>	Hunting Gound (Mt. Sinaka)	
	<i>MALAMBA</i>	<i>50.98</i>	Hunting Ground	
	<i>MAPULA</i>	<i>657.19</i>	Agricultural Farm	
	<i>TAPAK</i>	<i>1,574.95</i>	Agricultural Farm/ Hunting Ground	
	<i>MT. APO NATIONAL PARK</i>	<i>2,213.71</i>	Almasiga Basin/Honey Bee/Fishing/Hunting Ground	
<b>Residual / Open canopy forest</b>		<b>19,074.18</b>		
	<i>CARMEN</i>	<i>33.07</i>	Water Source/Hunting Ground (Mt. Kalaatong)	Ritual before the use of the water source, hunting, fishing, etc. Use white feathered chicken, egg, bunga, buyo, tobac- co,lantoy and kulin- tang coducted by the buyyahon/ el- ders
	<i>TAMAYONG</i>	<i>106.50</i>	Water source/hunting ground	
	<i>BAGANIHAN</i>	<i>193.24</i>	Water source/hunting ground	
	<i>BUDA</i>	<i>444.66</i>	Water source/hunting ground	
	<i>DALAG LUMOT</i>	<i>591.16</i>	Water source/hunting ground	
	<i>DATU SALUMAY</i>	<i>227.03</i>	Water source/hunting ground	
	<i>GUMITAN</i>	<i>786.81</i>	Water source/hunting ground	
	<i>MAGSAYSAY</i>	<i>400.60</i>	Water source/hunting ground	
	<i>MALAMBA</i>	<i>591.28</i>	Water source/hunting ground	



**Table AD-2 Resource Assets, Uses and Locations within the Ancestral Domain, cont.**

Type of Resources (indicate local terms for these resources)	Location (barangay or sitios)	Area (Hectares)	Traditional Uses (areas for hunting, fishing, rattan gathering, honey collection, kaingin, pic- nic, water source, etc.)	Relevant IKSP for sustainable man- agement of assets
	MARILOG	1,352.93	Water Source/Hunting Ground (Mt. Sinaka)	Ritual before the use of the water source, hunting, fishing, etc. Use white feathered chicken, egg, bunga, buyo, tobac- co, lantoy and kulin- tang conducted by the buyyahon/ elders
	SUAWAN	1.29		
	MAPULA	1,236.86		
	TAPAK	2,171.35		
	CATIGAN	29.59	Water Source/Hunting Ground	1. Ritual: Using white feathered chicken 2. Rehabilitation/ Reforestation
	EDEN	7.04	Water Source/Hunting Ground	1. Ritual: Using white feathered chicken 2. Rehabilitation/ Reforestation
	SIBULAN	396.82	Water Source	Ritual area for uses of water and contin- uous tree planting of endemic trees
	MT. APO NATIONAL PARK	10,503.95		
<b>Grasslands</b>		<b>16,060.91</b>		
	DALAGDAG	29.95		
	DOMINGA	1.02		
	INAYANGAN	1.22		
	LAMANAN	3.55		
	SALOY	255.06		
	BAGANIHAN	158.39	Hunting Ground	Ritual before the use of the water source, hunting, fishing, etc. Use white feathered chicken, egg, bunga, buyo, tobac- co, lantoy and kulin- tang conducted by the buyyahon/ elders

**Table AD-2 Resource Assets, Uses and Locations within the Ancestral Domain, cont.**

Type of Resources (indicate local terms for these resources)	Location (barangay or sitios)	Area (Hectares)	Traditional Uses (areas for hunting, fishing, rattan gathering, honey collection, kaingin, pic- nic, water source, etc.)	Relevant IKSP for sustainable man- agement of assets
	<i>BANTOL</i>	<i>251.25</i>	Agricultural Farm/ Fishing/Quarrying	Ritual before the use of the water source, hunting, fishing, etc. Use white feathered chicken, egg, bunga, buyo, tobac- co,lantoy and kulin- tang coducted by the buyyahon/ elders
	<i>BUDA</i>	<i>1,323.70</i>		
	<i>DALAG LUMOT</i>	<i>86.40</i>	Hunting Ground/ Agricultural Farm	Ritual before the use of the water source, hunting, fishing, etc. Use white feathered chicken, egg, bunga, buyo, tobac- co,lantoy and kulin- tang coducted by the buyyahon/ elders
	<i>DATU SALUMAY</i>	<i>651.25</i>		
	<i>GUMITAN</i>	<i>800.43</i>		
	<i>MAGSAYSAY</i>	<i>1,509.22</i>		
	<i>MALAMBA</i>	<i>1,639.05</i>	Kaingin/Fishing/ Quarrying	Ritual before the use of the water source, hunting, fishing, etc. Use white feathered chicken, egg, bunga, buyo, tobac- co,lantoy and kulin- tang coducted by the buyyahon/ elders



**Table AD-2 Resource Assets, Uses and Locations within the Ancestral Domain, cont.**

Type of Resources (indicate local terms for these resources)	Location (barangay or sitios)	Area (Hectares)	Traditional Uses (areas for hunting, fishing, rattan gathering, honey collection, kaingin, pic- nic, water source, etc.)	Relevant IKSP for sustainable man- agement of assets
	MARILOG	3,108.17		
	SALAYSAY	1,031.74		
	SUAWAN	0.50		
	COLOSAS	1,930.59		
	FATIMA	14.91		
	LUMIAD	290.01		
	MABUHAY	15.53		
	MALABOG	490.79		
	MAPULA	578.99		
	PANDAITAN	167.05		
	PAÑALUM	22.71		
	PAQUIBATO	98.31		
	PARADISE EMBAC	57.48		
	SALAPAWAN	177.21		
	SUMIMAO	141.45		
	TAPAK	1,193.89		
	MT. APO NATIONAL PARK	31.06		
<b>Open / Cultivated Areas</b>		<b>85,145.90</b>		
	CARMEN	425.63		
	TAMBOBONG	3.78		
	DALAGDAG	259.55		
	DOMINGA	157.87		
	INAYANGAN	271.70		
	LAMANAN	231.55		
	LAMPIANAHO	17.26		
	MEGKAWAYAN	271.70		
	PANGYAN	0.00		
	SALOY	1,308.66		
	TAMAYONG	394.38		
	BAGANIHAN	652.06		
	BANTOL	1,066.63		
	BUDA	2,498.09		
	DALAG LUMOT	1,847.45		
	DATU SALUMAY	1,170.69		
	GUMITAN	4,002.14		
	MAGSAYSAY	3,680.87		
	MALAMBA	7,759.20		
	MARILOG	12,637.26		
	SALAYSAY	2,381.46		
	SUAWAN	1,544.58		
	TAMUGAN	2.02		
	COLOSAS	9,201.38		
	FATIMA	230.90		
	LUMIAD	2,338.75		
	MABUHAY	329.28		
	MALABOG	4,798.52		
	MAPULA	5,642.83		
	PANDAITAN	1,666.52		

**Table AD-2 Resource Assets, Uses and Locations within the Ancestral Domain, cont.**

Type of Resources (indicate local terms for these resources)	Location (barangay or sitios)	Area (Hectares)	Traditional Uses (areas for hunting, fishing, rattan gathering, honey collection, kaingin, pic- nic, water source, etc.)	Relevant IKSP for sustainable man- agement of assets
	PAÑALUM	503.29		
	PAQUIBATO	2,098.03		
	PARADISE EMBAC	934.15		
	SALAPAWAN	2,594.25		
	SUMIMAO	981.71		
	TAPAK	5,469.15		
	CATIGAN	37.01		
	DALIAON PLANTATION	20.83	Water Source/Hunting Ground	Ritual: Using white feathered chicken
	SIBULAN	622.56	Hunting Ground/Water Source/Sacred Place	Ritual area for hunting
	MT. APO NATIONAL PARK	5,092.18		
<b>Ancestral Waters</b>				
<b>Caves</b>				
<b>Water Falls</b>				
<b>Lakes</b>				
<b>Other Resources</b>				
<b>Perennial Crop</b>		<b>21,000.07</b>		
	CARMEN	205.76		
	DACUDAO	48.56		
	DALAGDAG	178.93		
	DOMINGA	369.05		
	INAYANGAN	1,141.90		
	LACSON	0.00		
	LAMANAN	886.07		
	LAMPIANAO	14.62		
	MEGKAWAYAN	1,556.83		
	PANGYAN	10.19		
	SALOY	721.02	Hunting, rattan, fishing, water source, kaingin, picnic, honer collection, wood collection, herbal collection, where tradi- tional plants and herbs are collected for making and coloring of tradi- tional Bagobo-Klata attire, food sourc,	1. Ritual: Using live white feathered chicke, mascada, bunga, buyo and apog 2. Reforestation 3. Practicing of traditional heal- ing with the use of traditional herbs extract- edfrom the forest
	SIRIB	6.61		
	MANUEL GUIANGA		source of shelter	

**Table AD-2 Resource Assets, Uses and Locations within the Ancestral Domain, cont.**

Type of Resources (indicate local terms for these resources)	Location (barangay or sitios)	Area (Hectares)	Traditional Uses (areas for hunting, fishing, rattan gathering, honey collection, kaingin, pic- nic, water source, etc.)	Relevant IKSP for sustainable man- agement of assets
	TAMAYONG	289.30		
	BANTOL	58.92		
	DALAG LUMOT	37.26		
	MALAMBA	372.79		
	MARILOG	751.07		
	SALAYSAY	785.17		
	TAMUGAN	3.03		
	COLOSAS	1,426.72		
	FATIMA	477.81		
	LUMIAD	565.11		
	MABUHAY	210.83		
	MALABOG	2,925.74		
	MAPULA	777.51		
	PANDAITAN	1,403.91		
	PAÑALUM	581.80		
	PAQUIBATO	1,259.58		
	PARADISE EMBAC	1,004.34		
	SUMIMAO	1,169.22		
	BARACATAN	2.26		
	CATIGAN	434.27		
	DALIAON PLANTA- TION	8.57		
	EDEN	130.25	Water Source/Hunting Ground	Ritual: Using white feathered chicken
	SIBULAN	152.36	Kaingin	Ritual area for starting of farming and plants of differ- ent crops.
	TAGURANO	17.04	Water Source/Hunting Ground	Ritual: Using white feathered chicken
	TUNGKALAN	289.36	Water Source/Hunting Ground	Ritual: Using white feathered chicken
	MT. APO NATIONAL PARK	726.31		
<b>Inland Water</b>		<b>957.00</b>		
	TAMBOBONG	0.31		
	DACUDAO	5.48		
	DALAGDAG	0.04		
	DOMINGA	0.22		
	LACSON	0.50		
	LAMANAN	4.90		
	PANGYAN	2.06		
	BANTOL	22.22		
	BUDA	0.48		
	GUMITAN	133.29		

**Table AD-2 Resource Assets, Uses and Locations within the Ancestral Domain, cont.**

Type of Resources (indicate local terms for these resources)	Location (barangay or sitios)	Area (Hectares)	Traditional Uses (areas for hunting, fishing, rattan gathering, honey collection, kaingin, pic- nic, water source, etc.)	Relevant IKSP for sustainable man- agement of assets
	MALAMBA	302.12		
	MARILOG	56.70		
	SALAYSAY	27.48		
	SUAWAN	2.98		
	TAMUGAN	4.90		
	COLOSAS	160.57		
	MABUHAY	11.36		
	MALABOG	22.51		
	MAPULA	58.10		
	PANDAITAN	12.82		
	PAÑALUM	19.84		
	PAQUIBATO	40.09		
	PARADISE EMBAC	41.08		
	SALAPAWAN	8.46		
	MT. APO NATIONAL PARK	18.48		
		<b>146,777.88</b>		

**Table AD-3 Perceived Changes in the Condition of Resource Assets inside the Ancestral Domains**

Resources (Likas Yaman)	Situation/Kalagayan last 20 years (walang pagbabago, nadagdaganm nabawasanm ubos na o nasira na)	Increases (+) or decreases (-) in the number of species (Gaano kadami nabawas / nadagdag)	Reasons for the increase or decrease in the number of species (Mga kadahilanan)
Primary forest / close canopy forest	Majority of CADTs experi- enced decrease	-40%	The decrease is due to the practice of Kaingin System, illegal cutting of timber and poaching
Open canopy/ second growth forests	Decreased	-45%	Presence of migrants, land grabbing, timber poaching
Mangrove for- ests	-	-	-
Cultivated lands	Increased	30%	Increase in number of households
Grasslands / brushlands	Decreased	-40%	Practice of kaingin system
Habitats of en- dangered spe- cies	Decreased	-50%	Illegal entry into the habi- tats/disruption of habitat

**Table AD-3 Perceived Changes in the Condition of Resource Assets inside the Ancestral Domains, cont.**

Resources (Likas Yaman)	Situation/Kalagayan last 20 years (walang pagbabago, nadagdaganm nabawasanm ubos na o nasira na)	Increases (+) or decreases (-) in the number of species (Gaano kadami nabawas / nadagdag)	Reasons for the increase or decrease in the number of species (Mga kadahilanan)
No. of wildlife species	For most of the CADTs, there was a decrease but for the Bagobo-Tagabawa area, the situation improved	Decrease of 40% Increase of 60% for Bago-bo-Tagabawa area	Decrease is attributed to illegal hunting Increase is due to the observance and strict implementation of existing laws
Nature based tourism	Increased	60%	Advent of resorts
Water resources (quantity / quality)	Decrease in quantity	-50%	Illegal logging, Kaingin, operation of hydropower plant, increase in population
Fishery Resources (catch)	Decreased	-60%	Illegal logging, kaingin system
Other resource assets Farming Income	Decreased	-30%	Occurrence of drought, lack of financial support and technology

**Table AD-4 Institutional Assessment**

Institutions	Current projects/activities that can support ancestral domains and/or ADSDPP implementation	Available budget	Ways for the ICC/IP Assistance
<b>Institutions</b>			
DENR	NGP		Community Development and Transform Denuded Area
NGOs	PEF, FARMCOOP		Capability Bldg. and Farm Development
NCIP	Trainings and Facilitation		Ancestral Development, Conservation of Biodiversity
Other agencies	EDC		Reforestation and Farm Development
<b>Bagobo-Tagabawa, Toril</b>			
BLGU	Water System	Php 8 Million	Labor
NCIP	1. Phase Two Implementation of IADDA Project	Php 150,000	Labor
	2. Training House	Php 200,000	
	3. Improvement of Falls	Php 200,000	
	4. Establishment of Herbal Garden	Php 50,000	Volunteer
<b>Obu-Manuvu</b>			
DENR	Reforestation/National Greening Program/Other fruit trees	From DENR Department	Conduct FPIC
MLGU/LGU of Davao City	Completion of ADMO Office	From City Councilor Rene B. Lopez	Conduct FPIC



**Table AD-4 Institutional Assessment, cont.**

Institutions	Current projects/activities that can support ancestral domains and/or ADSDPP implementation	Available budget	Ways for the ICC/IP Community to Avail Assistance
BLGU	Farm to Market Roads	National and Local Governments	Conduct FPIC
NCIP	Scholarship Programs for the IP's	From National Government	Conduct FPIC
DCWD	To plant assorted fruits / forest trees, scholarship, trainings/seminars, construction of comfort rooms	From DCWD	Conduct FPIC
Other agencies	Ugnayan, Tulogan Center and Covered Court at Sitio Ladi-an, Marilog	From National Funding -Thru OPAIPC-Office	Conduct FPIC
<b>Bagobo-Klata</b>			
BLGU	Support I.P. Festival		Resolution
NGOs/PEF	A.D. Walk/Biodiversity		Grant
NCIP	Scholarship Program / Glosary ADSDPP implementation		NCIP applications/exam
J.S.F.	Trainings and Seminars for youth and women/ Building of School of Living Tradition		Grant
Dep-Ed	Trainings and Seminars/ Building of School of Living Tradition		Government project

**Analysis Matrix – Ancestral Domain**

Technical Findings/ Issues/Problems	Implications (Impacts)	Policy Options/ Recommendations
Uncontrolled migration of IP Settlers in the land and rampant selling of rights to migrants/land grabbing	Encroachment into the protected area by migrants and their settlements  Disruption of customary practices	Regulate the presence of migrants. Establish a mechanism that will halt the selling of rights.
Implementation of programs of NGOs without coordination with ADMO	Conflict in program implementation	Monitor programs implemented in the CADT areas to ensure conformity to existing practices and development plan in place
Water resources used by HEDCOR in Sibulan to generate renewable energy without benefiting the people/tribe	Conflict ensue among the members in the community	Conduct dialogue with concerned agencies to disseminate information on the presence of HEDCOR
Practice of kaingin system	Depletion of forest lands and degradation of agricultural lands	Intervention of the government is necessary to halt the practice and to introduce modern farming technology to enhance sources of livelihood that are sustainable

### Analysis Matrix – Ancestral Domain, cont.

Technical Findings/ Issues/Problems	Implications (Impacts)	Policy Options/ Recommendations
Illegal cutting of trees/Timber poaching	Decrease in forest resources; Watersheds are harmed	Impose measures to protect the perimeter of the area and to monitor forests to immediately stop such practices/Bantay Bukid Program  Enhance Reforestation Program
Illegal entry of mountain climbers who pass thru the area intending to climb Mount Talomo and Mount Apo	Pollution and disruption of flora and fauna habitat	Regulate mountain climbers in the area of Bagobo Klata
Insurgency	Communities are threatened affecting their day to day lives	Strengthen implementation of peace and order programs
Illegal hunting/animal poaching	Unregulated hunting practices that are not in conformity with customary practices	Impose penalties on those caught, monitor the area to secure the same from illegal hunting practices/Bantay Bukid Program
Vulnerability to hazards such as flooding and landslide. Ata CADT – along fault line particularly, Barangay Colosas	Threat to life and properties	Consider hazards in CADT areas in the implementation of the local disaster risk reduction and management plan
CADT-R10-KIT-0703-0011 owned by different identities composed of different tribes, such as: 1. Tigwahanon tribe of San Fernando Bukidnon 2. Kulamanan-Matigsalug Tribe of Kibawe and Kitaotao, Bukidnon 3. Tinananon Tribe, Arakan, North Cotabato 4. Ata Tribe of Paquibato District – included 7,222 hectares out of CADT R11- DAV-0213-160 5. Pulangihon Tribe of Quezon, Bukidnon 6. Obu-Manuvu Tribe, part owner of CADT-R10-KIT-0703-0011 in portions of Barangay Baganihan, Marilog, Marilog District, included 5,777 hectares out of CADT R11-DAV-1108-091	Duplication of functions, conflict of management and leadership	Delineate boundaries among tribes  Validate IP Settlers who are residing in other traditional territories.  The six tribes should be represented as Board of Trustees as part owner.

**Analysis Matrix – Ancestral Domain, cont.**

Technical Findings/ Issues/Problems	Implications (Impacts)	Policy Options/ Recommendations
There is an overlapping of areas between UP-Mindanao and the 10 CBFMA contract holders	<p>1.No issuance of CLOA from the Department of Agrarian Reform of CADT R11-DAV-1108-091, containing an area of 30,387.2529 hectares out of titled properties from the previous total land area of 35,160.9259 hectares including UP Marilog Research Center with an area of 4,100 hectares with Presidential Proclamation with the partnership agreement between the Obu-Manuvu Tribal Community.</p> <p>2.No issuance of CLOA in CADT R11-DAV-0213-160 containing an area of 87,664.678 hectares in Paquibato District, all of Davao City.</p>	Refer to agencies concerned ((i.e. Department Agrarian Reform)

# COASTAL ECOSYSTEM

## COASTAL ECOSYSTEM

Davao City has 60.1-kilometer coastline, which spans 26 coastal barangays from Lasang in the north to Binugao in the south. All coastal barangays have a combined land area of 9,339.79 hectares. Its marine waters cover 19,827 hectares (Table CO – 1), according to the National Mapping and Resource Information Authority (NAMRIA). These contribute 10% of the entire Davao Gulf, a rich marine biodiversity.

**Table CO – 1 Coastal Barangays and Area of Marine Waters, Davao City**

Location	Area of Marine Waters (Hectares)
<b>First District</b>	
Brgy. 21-C	251.59
Brgy. 22-C	174.99
Brgy. 23-C	182.47
Brgy. 27-C	159.54
Brgy. 31-D	926.34
Bucana (76-A)	3,412.27
Matina Aplaya	3,469.32
Talomo Proper	2,388.95
Bago Aplaya	977.08
Dumoy	1,040.86
<b>Second District</b>	
Lasang	1,196.31
Bunawan	1,302.20
Tibungco	744.27
Ilang	507.91
Panacan	249.03
Sasa	1,196.31
Pampang	264.98
Hizon	89.39
Lapu-Lapu	41.41
Agdao Centro	132.90
Gov. Vicente Duterte	117.06
Leon Garcia Sr.	245.84
<b>Third District</b>	
Daliao	742.19
Lizada	780.69
Sirawan	210.49
Binugao	177.79
<b>Total</b>	<b>19,827</b>

Source: Geographic and Information System (GIS) Division, OCPDC, Davao City



## Existing Situation

As of 2018, data from the City Agriculturist's Office (CAgrO) show 10 out of 26 coastal barangays are declared as marine protected areas (MPAs), which total to 508.29 hectares or 2.56% of the combined areas of municipal waters (Table CO – 2, below). The Sangguniang Panlungsod, through Davao City Marine Protected Areas Ordinance of 2007 declared three (3) of these areas as protected. These are the coastal waters of Lasang-Bunawan, Agdao Centro, and Punta Dumalag. The rest of the MPAs are declared through barangay ordinances, which are located in Barangays Hizon, Lapu-Lapu, Sasa, Dumoy, Bago Aplaya, Lizada and Daliao. Fishing ban is strictly enforced in these MPAs to sustain productivity and conservation.

**Table CO – 2. Marine Protected Areas, by Barangay, 2018**

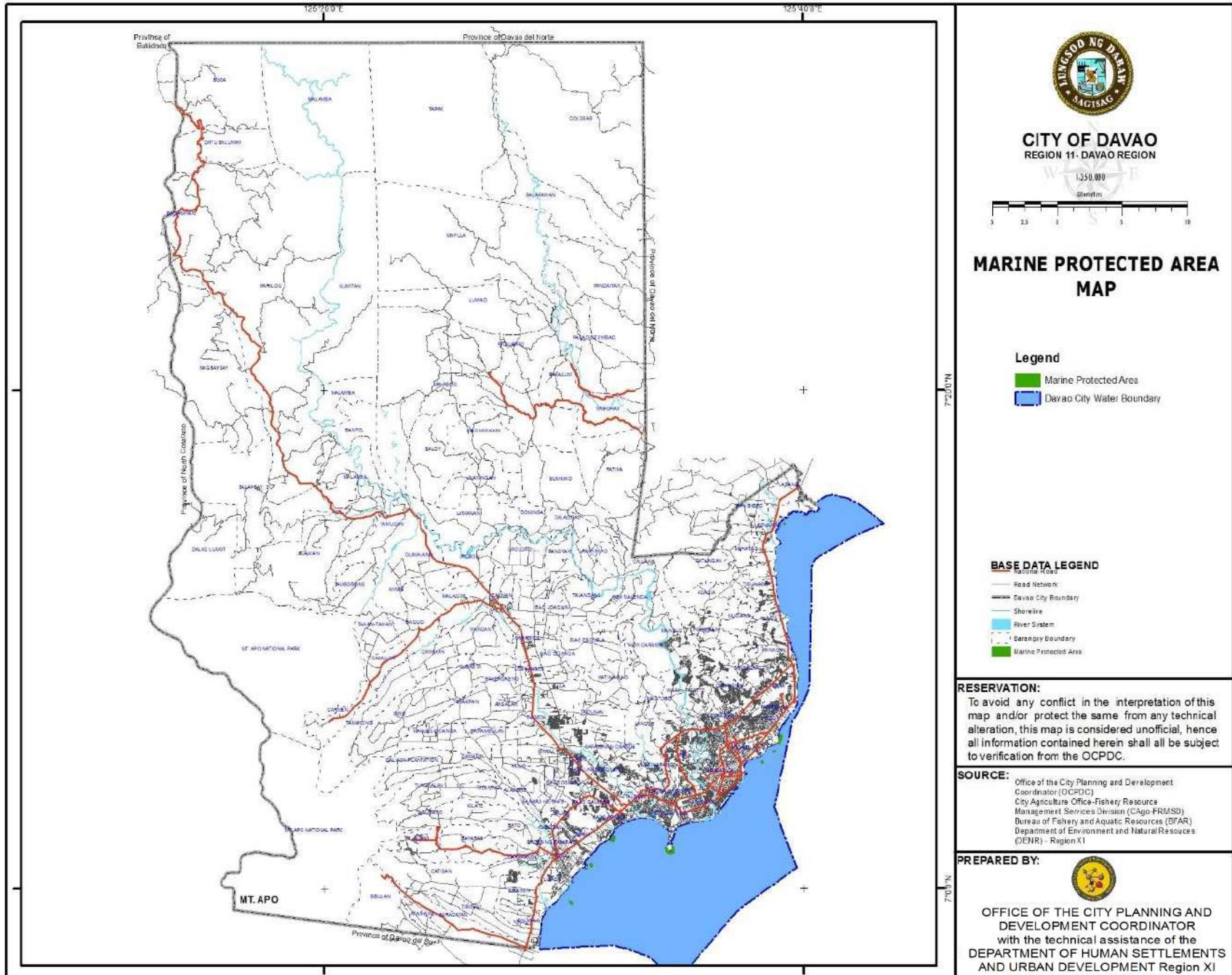
Marine Protected Area	Area (Hectares)
Lasang-Bunawan	415
Agdao Centro	21
Punta Dumalag	37
Vicente Hizon	2.7
Dumoy	5.6
Lizada	6.5
Lapu-Lapu	3.79
Bago Aplaya	6
Sasa	1.7
Daliao	10
<b>Total</b>	<b>508.29</b>

Source: CAgrO, Davao City

The CAgrO recorded 7,134 as registered inland, municipal and deep sea fisherfolk residents. There are also 2,120 registered fishing *bancas* and 43 commercial fishing vessels, according to Bureau of Fisheries and Aquatic Resources (BFAR)-Davao City Field Office. The production of fish and fishery products, including seaweed, in marine waters reached 1,759 metric tons in 2018, which is still low to supply the seafood requirement of 92,648 metric tons for the 1.6 million populace in Davao City. Amid the difference, the production of fish and fishery products is projected to increase to 3,823 metric tons by 2027. Meanwhile, the city's coastal waters have seaweed farms, which extend up to 20 hectares in Lapu-Lapu, Panacan, Ilang, Tibungco and Bunawan. There are also 201 units (10m x 10m x 8m) of fish cage, which are managed by 29 operators, in Punta Dumalag, Matina Aplaya. Fish cage culture is now only in Punta Dumalag unlike in 2005 when there were fish cages in Sasa, Agdao Centro, Matina Aplaya, Bunawan and Daliao. There is a freshwater fishpond with combined area of 78 hectares in the districts of Marilog, Calinan, Tugbok, Baguio, Paquibato, Buhangin, Toril, and Talomo.

On the other hand, there are 572,197 inhabitants in coastal barangays in 2015, which increased from 302,699 in 2010. There are also 923 industrial companies, two (2) state-owned ports, 26 private ports, and 39 tourism establishments, mostly beach resorts, within coastal barangays.

Map -2.1 Marine Protected Area Map



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## Participatory Coastal Resource Assessment (PCRA) of Coastal Habitats

### a. Coral Reef Assessment

Manta tow method<sup>1\*</sup> is the standard method used in PCRA to visually assess the entire coral reef (Coastal Environmental Profile of CAgro, 2013). The latest assessment was conducted in 2013 with seven (7) cluster teams that fulfill the method and assess whether corals are live hard corals (LHC), soft corals (SC) or dead corals (DC). The conditions of the corals were determined by identifying the percent coverage of the corals in coastal waters (Table CO – 3).

The CAgro implemented PCRA in 26 coastal barangays, though some barangays particularly Binugao, Sirawan, Bucana, Talomo Proper, Leon Garcia Sr., 21-C, 23-C, 31-D, Gov. Vicente Duterte, Panacan, Tibungco, Ilang, Lasang, and Bunawan have insufficient data as there is low water visibility in the identified sites during the assessment. In Table CO – 4 (see next page), the results of the PCRA showed that only 15% or 12.63 hectares out of the total assessed areas of 84.21 hectares have live and soft corals. Both Dumoy and Lapu-Lapu have still large presence of live hard corals. Agdao Centro and Lapu-Lapu have also vast coverage of soft corals. Most of the live and soft corals observed in the City are in fair condition.

To expand fish sanctuary, artificial reefs are installed in different coastal waters. The concrete-made artificial reefs are placed in Bago Aplaya, Bunawan, Daliao, Hizon, and Agdao Centro. The installation of artificial reefs started in 1988, when CAgro first used tires as artificial reefs. The CAgro recently found out that those tires have now become natural reefs.

**Table CO – 3. Live Coral Rating**

Percent Cover (%)	Condition
0-25	Poor
26-50	Fair
51-75	Good
76-100	Excellent

Source: CAgro, Davao City

<sup>1\*</sup> Manta tow method is used in generating description of large reef areas. It is where snorkelers, who are pulled by a small boat, take note of their observation on the conditions/abundance of the assessed habitat at specific intervals.

**Table CO-4. Coral Reef Assessment, by Percent Cover, 2013**

Location	Live Hard Coral (LHC)	Soft Coral (SC)	Dead Coral (DC)	Sand/Silt	Rock/Rubble	Area (Ha)	Observation
Sasa	32	8	25	32	3	1.7	Fair
Pampang	10	13.3	33.3	13.3	30	-	Poor
Hizon	16	6	11	28	39	2.7	Poor
Lapu-Lapu	21.7	20.8	1.7	15	40.8	3.74	Fair
Agdao Centro	4.4	21.9	25.6	30	18.1	21	Fair
Punta Dumalag, Matina Aplaya	45	-	17.5	37.5	-	37	Fair
Bago Aplaya	5	10	30	40	15	6	Poor
Dumoy	20	8.8	38.1	28.1	5	5.6	Fair
Lizada	10	-	33.3	13.3	43.3	6.5	Poor
Lasang-Bunawan*	-	-	-	-	-	-	-
<b>Total Area</b>						<b>84.21</b>	

Source: CAgRO, Davao City

\*There is low water visibility in Lasang-Bunawan during the assessment in 2013.

## Participatory Coastal Resource Assessment (PCRA) of Coastal Habitats

### b. Seagrass Habitat Assessment

A transect-quadrat survey\* was used to determine the diversity and percent cover of seagrass. As of 2005, there are 130 hectares of seagrass beds based on the field survey of CAgrO.

As shown in Table CO – 5, seagrass areas are situated in 11 out of 26 coastal barangays particularly Barangays Dumoy, Matina Aplaya, Agdao Centro, Lapu-Lapu, Sasa, Hizon, Panacan, Ilang, Bunawan, Tibungco and Lasang. All of these were assessed through transect-quadrat survey in 2013. The results of the transect-quadrat survey reported that the seagrass areas of the City are already disturbed with low diversity.

**Table CO-5. Seagrass Habitat Assessment, 2013**

Location	Species	% Cover
Lasang	Halophila	29
Bunawan	Halophila	59
Tibungco	Thalassia	45
Ilang	Halophila	60.8
	Halodule	
Panacan	Halophila	45
Sasa	Halophila	48.5
Hizon	Thalassia	8
Lapu-Lapu	Halodule	24.32
	Halophila	
	Thalassia	
Agdao Centro	Thalassia	15.4
Matina Aplaya	Halophila	6.3
	Halodule	
Dumoy	Halophila	25.3
	Syringodium	
	Thalassia	
<b>Average % Cover</b>		<b>33.29</b>

Source: CAgrO, Davao City

\* *Transect-Quadrat Survey is applied using a 50-meter transect line and a 1 x 1 meter quadrat and is done usually during low tide. The transect line is placed perpendicular to the shoreline starting from the point where the seagrass habitat begins and the quadrat every 10 meters.*



## Participatory Coastal Resource Assessment (PCRA) of Coastal Habitats

### c. Mangrove Habitat Assessment

Mangrove areas span 41.49 hectares in Lasang, Bunawan, Ilang, Bucana, Matina Aplaya, Talomo Proper, Bago Aplaya, Lizada, Sirawan and Binugao (Table CO – 6). According to the Coastal Environmental Profile in 2013, the mangrove areas are dominantly occupied with Bacauan Lalake species (44%) followed by Bungalon (31%) and Pagatpat (15%). There are also species such as Bacauan Babae, Pedada, Piagao, Tualis, Tui, Nipa and Api-Api.

In assessing the conditions of the mangroves, longer transects, which may run from 20-100 meters, and larger quadrats at 10 x 10 meters are used to identify the number of mangroves and estimate the height and crown diameter of mature mangrove trees per quadrant. Out of the 26 coastal barangays, only 10 were assessed through PCRA in 2013 and thus, have presence of mangrove areas. The results of the assessment cited that the average height of mangrove trees is 3.6 meters, while the average crown cover maturity of mangroves in the identified sites is 37.3%. Most of the mangroves particularly in Lizada, Sirawan, and Bago Aplaya are already in poor condition (Table CO – 7, see next page).

**Table CO-6. Mangrove Areas, by Barangay, Davao City**

Barangay	Estimated Mangrove Areas
Bago Aplaya	0.66
Bucana	2.86
Bunawan	11.30
Ilang	12.53
Lasang	6.83
Lizada	4.14
Matina Aplaya	0.72
Talomo Proper	0.49
Panacan	1.96
<b>Total</b>	<b>41.49</b>

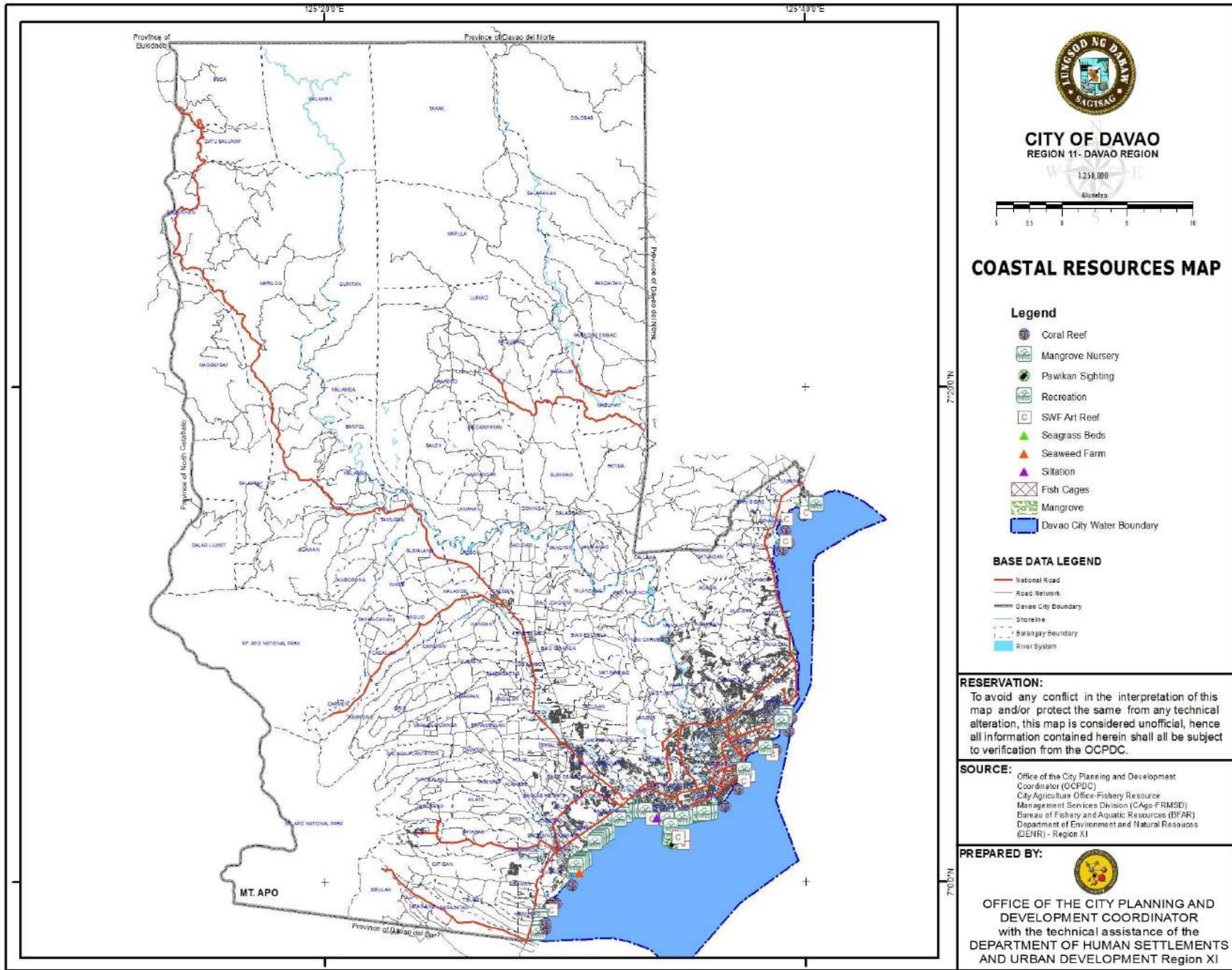
Source: CAgrO, Davao City

Table CO -7. Mangrove Assessment, 2013

Location	Species	Total/Average Height (m)	Crown Cover Mature (%)	Observation
Lasang	Api-Api	3	66	Good
	Pagatpat			
	Nipa			
Bunawan	Api-Api	3	65	Good
	Pagatpat			
	Nipa			
Panacan	Api-Api	3	46	Fair
Bucana	Pagatpat	3	36	Fair
	Nipa			
Matina Aplaya	Pagatpat	3	66	Good
	Api-Api			
Talomo	Pagatpat	3	33	Poor
	Nipa			
Bago Aplaya	Api-Api	6	18	Poor
	Pagatpat			
	Nipa			
Dumoy	Pagatpat	5	1	Poor
	Nipa			
Lizada	Bacauan Lalaki/ Babae	4	24	Poor
Sirawan	Bacauan Lalaki/ Babae	3	18	Poor
<b>Average</b>		<b>3.6</b>	<b>37.3</b>	Fair

Source: CAgrO, Davao City

Map – 2.2 Coastal Resources Map, Davao City



## Situational Analysis

The destruction of fishery habitat has been attributed to the presence of informal settlers and pollutive industrial companies. In the 2015 Poverty Profile, there were 29,917 informal settlers in coastal barangays. Most of them live in Bucana (7,405) and Talomo Proper (4,231). The other pollutants in coastal waters are the industrial companies. Data from Business Bureau and Research and Statistics Division of the Office of the City Planning and Development Office reveal that there are 641 pollutive industrial companies in coastal barangays as of 2018.

Meanwhile, the CAgrO reported that there is illegal fishing particularly in MPAs where there are already encroachment by fishing *bancas*. Based on the monitoring of the Fishery Resources and Management Services Division of CAgrO, there were eight (8) fishing *bancas* that were penalized for encroaching in MPAs in 2018. There were also two (2) fishing *bancas* that were apprehended for using fine mesh nets, which are prohibited fishing gears.

On the other hand, the Davao City Disaster Risk Reduction and Management Office (DCDRMO) has observed that there are 27 barangays that are susceptible to tsunami and storm surge. These are the barangays of Binugao, Sirawan, Lizada, Daliao, Dumoy, Bago Aplaya, Talomo Proper, Matina Aplaya, Bucana, 40-D,31-D, 21-C, 22-C, 23-C, 27-C, Leon Garcia Sr., Gov. Vicente Duterte, Agdao Centro, Lapu-Lapu, Vicente Hizon, Pampanga, Sasa, Panacan, Ilang, Tibungco, Bunawan, and Lasang. Floods are also observed in Lizada, Dumoy, Bago Aplaya, Talomo Proper, Matina Aplaya, Sasa, Panacan, Bunawan, Lasang and Bucana. Relocation of inhabitants especially those near the coastline shall be implemented to prevent possible loss of lives and damage to properties during disasters.

## Coastal Analysis Matrix

**Table CO-8. Coastal Analysis Matrix**

Technical Findings	Implications	Policy Options
<ul style="list-style-type: none"> <li>Depleted fishery resources brought about by excessive fishing efforts</li> </ul>	<ul style="list-style-type: none"> <li>Low fish catch</li> <li>Low income</li> </ul>	<ul style="list-style-type: none"> <li>Rationalize utilization of fishery resources</li> <li>Determine fishing grounds, expand access or develop potential areas for inland and marine waters</li> <li>Increase and strengthen fishery-based livelihood and entrepreneurial programs in coastal barangays</li> </ul>
<ul style="list-style-type: none"> <li>Degraded fishery habitat due to destructive fishing methods</li> <li>Conversion of fishery habitat into economic uses and negative impacts from land-based activities including the operation of 641 pollutive industries</li> </ul>	<ul style="list-style-type: none"> <li>Destroyed fishery habitat/ecosystem (coral reefs; seagrass; mangrove)</li> </ul>	<ul style="list-style-type: none"> <li>Protect fishery resources through the establishment of additional marine protected areas (MPAs)</li> <li>Restoration of fishery habitats</li> <li>Full implementation of fishery laws and regulations (Republic Act 8550 or Philippine Fisheries Code; Comprehensive Fisheries Ordinance)</li> <li>Transplantation of live corals</li> </ul>
<ul style="list-style-type: none"> <li>Inadequate/inconsistent fisheries policies that promote conducive environment for sustainable development</li> </ul>	<ul style="list-style-type: none"> <li>Non-conservation and protection of fishery resources</li> </ul>	<ul style="list-style-type: none"> <li>Promote/implement appropriate policies, ordinances and orders</li> <li>Intensify information-education campaign on resource conservation measures and compliance of fishery laws</li> </ul>



Table CO-8. Coastal Analysis Matrix, Cont.

Technical Findings	Implications	Policy Options
<ul style="list-style-type: none"> <li>Unrealized full potential of aquaculture (freshwater and marine)</li> </ul>	<ul style="list-style-type: none"> <li>Decreasing fish production and increasing competition for food</li> </ul>	<ul style="list-style-type: none"> <li>Develop full potential of aquaculture (freshwater and marine)</li> <li>Facilitate livelihood opportunities through introduction of appropriate and updated technology</li> <li>Ensure climate/disaster resilience of the aquaculture sector</li> </ul>
<ul style="list-style-type: none"> <li>Weak institutional partnership among government agencies, civil society organizations and private sector</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistent and weak coordination of conservation, protection and management efforts</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen institutional partnership</li> <li>Sustain political will among implementing agencies through synchronized and coordinated efforts</li> </ul>
<ul style="list-style-type: none"> <li>Encroachment of 29,917 informal settlers in coastal barangays</li> </ul>	<ul style="list-style-type: none"> <li>Pollution/siltation</li> <li>Decrease of production areas</li> <li>Improper drainage management</li> <li>Solid waste disposal</li> </ul>	<ul style="list-style-type: none"> <li>Adoption of resettlement programs</li> <li>Regular water monitoring and analysis</li> <li>Establish Davao City Sewerage/Septage System</li> </ul>
<ul style="list-style-type: none"> <li>Destruction of fishery habitat due to establishment of projects such as Coastal Road and Davao-Samal Bridge</li> </ul>	<ul style="list-style-type: none"> <li>Destruction of coral reefs in MPAs particularly in Brgy. V. Hizon due to the establishment of Davao-Samal Bridge</li> <li>Displacement of fisherfolk and fishing <i>bancas</i> anchorage</li> <li>Low fish catch</li> </ul>	<ul style="list-style-type: none"> <li>Provide resettlement area and designate anchorage of fishing <i>bancas</i></li> <li>Transplantation of corals in the affected areas to other suitable areas</li> </ul>

**Table CO-8. Coastal Analysis Matrix, Cont.**

Technical Findings	Implications	Policy Options
<ul style="list-style-type: none"> <li>Establishments and residential units in coastal areas are susceptible to hazards such as tsunami, storm surge, and floods and other man-made calamities like fire</li> </ul>	<ul style="list-style-type: none"> <li>Coastal inundation</li> <li>Damage to properties</li> <li>Loss of lives</li> </ul>	<ul style="list-style-type: none"> <li>Enforce easement</li> <li>Declare required/protected areas/zones</li> <li>No residential/structures should be built</li> <li>Establish tenement-style building</li> </ul>

### Programs/Projects Approved/For Implementation

**Table CO-9. Programs/Projects Approved/For Implementation**

Location	Project Name	Proponent	Estimated Start Date	Estimated Date of Completion
26 Coastal Barangays	Marine Protected Area (MPA)	Local Government Unit (LGU), Federation of Fisherfolk Associations of Davao City (FFADC)	2015	2022
Coastal Barangays Bunawan Ilang Panacan Lapu-Lapu	Post-harvest Seaweed Platform Drier	BFAR, LGU, Fisherfolk Association	2016	2018
1 Upland Barangay	Establishment of Ornamental Fish Demo	Fish Farmers' Association	2019	2020
26 Coastal Barangays	Fishery Law Enforcement	LGU, City Fisheries and Aquatic Resource Management Council (CFARMC), Fisherfolk Association	2015	2022
	Fishery Event Fish Conservation Week Culinary Contest	LGU, Los Amigos Aquaculture Producers Organization	2015	2022
Lasang – Bunawan	Establishment of Marine Waters Mariculture Park (500 hectares)	LGU, National Mariculture Center, Fisherfolk Association	2019	2023

Source: CAgro, Davao City

**Table CO-9. Programs/Projects Approved/For Implementation, Cont.**

Location	Project Name	Proponent	Estimated Start Date	Estimated Date of Completion
26 Coastal Barangays	Aquaculture Household Fish-pond Establishment	LGU, Fish Farmers' Association	2019	2022
	Basil (Balik Sigla sa Ilog at Lawa)	BFAR, LGU, Fish Farmers' Association	2019	2022
Callawa	Basil (Balik Sigla sa Ilog at Lawa) – Small Water Impounding Project	BFAR, LGU, Fish Farmers' Association	2018	2023
Upian River	Basil (Balik Sigla sa Ilog at Lawa)	BFAR, LGU, Fish Farmers' Association	2018	2023
Lanao Lake, Upian Marilog	Basil (Balik Sigla sa Ilog at Lawa)	BFAR, LGU, Fish Farmers' Association	2019	2023
Manawong River Dalag-lumot Marilog	Basil (Balik Sigla sa Ilog at Lawa)	BFAR, LGU, Fish Farmers' Association	2019	2023
Purok Scorpio Bucana Lasang	CFLC (Community Fish Landing Center)	BFAR, LGU, Fisherfolk Association	2018	2019
Bunawan, Tibungco, Ilang, Panacan, Lapu-lapu	Seaweeds Farm	BFAR, LGU, FFADC	2014	2023
Bucana	3 units of Fish Corral	BFAR, LGU, Fisherfolk Association	2017	2023
	2 units of Fish Corral	BFAR, LGU, Fisherfolk Association	2017	2023
Livelihood Project	Fish Marketing	LGU, Philippine Fisheries Development, FFADC	2019	2023

Source: CAgrO, Davao City

# SPECIAL AREA STUDIES

## SPECIAL AREA STUDIES

### Heritage Conservation

*“The responsibility to preserve the historic center/heritage one for posterity is ours,” cites the National Cultural Heritage Act of 2009.*

#### Situational Analysis

##### Heritage Conservation

Heritage Conservation refers to important sites, great landmarks, structures and even important events that gives us a sense of community and identity (distinct personality) anchored on a shared past which are worthy of preservation, maintenance, safeguarding, and celebration. This maybe a historical, natural or cultural heritage

The cultural heritage (tangible) were identified and assessed based on its treating or characteristics of history or past events (historical buildings, historic center, etc) like historic houses built more than fifty (50) years or earlier that are worth trying to save. Natural Heritage are significant landscapes and biodiversity like flora and fauna, farms and orchards, botanical/zoological gardens, parks, etc. Cultural Heritage is a legacy of physical artifacts (cultural property) and intangible attributes of a group or society that are inherited from past generations. Cultural Property refers to all products of human creativity by which a people and a nation reveal their identity, including architecture and sites or human activity [churches, mosques and other places of religious worship, schools] and natural history specimens and sites, whether public or privately owned, movable or immovable, and tangible or intangible.

- \* Tangible Culture – buildings, monuments, books, works of arts, artifacts, cemeteries, archaeological sites, etc.
- \* Intangible Culture – folklore, traditions/customs, spiritual beliefs, stories, language, knowledge, festivals, song/music, dances, local sports/games, rituals, poetry/literatures, culinary arts, jokes, healing arts and other aspects of human activity.

Davao City is known for its rich culture and heritage may it be historical, natural and cultural. Amid the rapid economic growth, the city pays attention to conserve, preserve and protect these sites. The creation of museum, the Museu Dabawenyo, has allowed the city a better look at its inventory of things and events inherited from its history, enabling it to identify them and to determine their current status and need for conservation, preservation, rehabilitation or promotion.

Some structures and landmarks of significant historical importance are however, in a progressive state of decay common among historical sites. This is compounded by a poor public awareness and appreciation of these sites.

Also worth noting is the intrusion of modern structures such as telephone and electrical lines that distract the natural panorama of these sites.



Improvement may be achieved by beefing up the records and establishing a historical council.

Museo Dabawenyo has compiled a total of 84 heritage sites and structures of Davao City (as of July 12, 2018) which consists of 27 parks and monuments, 43 landmarks, and 14 markers and archways. However, the National Historical Commission of the Philippines (NHCP) has so far declared the following three (3) heritage sites and structures:

### 1. ANDRES BONIFACIO MONUMENT

*Toril District Hall Grounds, Toril, Davao City*

The Andres Bonifacio Monument which is made of bronze was donated by the National Historical Commission of the Philippines (NHCP) and sculpted by Mindanaoan artist Juan Sajid Imao in commemoration of the 150th Birth Anniversary of Gat. Andres Bonifacio. The monument was unveiled on December 4, 2013 by then Mayor now President Rodrigo R. Duterte and Commissioner Ludovico D. Badoy of NHCP;



### 2. CITY HALL OF DAVAO

*San Pedro St., Davao City*

The City Hall building of Davao City constructed in 1926 as a municipal building was destroyed in 1945 during the Liberation Period. After the Liberation of Davao, the government authorities started restoration works and the building was fully completed in 1947. This building was declared as a National Historical Landmark by the National Historical Commission of the Philippines (NHCP) in Nov. 27, 2012; and



### 3. OHTA KYUZABURO MONUMENT

*Inside Mintal Elem. School, Mintal, Davao City*

Built in 1926 in honor of Kyozauro Ohta, who established an Abaca industry through the Ohta Development Company in the early 1900s.



Aside from determining the physical progression of the decay among these sites, the city government has also determined the degree of impact to these sites of four commonly occurring hazards in the city: flood, earthquake, liquefaction and storm surge. This will enable the city government to determine the level and urgency of protection and preservation need for each of these heritage sites.

For example, of the locally identified sites (other than the three recognized by the NHCP), the city listed nine (9) as highly exposed to flood, with one, the Memorial to a Brave Son located along Bankerohan River, as very highly exposed to flood. This marker is also identified as one of five sites exposed to as high as four-meter storm surge. Twenty other sites are likely to be in an area to have as high as a three-meter storm surge but two other sites - the Furukawa Administration Building/Board of Liquidators and its adjacent early 20th century Japanese houses in Daliao, Toril - are exposed to as high as a five-meter storm surge. Thirty-eight sites are also listed as highly vulnerable to an earthquake event.

**Table HE-1: Inventory of Cultural Heritage Object**

No.	Name	Brgy.	Type of Heritage Object	Year Constructed	Description (Tangible/IT-Intangible)	Hazard Susceptibility (H/M/L)				AREA (sqm)	RE-MARKS
						Fl	Eq	Ln	Su		
1	CITY HALL OF DAVAO	San Pedro St., Davao City	Building	1926	TANGIBLE	L	H	L	3m	1,333.31	DECLARED
2	FURUKAWA PLANTATION / NATIONAL DEV'T. COMPANY	Daliao, Toril, Davao City	Building	1920	TANGIBLE	L	H	L	3m	7,163.29	-
3	MUSEO DABAWENYO	Pichon St., Davao City	Museum	1953	TANGIBLE	L	H	L	3m	426.83	-
4	PHILIPPINE WOMEN'S COLLEGE	University Ave., Juna Subd., Matina, Davao City	Building	1953	TANGIBLE	L	H	L		12,676.17	-
5	SANGGUNIANG PANLUNGSOD BLDG. & SULU CLOCK TOWER	San Pedro St., Davao City	Building	1901	TANGIBLE	L	H	L	3m	3,159.15	-
6	ANDRES BONIFACIO MONUMENT	Toril District Hall Grounds, Toril, Davao City	Monument		TANGIBLE	L	L	L		19.06	DECLARED
7	BONIFACIO PARK / MONUMENT	A. Pichon cor. Washington and C.M. Recto Sts., Davao City	Monument / Park	November 30, 1961	TANGIBLE	L	H	L	3m	523.64	-
8	ANDRES BONIFACIO MONUMENT MARKER	Toril District Hall Grounds, Toril, Davao City	Marker		TANGIBLE	L	L	L		5.57	-

**Table HE-1: Inventory of Cultural Heritage Object**

Name	Brgy.	Type of Heritage Object	Year Constructed	Description (Tangible/IT-Intangible)	Hazard Susceptibility (H/M/L)				AREA (sqm)	RE-MARKS	
					Fl	Eq	Ln	Su			
9	DAVAO INTERNATIONAL AIRPORT TERMINAL ( OLD TERMINAL BUILDING)	Sasa, Davao City		1980	TANGIBLE					2,340.77	-
10	JAPANESE HERITAGE SITE	Mintal, Davao City		1980	TANGIBLE						-
11	MAGSAYSAY PARK / MONUMENT	R. Mag-saysay Ave., Davao City	Monument / Park		TANGIBLE	H	H	L	2m	147.54	
12	MONUMENT OF NO REGRET (UREINASHI NO HI)	Mintal Cemetery, Mintal, Davao City	Monument		TANGIBLE	H		L		1.02	
13	C.B. BANGOY SR. FIRE STATION	C. Bangoy St., Davao City	Building	1947	TANGIBLE	L	H	L	3m	158.81	
14	CAMP CAPTAIN DOMINGO LEONOR	San Pedro St., Davao City	SITE	1867	TANGIBLE	L	H	L	2m	2,166.43	
15	DACUDAO-GARCIA RESIDENCE	Washington St., Davao City	Building	1930	TANGIBLE	L	H	L	3m	37.12	
16	DAKUDAO ANCESTRAL HOME (LOCSIN DANCE STUDIO)	E. Quirino Ave., Davao City	Building	1948	TANGIBLE	L	H	L	4m	910.19	
17	DAKUDAO MANSION	Tugbok District, Davao City	Building	1922	TANGIBLE	H		L		113.21	
18	DAVAO CITY NATIONAL HIGH SCHOOL	F. Torres St., Davao City	Building	1922	TANGIBLE	L	M	L	4m	21,291.31	
19	DAVAO MENTAL HOSPITAL	J.P. Laurel Ave., Davao City	Building	1917	TANGIBLE	L	H	L	3m	2,453.12	
20	FILIPINO-CHINESE FRIENDSHIP ASSOCIATION BLDG.	Sta. Ana Ave. cor. Lapu-Lapu St., Davao City	Building	1940	TANGIBLE	L	H	L	2m	1,617.27	
21	FURUKAWA ADMINISTRATION BLDG. / BOARD OF LIQUIDATORS	Daliao, Toril, Davao City	Building	1920	TANGIBLE	L	H	L	5m	564.25	
22	HABANA COMPOUND / PASEO DE HABANA	J. Rizal St., Davao City	Building		TANGIBLE	L	H	L	3m	346.21	
23	JAPANESE BUNKER	Daliao, Toril, Davao City	Building		TANGIBLE	M	H	L	2m	50.28	

Table HE-1: Inventory of Cultural Heritage Object, cont.

No.	Name	Brgy.	Type of Heritage Object	Year Constructed	Description (Tangible/IT-Intangible)	Hazard Susceptibility (H/M/L)				AREA (sqm)	RE-MARKS
						Fl	Eq	Ln	Su		
24	JAPANESE CEMETERY	Mintal, Davao City	Building		TANGIBLE	H		L		105.94	
25	JAPANESE HOUSES	Daliao, Toril, Davao City	Building	1900	TANGIBLE	L	H	L	5m	211.25	
26	JAPANESE TUNNEL FAMILY RESORT & RESTAURANT	Div. Rd., Matina Balusong, Davao City	Building		TANGIBLE	L		L		136.73	
27	KAPITAN TOMAS MONTEVERDE SR. CENTRAL ELEMENT. SCHOOL	C. Bangoy St., Davao City	Building	1920	TANGIBLE	L	H	L	3m	1,878.25	
28	LAT RESIDENCE / LEGASPI SUITES	Pelayo St., Davao City	Building		TANGIBLE	L	H	L	4m	1,454.57	
29	MANILA BULLETIN	J. Rizal St., Davao City	Building		TANGIBLE	L	H	L	3m	247.08	
30	OBOZA RESIDENCE / CLAUDE'S LE CAFÉ DE VILLE	J. Rizal St., Davao City	Building	1929	TANGIBLE	L	H	L	3m	274.48	
31	ORGANIC CENTER OF DAVAO CITY (NATURE LIFE PARK)	Tiongko Ave. Davao City	Building	1930	TANGIBLE	L	M	L	4m	266.58	
32	PHILIPPINE NATIONAL BANK BUILDING	C.M. Recto cor. San Pedro Sts., Davao City	Building	1918	TANGIBLE	L	H	L	2m	431.42	
33	ST. PETER'S AUDITORIUM	University Ave., Juna Subd., Matina, Davao City	Building	1905	TANGIBLE	L	H	L	2m	543.34	
34	SAN PEDRO CATHEDRAL	San Pedro St., Davao City	Building	1848	TANGIBLE	L	H	L	2m	2,353.44	
35	TALOMO BEACH	South of Davao City	Building		TANGIBLE	H	H	L	2m	9,064.90	
36	TIONKO RESIDENCE	E. Quirino Ave. cor. Tionko Ave., Davao City	Building	1930	TANGIBLE	L	H	L	3m	362.44	
37	VILLA-ABRILLE ANCESTRAL HOUSE	A. Pichon St., Davao City	Building	1952	TANGIBLE	H	H	L	3m	230.41	
38	VILLA VILLACIN	J.P. Laurel Ave., Davao City	Building	1947	TANGIBLE			L		1,582.76	
39	WHITE HOUSE FUSION CUISINE & WINE LOUNGE	Camella Northpoint, Buhangin, Davao City	Building	1900	TANGIBLE	L		L		347.12	

Table HE-1: Inventory of Cultural Heritage Object, cont.

No.	Name	Brgy.	Type of Heritage Object	Year Constructed	Description (Tangible/IT-Intangible)	Hazard Susceptibility (H/M/L)				AREA (sqm)	RE-MARKS
						Fl	Eq	Ln	Su		
40	CAPTAIN DOMINGO E. LEONOR MONUMENT	Davao City Police Office, San Pedro St., Davao City	Monument		TANGIBLE	L	H	L	2m	0.95	
41	CENTENNIAL PARK / MONUMENT	San Pedro St., Davao City	Monument		TANGIBLE	L	H	L	3m	36.57	
42	OHTA MONUMENT	Inside Mintal Elem. School, Mintal, Davao City	Monument		TANGIBLE	H		L		6.88	DECLARED
43	OSMEÑA PARK / MONUMENT	C.M. Recto cor. San Pedro and A. Pichon Sts., Davao City	Monument / Park		TANGIBLE	L	H	L	3m	127.51	
44	QUEZON PARK	San Pedro St., Davao City			TANGIBLE	L	H	L	3m	1,135.64	
45	RIZAL PARK / MONUMENT	San Pedro St., Davao City	Monument / Park		TANGIBLE	L	H	L	3m	2,681.81	
46	RODRIGUEZ PARK	Quezon Blvd. cor. Bonifacio St., Davao City	Park		TANGIBLE	L	H	L	2m	211.35	
47	BATTLE MEMORIAL	Mintal Elementary School's entrance, Mintal, Davao City			TANGIBLE	H		L		1.12	
48	CITY HALL OF DAVAO MARKER	City Hall Building, San Pedro St., Davao City	Marker		TANGIBLE	L	H	L	3m	0.53	
49	EARLY DAVAO SETTLEMENT MARKER	Inside Osmeña Park, San Pedro St., Davao City	Marker		TANGIBLE	L	H	L	3m	5.04	
50	JAPANESE PEACE MEMORIAL (SHRINE)	Catalunan Grande, Davao City	Shrine		TANGIBLE			L		46.44	
51	MEMORIAL TO A BRAVE SON MARKER	Approach of the Bankerohan Bridge (near Mercury Drug), Davao City	Marker		TANGIBLE	VH	H	L	4m	2.70	
52	OHTA KYOZABURO MARKER	Inside Mintal Elem. School, Mintal, Davao City	Marker		TANGIBLE	H		L		1.90	



**Table HE-1: Inventory of Cultural Heritage Object, cont.**

Name	Brgy.	Type of Heritage Object	Year Constructed	Description (Tangible/IT-Intangible)	Hazard Susceptibility (H/M/L)				AREA (sqm)	RE-MARKS
					Fl	Eq	Ln	Su		
53 OYANGUREN'S LANDING SITE MARKER	Inside Rodriguez Park, A. Bonifacio St. cor. Quezon Blvd., Davao City	Marker		TANGIBLE	L	H	L	2m	2.06	
54 THE FORT OF DAVAO MARKER	Washington St., Davao City	Marker		TANGIBLE	L	H	L	2m	18.08	

### Sector Analysis Matrix

The following matrix contains the technical finding/observations, issues, and concerns with the main objective of guiding authorities in conserving, preserving, and protecting existing heritage sites.

**Table HE-2: Analysis Matrix**

Technical findings/ Observations	Effects, impacts, implication	Policy options/interventions
<b>Historically Significant Ancestral Houses are in a state of decay and dilapidation</b> -lack of public awareness -poor architectural and structural conservation	-loss of significant values of the place	-Provide incentive for maintaining the original architecture; -Implement "adaptive reuse" of the structure -Promote public awareness -Include heritage conservation overlay zone in the zoning ordinance -Impose laws and regulations in the care preservation of historical sites
<b>Poor public awareness of historical sites and markers</b> -Lack of historical appreciation	-Modernization of the structure -Lack of conservation efforts	-Further coordination with governing bodies (ex: NCIP, NCCA, etc.) to determine future historical sites -Impose laws and regulations in the care preservation of historical sites
Lack of funding for the study of culture-sensitive architecture -Undeveloped and undocumented culture-sensitive design and practices	-Absence of culture-sensitive architecture related records for future generations	-Legislation of laws for provision of funds for the study of culture-sensitive architecture -Promote the study of culture-sensitive architecture as part of curriculum in the academe
<b>Presence and installation of power and telecommunication poles and cables within the identified heritage sites</b> -Visual distraction or obstruction, including power and telecommunication poles and cables	-Depreciation of the aesthetic value of the heritage sites	-Impose laws and regulations to disallow the presence and installation of power and telecommunication poles and cables -Encourage and promote underground cabling

Table HE-2: Analysis Matrix, cont.

Technical findings/ Observations	Effects, impacts, implication	Policy options/interventions
<b>Inadequate approach or techniques on conservation</b> Deterioration of the heritage sites/buildings	Possible loss of historical value	Implementation of NHCP guidelines, policies and standards for the conservation and development of heritage sites and buildings.
<b>Insufficient records and documentation of Intangible cultural properties (Indigenous Knowledge Systems and Practices)</b> -Non-preservation of IPs Intangible cultural heritage	Loss of the IPs unique identity and culture	-Promotion at grassroots level for the preservation of IPs Intangible cultural heritage. -Seek assistance from the National Heritage Commission of the Philippines, National Museum and other concerned agencies for the declaration of such.
<b>Absence of Local Heritage Conservation and Preservation Council</b> -No local government body mandated to protect, conserve and implement policies and standards in line with the preservation of the heritage sites and buildings	-Heritage conservation and preservation is not prioritized causing for the possible loss or destruction of heritage sites and buildings	-Creation of Local Heritage Conservation and Preservation Council
<b>Majority of the Heritage Sites and Buildings are susceptible to flooding, landslide, earthquake and storm surge</b> -Some heritage sites and buildings are not hazard-resistant	-Heritage sites and buildings are prone to damages or destruction	-Employ hazard mitigating and adaptation measures in the conservation of the heritage sites and buildings
<b>Majority of the Heritage Sites and Buildings are susceptible to flooding, landslide, earthquake and storm surge</b> -Some heritage sites and buildings are not hazard-resistant	-Heritage sites and buildings are prone to damages or destruction	-Employ hazard mitigating and adaptation measures in the conservation of the heritage sites and buildings

### Programs/Projects approved/for implementation

Table HE-3: Programs or Projects approved for Implementation

Name/Location of Project	Location	Type	Proponent (Gov't., Private, Others)	Estimated Start Date	Estimated Date of Completion
1. Museo Dabawenyo Operations, with Project Code 1011-4	-	-	Government	-	-
2. Davao City Culture and Arts Council, with Project Code 999-55	-	-	Government	-	-
3. Construction of the Museo Dabawenyo Building	People Park, Palma Gil St, Poblacion District, Davao City	Building	Government	-	-

Source: Museo Dabawenyo

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# **ECONOMIC SECTOR**

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## ECONOMIC SECTOR

Economic development is the lifeblood of each local government unit. It pumps improvement to the financial, social, and infrastructure situation of the locality. By spurring the economy, jobs will be generated, thereby ensuring sustainable employment for every member of the society.

To attain the needed development, the local government has to bolster the agriculture sector, forestry sector, industry sector, commerce and trade sector, and tourism sector. These sectors contribute to the success of the local government, as they boost the locality's coffers.

In the case of Davao City, the commerce and trade sector largely contributes to its economy. Data from Business Bureau bared more than 90% of the 65,455 business lines are into commercial, trade and services. About half of the ₱2 billion revenues generated by the city from the business permittees also come from the wholesale and retail sector alone.

Another growth driver is the industry sector. The city encourages the entry of light manufacturing and green industries, which are non-pollutive and friendly to the natural resources from ridge to reef.

The tourism industry is also booming, with new international linkages between the city to Hong Kong and Qatar. The city also positions and continues to solidify itself as the destination for meetings, incentives, conventions, and exhibitions.

The city also attained the status as a hub for Business Process Outsourcing (BPO) in Mindanao giving employment opportunities not just to Dabawenyos but also to residents of neighboring cities and provinces.

The city well is buoyed up on the gains of its agriculture sector. Its products like bananas and pineapples are exported abroad. Davao-produced cacao also swings in a favorable spot at the international market with its rich flavor that satisfies the taste of the foreign buyers.

Only the forestry sector contributes a slight share to the city's economy as the city government encourages the expansion of protected forestlands to preserve the natural lungs of Davao City.

All of the economic activities are important to keep the city meet the vision of being the center of excellence in investment and tourism with sustainable growth by 2028 and beyond.

But, how shall the city prepare itself, and these sectors, to met the contingencies of abnormal or critical times, such as a widespread calamitous event, even a widespread disease infection, like the Covid-19 global pandemic?

In the case of the Covid-19 pandemic, every body has witnessed the financially-draining responses to this one, as companies and factories are forced to shut down, and lay off employees, as farms and transportation ground to a halt, rendering production areas in a standstill for some months as government send residents to the confine of their homes to prevent contamination and spread; as social and religious activities are prohibited .

From the lessons of the pandemic, the city government shall ensure a well-organized response to a critical situation like that, and shall include the ability to form a crisis management team at a moment's notice, whose members are picked from the expertise in their respective field, from health, finance, and planning, to social management, conflict-resolution and crowd management.

Preparedness shall also include steady resource –generation, and which may include the appropriate handling and operation of important sectors like agriculture and fisheries to ensure steady flow of food items.

With people out of jobs for months or a year, the city shall have a well-thought out plan on social amelioration and relief operation, which must be sustainable, as lockdowns may become necessary every once in a while.

The city must also enhance its electronic and online operations, to include its one-stop shop unit, to make it easier to access by applicants, make it fool-proof to avoid hacking and pilferage. The city government shall prepare the residents for this type of operation by frequent encouragement to try and to engage in financial literacy, online transaction and virtual conduct of organizational meeting, even large family gathering..

In some cases, some sectors in the economy may have to slow down or shutdown, such as tourism, for example, in the case disease outbreaks. It would be up to the management team to decide on the other nitty-gritty items of handling a crisis.

## **Agriculture**

**Existing Situation** - Agriculture is a vital sector which ensures availability, accessibility, and affordability of food in every locality. In Davao City, agricultural areas span 102,114.66 hectares, which is 41.85% of the city's total land area as of 2018. A large portion of agricultural areas, or 99.35%, are production areas. The remaining 0.65% or 658 hectares are protection agriculture areas. The agriculture sector also account for a big employment generation in Davao City, employing 60,841 farmers and fisherfolks in 2018.

## **Crop Production**

Production agriculture areas reach 101,456.66 hectares, based on the actual land use data in 2018. Of this total, data from City Agriculturist's Office (CAgrO) revealed that about 74% or 75,273.73 hectares are being utilized for agricultural crop production in Talomo, Buhangin, Bunawan, Paquibato, Toril, Tugbok, Baguio, Marilog, and Calinan. Paquibato Dis-



tract has the largest area with 17,249.49 hectares, which is mainly planted with coconut, corn, and banana. The other districts with large land areas are Toril (12,312.9 hectares), Marilog (11,480.72 hectares), Tugbok (10,526.11 hectares), and Calinan (10,082.58 hectares). The least is Talomo with 1,557.11 hectares.

Across districts, there is a combined crop production of 398,121 metric tons with total value of ₱4.743 Billion. The city listed 88,330 farmers as shown in Table EC-1 with some into the practice of multi-cropping to maximize land space and increase income. Meanwhile, cereals crops, like rice and corn, and industrial crops like coconut, cacao, and coffee are dominantly planted in Paquibato District while a large presence of fruit trees, especially Lakatan and Cavendish banana varieties, are observed in Calinan District (see Annex for full list of crops with areas, production and other details). On the other hand, vegetables and legumes are mostly planted in Marilog District, which has a cool climate fit for these crops. Only the fruit trees, especially Lakatan and Cavendish banana varieties, are sold, both in the local and export markets. Most of the high value crops are also exported.

Almost all districts have pre-harvest facilities for rice and corn except in Talomo and Bunawan. Post-harvest facilities for rice and corn are available in Paquibato, Tugbok, Baguio, Marilog, Calinan and Bunawan. For industrial crops, both pre and post-harvest facilities are present in Toril, Tugbok, Baguio and Marilog while Talomo has only pre-harvest facility. Only Buhangin District and Bunawan District have pre and post-harvest facilities for fruit trees. For vegetables, almost all of the districts have pre-harvest facilities except Bunawan, Tugbok and Baguio while post-harvest facilities are available in Toril, Paquibato, and Marilog. There are no pre and post-harvest facilities for legumes in all districts. Also, all districts, which have crop production areas, are highly susceptible to floods and landslide. Some agricultural areas, such as those in Bunawan, Toril, and Tugbok, are susceptible to natural hazards, that in turn, threaten their production areas. These three areas are highly susceptible to liquefaction. Storm surges may also affect Talomo, Buhangin, Bunawan and Toril. There are as well the presence of a fault line in agricultural areas in Talomo, Paquibato, Toril, Tugbok, Baguio, Marilog and Calinan.

Table EC – 1. Existing Agricultural Crops by Area and Production, Davao City, 2018

Crops	Location	Area		Annual Production		Product Market	No. of Farmers	Type of Farming Technology	Existing Agricultural Support Facilities		Hazard Susceptibility (Low (L)/Moderate (M)/High (H))				
		Ha	% Ut.	Volume (MT)	Value (₱)				Pre Harvest	Post Harvest	Floods (Fl)	Land-slide (Ln)	Liquefaction (Lq)	Storm Surge (Su) (meters)	Fault Line (Fa)
Cereals**	Talomo	77.81	0.02	313.29	2,422,900.00	Local	47	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Buhangin	172.20	0.04	1,241.80	17,731,358.00	Local	247	T/M/E	√	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Bunawan	103.00	0.06	542.91	4,802,516.00	Local	90	T/M/E	-	√	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Paquibato	3,749.00	0.21	12,089.68	141,396,459.40	Local	2,210	T/M/E	√	√	L/M/H	L/M/H	-	-	√
	Toril	344.00	0.03	2,269.85	25,960,756.50	Local	510	T/M/E	√	-	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Tugbok	713.05	0.08	4,194.80	57,772,435.90	Local	414	T/M/E	√	√	L/M/H	L/M/H	L/M/H	-	√
	Baguio	453.00	0.07	3,413.30	44,497,299.00	Local	466	T/M/E	√	√	L/M/H	L/M/H	L	-	√
	Marilog	1,371.00	0.12	6,227.12	10,498,804.15	Local	1,742	T/M/E	√	√	M/H	L/M/H	-	-	√
	Calinan	1,210.70	0.09	8,679.26	129,750,107.86	Local	1,204	T/M/E	√	√	L/M/H	L/M/H	L	-	√
<b>Sub-Total</b>		<b>8,193.76</b>	<b>0.71</b>	<b>38,972.00</b>	<b>434,832,636.81</b>		<b>6,930</b>								
Industrial Crops***	Talomo	1,043.46	0.22	228.53	5,087,630.00	Local	633	T/M/E	√	-	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Buhangin	1,493.00	0.33	399.79	12,778,734.00	Local	833	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Bunawan	1,120.44	0.60	254.72	5,026,354.00	Local	582	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Paquibato	10,843.62	0.62	2,600.42	119,351,005.00	Local	11,520	T/M/E	-	-	L/M/H	L/M/H	-	-	√
	Toril	7,996.33	0.69	2,320.44	85,669,828.50	Local	6,250	T/M/E	√	√	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Tugbok	7,301.22	0.79	1,954.81	68,082,570.00	Local	5,424	T/M/E	√	√	L/M/H	L/M/H	L/M/H	-	√
	Baguio	5,038.34	0.76	1,855.33	123,094,468.00	Local	4,032	T/M/E	√	-	L/M/H	L/M/H	L	-	√
	Marilog	6,661.23	0.58	1,937.32	105,332,122.00	Local	6,389	T/M/E	√	√	M/H	L/M/H	-	-	√
	Calinan	525.92	0.04	1,910.78	40,100,675.00	Local	4,032	T/M/E	√	√	L/M/H	L/M/H	-	-	√
<b>Sub-Total</b>		<b>42,023.56</b>	<b>4.64</b>	<b>13,462.15</b>	<b>564,523,386.50</b>		<b>39,695</b>								

Source: City Agriculturist's Office (CAgrO), Davao City

\* Percent utilization

\*\* Cereals include rice and corn

\*\*\* Industrial crops include rubber, abaca, coffee, cacao and coconut

Table EC – 1. Existing Agricultural Crops by Area and Production, Davao City, 2018, cont.

Crops	Location	Area		Annual Production		Product Market	No. of Farmers	Type of Farming Technology	Existing Agricultural Support Facilities		Hazard Susceptibility (Low (L)/Moderate (M)/High (H))				
		Ha	% Ut.	Volume (MT)	Value (₱)				Pre Harvest	Post Harvest	Floods (Fl)	Land-slide (Ln)	Liquefaction (Lq)	Storm Surge (Su) (meters)	Fault Line (Fa)
<b>Fruit Trees*</b>	Talomo	254.29	0.05	1,058.39	17,430,208.80	Local/Export	665	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Buhangin	389.15	0.08	3,900.40	65,943,588.60	Local/Export	778	T/M/E	√	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Bunawan	407.28	0.22	5,546.40	44,531,181.50	Local/Export	917	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Paquibato	2,050.06	0.12	21,147.16	179,244,664.60	Local/Export	4,594	T/M/E	-	-	L/M/H	L/M/H	-	-	√
	Toril	3,320.85	0.29	33,163.85	632,160,921.14	Local/Export	5,471	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Tugbok	2,502.67	0.27	26,014.52	345,549,890.30	Local/Export	6,198	T/M/E	-	-	L/M/H	L/M/H	L/M/H	-	√
	Baguio	2,330.11	0.35	35,725.10	456,919,844.00	Local/Export	1,297	T/M/E	-	√	L/M/H	L/M/H	L	-	√
	Marilog	2,138.68	0.19	12,358.49	163,416,759.50	Local/Export	3,450	T/M/E	-	-	M/H	L/M/H	-	-	√
	Calinan	8,063.10	0.63	181,586.38	1,727,447,126.00	Local/Export	6,258	T/M/E	-	-	L/M/H	L/M/H	L	-	√
<b>Sub-Total</b>		<b>21,456.19</b>	<b>2.20</b>	<b>320,500.69</b>	<b>3,632,644,184.44</b>		<b>29,628</b>								

Source: City Agriculturist's Office (CAgro), Davao City

\* Fruit trees include banana (Cavendish, Saba, Latundan and Lakatan), mango, durian, lanzones, mangosteen, avocado, jackfruit, pomelo, rambutan, marang and orange (Mandarin)

Table EC – 1. Existing Agricultural Crops by Area and Production, Davao City, 2018, cont.

Crops	Location	Area		Annual Production		Product Market	No. of Farmers	Type of Farming Technology	Existing Agricultural Support Facilities		Hazard Susceptibility (Low (L)/Moderate (M)/High (H))				
		Ha	% Ut.	Volume (MT)	Value (₱)				Pre Harvest	Post Harvest	Floods (Fl)	Land-slide (Ln)	Liquefaction (Lq)	Storm Surge (Su) (meters)	Fault Line (Fa)
Vegetables <sup>*</sup>	Talomo	155.85	0.03	434.64	4,827,800.50	Local	1,096	T/M/E	√	-	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Buhangin	70.00	0.02	567.28	5,472,961.90	Local	216	T/M/E	√	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Bunawan	174.60	0.09	879.75	-	Local	343	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Paquibato	511.24	0.03	4,369.90	32,170,355.20	Local	1,267	T/M/E	√	√	L/M/H	L/M/H	-	-	√
	Toril	517.64	0.04	3,847.15	41,495,713.97	Local	1,588	T/M/E	√	√	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Tugbok	6.67	0.00	66.00	753,720.00	Local	263	T/M/E	-	-	L/M/H	L/M/H	L/M/H	-	√
	Baguio	179.50	0.03	1,477.10	14,347,450.00	Local	435	T/M/E	-	-	L/M/H	L/M/H	L	-	√
	Marilog	1,023.80	0.09	10,473.24	-	Local	2,543	T/M/E	√	√	M/H	L/M/H	-	-	√
	Calinan	255.44	0.02	1,243.72	12,147,003.60	Local	1,188	T/M/E	√	-	L/M/H	L/M/H	-	-	√
<b>Sub-Total</b>		<b>2,894.74</b>	<b>0.35</b>	<b>23,358.78</b>	<b>111,215,005.17</b>		<b>8,939</b>								
Legumes <sup>**</sup>	Talomo	25.70	0.01	43.38	-	Local	186	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Buhangin	57.50	0.01	154.04	-	Local	190	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Bunawan	51.70	0.03	140.01	-	Local	142	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	-
	Paquibato	95.57	0.01	120.97	-	Local	797	T/M/E	-	-	L/M/H	L/M/H	-	-	√
	Toril	134.08	0.01	712.74	-	Local	564	T/M/E	-	-	L/M/H	L/M/H	L/M/H	2,3,4,5	√
	Tugbok	2.50	0.00	4.65	-	Local	67	T/M/E	-	-	L/M/H	L/M/H	L/M/H	-	√
	Baguio	25.00	0.00	55.50	-	Local	95	T/M/E	-	-	L/M/H	L/M/H	L	-	√
	Marilog	286.01	0.02	446.78	-	Local	823	T/M/E	-	-	M/H	L/M/H	-	-	√
	Calinan	27.42	0.00	149.31	-	Local	274	T/M/E	-	-	L/M/H	L/M/H	-	-	√
<b>Sub-Total</b>		<b>705.48</b>	<b>0.09</b>	<b>1,827.38</b>	<b>-</b>		<b>3,138</b>								
<b>Total</b>		<b>75,273.73</b>		<b>398,121</b>	<b>4,743,215,212.92</b>		<b>88,330</b>								

Source: City Agriculturist's Office (CAgro), Davao City

\* Vegetables include cabbage, cauliflower, carrots, hot pepper, lemon, ampalaya, chayote, cucumber, eggplant, okra, squash, tomato, upo, leaf onions, patola, radish, ginger, lettuce, pechay, sweet pepper, Chinese pechay, calamansi, camote, gabi and cassava.

\*\* Legumes include peanut, mongo, pili nuts, stringbeans and Baguio beans.

## Comparative Major Agricultural Crops Areas and Production

Table EC – 2 lists major crops in terms of volume of production as gathered by CAgrO, which includes rice, corn, cacao, coffee, rubber, coconut, banana, durian, mango, pineapple, and vegetables. The areas planted with major crops cover 72,639.96 hectares, or 96.50% of the 75,273.73.04 hectares that are planted with different agricultural crops in 2018.

There was a decline in land size, for areas planted with pineapple, rice, and coconut at 15%, eight percent (8%) and two percent (2%), respectively. The areas devoted to other crops, meanwhile, expanded. Gainers in terms of expansion are rubber, mango, coffee and vegetables at 282%, 161%, 120%, and 122%, respectively. The increase in areas that are planted with rubber can be attributed to the intensified National Greening Program (NGP) of Department of Environment and Natural Resources (DENR) especially in Marilog District. In terms of size, coconut dominates the agricultural landscape by occupying over 34,000 hectares or about 47% of agricultural land monitored. Areas planted with banana comes second with a cumulative total of 12,250 hectares.

Banana dominates by producing 241,071 metric tons in terms of volume of production. In terms of yield pineapple is the highest at 32.55 metric tons per hectare. In terms on year-on-year difference, corn and rice decline by 23% and one percent (1%), respectively. The rest of the major crops, on the other hand, exhibit an upward trend. Vegetables have the highest increase at 148% followed by coconut with 138% and coffee with 109%.

**Table EC – 2. Comparative Agricultural Crops, By Area and Production, Davao City, 2017-2018**

Major Crops	Area (Ha)			Volume of Production (MT)		
	2017	2018	% Increase/ Decrease	2017	2018	% Increase/ Decrease
<b>Cereals</b>						
Rice	2,050.78	1,886.15	-8%	9,763.02	9,632.44	-1%
Corn	5,047.75	5,814.61	15%	33,670.31	25,914.95	-23%
<b>Industrial Crops</b>						
Cacao	3,991.09	5,826.35	46%	2,982.16	4,174.92	40%
Coffee	753.06	1,655.75	120%	471.00	984.22	109%
Rubber	414.00	1,581.55	282%	416.00	819.23	97%
Coconut	34,855.46	34,168.42	-2%	3,555.73	8,449.44	138%
<b>Fruits</b>						
Banana	8,514.51	12,250.46	44%	153,958.43	241,071.62	57%
Durian	2,574.71	3,462.09	34%	11,939.25	14,788.20	24%
Mango	822.33	2,143.84	161%	6,164.10	11,120.49	80%
Pineapple	1,203.00	1,026.00	-15%	28,213.00	33,399.50	18%
<b>Vegetables</b>	1,272.04	2,824.74	122%	9,178.20	22,791.50	148%
<b>Total</b>	<b>61,498.72</b>	<b>72,639.96</b>	<b>18%</b>	<b>260,311.20</b>	<b>373,146.51</b>	<b>43%</b>

Source: City Agriculturist's Office (CAgrO), Davao City



## Livestock and Poultry

Livestock and poultry farms, which are into commercial operation, cover 924.93 hectares or 0.38% of the city's total land area. Majority, or 42.71%, of the total livestock and poultry farms are devoted to cattle production, which involves 395 hectares, followed by poultry (broiler) at 26.94% (249.15 hectares) and hogs at 25.55% (236.28 hectares). The least is the area for poultry (layering) at 4.81% or 44.5 hectares.

Most of the livestock and poultry farms are located in the Third Congressional District, particularly in the districts of Calinan, Tugbok, Baguio, Marilog and Toril. With regards to production, the city was able to have a combined volume of 43,330.37 metric tons and value of ₱6.841 billion. Pork dominates in terms of volume and production value. Pork products totalled 43,155 metric tons or 99.60% of the total volume of production as of 2018. Its production value reached ₱4,944,778,524 or 72.28% of the combined value of the livestock and poultry products.

Cattle products and eggs are being produced and sold for domestic market while the rest of the products are transported and sold to other cities and municipalities. Hog products, for instance, are sold to as far as Tacloban City in Eastern Visayas. The city has a total of 3,927 tenants in livestock and poultry farms.

On hazards susceptibility, it should be noted that most of the farms are highly susceptible to flood and landslide. Only the farms in Buhangin, Bunawan, and Marilog Districts are located outside Central Davao Fault System.

In Table EC – 3, the computation to determine the volume of production varies per type of livestock. For cattle, the volume of production is determined by multiplying the number of heads to production rate and live weight. For example, a production rate of 30% with a finisher weight of 250 kilograms has a price of ₱138.80 per kilogram in 2018.

For hogs, the volume of production is determined by multiplying the number of heads to the finisher weight.

For poultry (broiler), the volume of production is determined by multiplying the hectares occupied by the broiler to the standard population of broilers per hectare at five (5) cropping per year and birth rate. The standard population of broilers is 50,000 birds per hectare with birth rate of 97%. In 2018, the farm gate price was ₱90.44 per kilogram. For poultry (layering), the volume of egg production is determined by multiplying the heads to the birth rate and number of eggs of each layer per year. Each layer can have 200 eggs per year. By standard, there are 21 eggs per kilogram.

\*The data shown does not reflect backyard production because there is no inventory conducted yet for the purpose.

Table EC – 3. Existing Livestock and Poultry Farms, Davao City, 2018

Type	District	Area (Ha)	No. of Heads	Product Classification	Production		Product Market	No. of Tenants	Hazard Susceptibility				
					Volume (MT)	Value (₱)			Fl	Ln	Lq	Su	Fa
Cattle	Calinan	345	1,379	Commercial	103.43	14,303,678	Davao City	56	L/M/H	L/M/H	L	-	√
	Tugbok	50	110	Commercial	8.25	1,140,975	Davao City	3	L/M	H	-	-	√
		<b>395</b>	<b>1,489</b>		<b>111.68</b>	<b>15,444,653</b>		<b>59</b>					
Hog	Talomo	0.25	420	Commercial	37.8	4,331,880	Davao City	2	L/M/H	L	L	-	√
	Calinan	20	23,000	Commercial	2,070	237,222,000	Davao City	115	L/M/H	L/M/H	L	-	√
	Baguio	3	2,720	Commercial	244.8	28,054,080	Davao City	14	L/M/H	H	L	-	√
	Toril	132.93	407,820	Commercial	36,504	4,183,358,400	Davao City/ Surigao	2,028	L/M/H	M/H	M/H	H	√
	Marilog	25	7,980	Commercial	718.2	82,305,720	Davao City	40	L/M/H	H	-	-	-
	Bunawan	24	31,120	Commercial	2,800.80	320,971,680	Davao City/ Tagum/ Panabo/Mati/ Mangagoy/ Tacloban	156	L/M/H	L/H	H	H	-
	Tugbok	31.1	8,660	Commercial	779.4	88,534,764	Davao City	43	L/M/H	L/H	L	-	√
		<b>236.28</b>	<b>481,720</b>		<b>43,155</b>	<b>4,944,778,524</b>		<b>2,398</b>					
Poultry (Broiler)	Calinan	64.35	11,882,500	Commercial	11.88	920,181	Davao City and other LGUs	322	L/M/H	L/M/H	L	-	√
	Baguio	4.2	1,018,500	Commercial	1.02	78,872.64	Davao City and other LGUs	21	L/M/H	H	L	-	√
	Buhangin	13.53	3,281,025	Commercial	3.28	254,082.58	Davao City and other LGUs	68	L/M/H	L/M/H	H	-	-
	Toril	46.4	9,506,000	Commercial	9.51	736,144.64	Davao City and other LGUs	232	H	L/M/H	H	-	√
	Marilog	18.52	2,910,000	Commercial	2.91	225,350.40	Davao City and other LGUs	93	L/M/H	L/M/H	-	-	-
	Bunawan	19.21	1,940,000	Commercial	1.94	150,233.60	Davao City and other LGUs	96	H	H	H	-	-
	Tugbok	82.94	12,597,875	Commercial	12.6	975,579.44	Davao City and other LGUs	415	L/M/H	L/H	L	-	√

Source: City Veterinarian's Office (CVO), Davao City and GIS Division, OCPDC, Davao City

**Table EC – 3. Existing Livestock and Poultry Farms, Davao City, 2018, cont.**

Type	District	Area (Ha)	No. of Heads	Product Classification	Production		Product Market	No. of Tenants	Hazard Susceptibility				
					Volume (MT)	Value (₱)			Fl	Ln	Lq	Su	Fa
		<b>249.15</b>	<b>43,135,900</b>		<b>43.14</b>	<b>3,340,444.10</b>		<b>1,247</b>					
Poultry (Layering)	Talomo	17	850,000	Commercial	7.85	717,315,000	Davao City	85	H	L	L/H	-	v
	Calinan	10	500,000	Commercial	4.62	421,950,000	Davao City	50	H	H	-	-	v
	Toril	5	250,000	Commercial	2.31	210,975,000	Davao City	25	H	M	H	-	v
	Tugbok	12.5	625,000	Commercial	5.77	527,437,500	Davao City	63	H	L	L	-	v
		<b>44.5</b>	<b>2,225,000</b>		<b>20.55</b>	<b>1,877,677,500</b>		<b>223</b>					
<b>Total</b>		<b>924.93</b>	<b>45,844,109</b>	<b>Commercial</b>	<b>43,330.37</b>	<b>6,841,241,120.6</b>		<b>3,927</b>					

Source: City Veterinarian's Office (CVO), Davao City and GIS Division, OCPDC, Davao City

## Fisheries and Aquaculture

The city's marine waters cover an area of 19,827 hectares, including 508.29 hectares that are declared as marine protected areas (MPAs). Inland fisheries also flourish in 14.49 hectares of fishponds, which are covered under fishpond lease agreement with the Bureau of Fisheries and Aquatic Resources XI.

As of 2018, fish production, both in marine waters and inland waters, totaled 187,959 metric tons with combined value of ₱198,835,030 (Table EC – 4, see next page). Of the total, majority or 97.91% of the production are sourced from inland fisheries, particularly in the fishponds located at the districts of Marilog, Calinan, Baguio and Tugbok. Not less than 8.81% of the total value of fish production is attributed to the production by inland fisheries. These inland sources propagate *tilapia* (*Oreochromis niloticus*) and *hito* (*Clarias gariepinus*).

Inland fish production is mainly accounted by the producers in Los Amigos and Balengaeng, both in Tugbok District. Together, they comprise 62.97% of the total inland fish production of 115,901 metric tons with an equivalent revenue of ₱12,749,110. On the other hand, fish production in marine waters totaled 1,390.39 metric tons with a value of ₱180,816,540. Matina Aplaya registers the highest fish catch at 416.67 metric tons with an equivalent revenue of ₱54,166,450, which is 29.96% of the total marine waters fish catch of the entire city.

There are fish cages particularly in Punta Dumalag, Matina Aplaya, which are being managed by 29 operators. The average produce totalled 357.1 metric tons with an equivalent value of the fish catch amounts to ₱46,423,000.

However, the fisheries and aquaculture industry also faces threats of illegal fishing activities and presence of informal settlers. The Fishery Resources and Management Services Division (FRMSD) of CAgro is intensifying its efforts to curb the destruction of fishery habitat. Among the problems observed by the FRMSD are the presence of 29,917 informal settlers and illegal fishing, particularly in and around the MPAs. Based on the monitoring of FRMSD, there are eight (8) fishing *bancas* that were penalized for encroaching in the MPAs and two (2) fishing *bancas* that were apprehended for using fine mesh nets in 2018.

**Table EC – 4. Existing Fishing Grounds and Aquaculture Production, Davao City, 2018**

Fishing	Barangay	Production		Post-Harvest Facilities				Product Market	Hazard Susceptibility (H/M/L)		
		Volume (MT)	Value (₱)	Type	No.	Capacity	Status		Fl	Su	Lq
<b>Marine</b>											
	Lasang	27.57	3,583,580	Community Fish Landing Center	1	1 MT	Ongoing construction	Local	H	-	L
	Bunawan	36.63	4,761,640	Seaweed Platform Dryer and Storage	1	5MT	Operational	Local	H	-	L
	Tibungco	34.76	4,518,540	Seaweed Platform Dryer and Storage	1	5MT	Operational	Local	H	L	L
	Ilang	32.72	4,253,210	Seaweed Platform Dryer and Storage	1	5MT	Operational	Local	H	L	L
	Panacan	59.47	7,730,450	Seaweed Platform Dryer and Storage	1	5MT	Operational	Local	H	L	L
	Sasa	55.58	7,224,880	-	-	-	-	Local	H	L	L
	Pampanganga	33.912	4,408,040	-	-	-	-	Local	H	L	L
	Hizon	49.16	6,390,410	-	-	-	-	Local	H	L	L
	Lapu-Lapu	69.97	9,096,100	Seaweed Platform Dryer and Storage	1	5MT	Operational	Local	H	L	L
	Centro	30.09	3,912,090	-	-	-	-	Local	H	L	L
	Duterte	45.56	5,992,670	-	-	-	-	Local	H	L	L
	Leon Garcia	52.66	6,845,670	-	-	-	-	Local	H	L	L
	21-C	31.17	4,052,100	-	-	-	-	Local	L/H	M	L
	23-C	33.22	4,318,470	-	-	-	-	Local	L/H	M	L
	31-D	29.51	3,836,040	-	-	-	-	Local	L/M/H	M	L
	76-A	54.39	7,070,830	-	-	-	-	Local	-	H	L
	Matina Aplaya	59.57	7,743,450	-	-	-	-	Local	L/M/H	M	L
	Punta Dumalag (Fish Cages)	357.1	46,423,000	-	-	-	-	Local	H	H	L
	Talomo	57.22	7,438,340	-	-	-	-	Local	L/M/H	L	L
	Bago Aplaya	52.29	6,797,050	-	-	-	-	Local	L/M/H	L	L

Source: City Agriculturist's Office, Davao City



Table EC – 4. Existing Fishing Grounds and Aquaculture Production, Davao City, 2018, cont.

Fishing	Barangay	Production		Post-Harvest Facilities				Product Market	Hazard Susceptibility (H/M/L)		
		Volume (MT)	Value (₱)	Type	No.	Capacity	Status		FI	Su	Lq
<b>Marine</b>											
	Dumoy	40.92	5,320,120	-	-	-	-	Local	L/M/H	L	L
	Daliao	51.22	6,659,120	Davao Fish Port Complex	1	572MT	Operational	Local/Export	L/M	M	L
	Lizada	46.93	6,101,420	-	-	-	-	Local	L/M/H	M	L
	Sirawan	35.66	4,635,410	-	-	-	-	Local	L/M/H	M	L
	Binugao	13.11	1,703,910	-	-	-	-	Local	L/M/H	L	L
<b>Sub-Total</b>		<b>1,390.39</b>	<b>180,816,540</b>								
<b>Inland</b>											
<b>Tilapia/Hito</b>	Marilog Proper	3,656	255,920	-	-	-	-	Local	M/H	-	M
	Riverside/ Wangan/ Talomo River / Cawayan	42,241	2,956,870	-	-	-	-	Local	L/M/H	-	-
	Wines/ Gumalang/ Tambobong	22,237	1,556,590	-	-	-	-	Local	L/M/H	-	M
	Los Amigos/ Balingaeng	115,901	12,749,110	-	-	-	-	Local	L/M/H	-	-
<b>Sub-Total</b>		<b>184,035</b>	<b>17,518,490</b>								
<b>Total</b>		<b>187,959</b>	<b>198,835,030</b>								

Source: City Agriculturist's Office, Davao City

## Support Systems

### Physical Infrastructure

#### Water Irrigation Systems

The National Irrigation Administration (NIA) XI has 153 water irrigation systems in Davao City, which are all operational except the Lupoy agri-water system in Barangay Tungkalan, which is currently under rehabilitation (Table EC – 5). Most of the water irrigation systems were established in the years 2015 and 2017. All water irrigation systems are owned by the national and local government.

Of the total, 108 (70.59%) are small farm reservoirs, which are commonly used to irrigate areas for vegetable cultivation. These systems are also utilized as rainwater catchment. The reservoir project with the largest area served is the Tungkalan agri-water system in Toril District, which can cover up to 150 hectares. Other irrigation systems include eight (8) communal projects and 37 pump irrigation projects.

Disaster risk mitigating measures have been recommended to prevent the projects from being damaged due to hazards as 50 water irrigation systems or (36.49%) are highly susceptible to liquefaction. Ironically, there are also seven (7) water irrigation systems that are highly susceptible to floods, which might require reassessment if flooding incidents in said areas are sufficient to provide the required natural land moisture for agricultural production.

Table EC – 5. Water Irrigation Systems, Davao City, 2018

Irrigation System	No. of Units	Year Constructed	Type of Ownership	Type of Irrigation	Capacity of Irrigation System (cu3/day)	Area Served (ha)	Hazard Susceptibility (L/M/H)	
							Fl	Lq
<b>Communal</b>								
Nar-Con Irrigation System	1	-	Public	Gravity	-	234	H	-
Cawayan Diversion Dam	1	1987	Public	Gravity	-	7	H	-
Wangan Diversion Dam	1	1997	Public	Gravity	0.2 cubic meters per second (cms)	80	H	-
Lacson Irrigation System	1	1997	Public	Gravity	0.80 cms	36	H	-
Bato Banud Diversion Dam	1	1998	Public	Gravity	0.04 cms	3	-	L
Balengaeng Communal Irrigation System (CIS)	1	1981	Public	Gravity	-	59	H	-
Callawa Water Impounding (Small Water Impounding Project (SWIP) Rainwater Catchment)	1	2012	Public	Gravity	7,500 m <sup>3</sup>	6	-	L
Maligaya Diversion Dam	1	2001	Public	Gravity	2,000 m <sup>3</sup>	60	H	-
<b>Sub-Total</b>	<b>8</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Small Farm Reservoir</b>								
Langub Small Reservoir	5	1999, 2014	Public	Impounding	300 m <sup>3</sup>	0.05 - 1	-	H
Callawa Small Reservoir	6	1999, 2013, 2016	Public	Impounding	300 m <sup>3</sup>	0.05 - 0.50	-	H
Salukadang-Mapula Small Farm Reservoir	10	2016	Public	Impounding	300 m <sup>3</sup>	0.05	-	H
Talomo River Small Farm Reservoir	19	1996, 2013, 2014	Public	Impounding	300 m <sup>3</sup>	0.50	-	H
Biao Joaquin Small Farm Reservoir	5	2013	Public	Impounding	300 m <sup>3</sup>	0.50	-	H
Lampianao Small Farm Reservoir	7	2013	Public	Impounding	300 m <sup>3</sup>	0.50	-	H
Tacunan Small Farm Reservoir	9	2014	Public	Impounding	300 m <sup>3</sup>	0.50 - 5	-	H
Biao Escuela Small Farm Reservoir	6	1999, 2014	Public	Impounding	300 m <sup>3</sup>	0.50	-	H
Biao Guianga Small Farm Reservoir	26	2013, 2014	Public	Impounding	300 m <sup>3</sup>	0.50	-	H
Los Amigos Small Farm Reservoir	1	2013	Public	Impounding	300 m <sup>3</sup>	0.50	-	H

Source: National Irrigation Administration XI, Davao Region

Table EC – 5. Water Irrigation Systems, Davao City, 2018, cont.

Irrigation System	No. of Units	Year Constructed	Type of Ownership	Type of Irrigation	Capacity of Irrigation System (cu3/day)	Area Served (ha)	Hazard Susceptibility (L/M/H)	
							Fl	Lq
Ula Small Farm Reservoir	3	2014	Public	Impounding	300 m <sup>3</sup>	0.50	-	H
New Valencia Small Farm Reservoir	1	2014	Public	Impounding	300 m <sup>3</sup>	5	-	H
Biao Escuela High Value Crop Development Program (HVCDP) Pump Irrigation	1	2015	Public	Impounding	300 m <sup>3</sup>	0.50	-	H
IKP Lapunan Agri-Water System	1	2017	Public	Gravity	7.2 m <sup>3</sup>	10	-	H
Aguila Agri-Water System	1	2017	Public	Gravity	65 m <sup>3</sup>	37	-	H
Buda Agri-Water System	1	2017	Public	Gravity	15 m <sup>3</sup>	10	-	H
Namnam Agri-Water System	1	2017	Public	Gravity	25 m <sup>3</sup>	10	-	H
Lupoy Agri-Water System (Under rehabilitation)	1	2008	Public	Gravity	8 m <sup>3</sup>	30	-	H
Tungkalan Agri-Water System	1	2012	Public	Gravity	10 m <sup>3</sup>	150	-	H
Alambre Agri-Water System	1	2012	Public	Gravity	15 m <sup>3</sup>	80	-	H
Los Amigos CIS	1	-	Public	Gravity	-	80	-	H
Mabuhay Agri-Water System	1	2017	Public	Gravity	10 m <sup>3</sup>	10	H	-
<b>Sub-Total</b>	<b>108</b>	-	-	-	-	-	-	-
<b>Pump Irrigation</b>								
Malabog Open Surface Pump (OSP)	1	2015	Public	Impounding	300 m <sup>3</sup>	-	-	H
Salukadang Pump Irrigation System from Open Source (PISOS)	1	2017	Public	Impounding	-	-	-	H
Upper Mapula OSP	1	2017	Public	Impounding	-	-	-	H
Lumiad OSP	1	2017	Public	Impounding	-	-	-	H
San Antonio OSP	1	2015	Public	Pump Irrigation	-	-	-	H
San Antonio Pump Irrigation Project (PIP)	1	2016	Public	Pump Irrigation	-	-	-	H
Callawa PIP	1	2016	Public	Pump Irrigation	-	-	-	H
Tawan-Tawan Multi-Purpose Cooperative Ram PIP	2	2016	Public	Pump Irrigation	6 m <sup>3</sup>	5	-	H
MTBKA Ram PIP	1	2018	Public	Pump Irrigation	12 m <sup>3</sup>	5	-	H

Source: National Irrigation Administration XI, Davao Region

Table EC – 5. Water Irrigation Systems, Davao City, 2018, cont.

Irrigation System	No. of Units	Year Constructed	Type of Ownership	Type of Irrigation	Capacity of Irrigation System (cu3/day)	Area Served (ha)	Hazard Susceptibility (L/M/H)	
							Fl	Lq
Lampianao OSP	1	2015	Public	Pump Irrigation	-	-	-	H
Biao Joaquin OSP	1	2015	Public	Pump Irrigation	-	-	-	H
Wangan OSP	1	2015	Public	Pump Irrigation	-	-	-	H
Talomo River OSP	1	2015	Public	Pump Irrigation	-	-	-	H
Saloy OSP	1	2015	Public	Pump Irrigation	-	-	-	H
Lampianao PIP	1	2016	Public	Pump Irrigation	-	-	-	H
Lampianao HVCDP PIP	1	2015	Public	Pump Irrigation	-	-	-	H
Talomo River HVCDP PIP	1	2015	Public	Pump Irrigation	-	-	-	H
Buda OSP	1	2015	Public	Pump Irrigation	-	-	-	H
Mahalyang Solar PIP	1	2016	Public	Pump Irrigation	-	-	-	H
Aguila Solar PIP	1	2016	Public	Pump Irrigation	6 m <sup>3</sup>	5	-	H
Moab Ram PIP	1	2017	Public	Pump Irrigation	12 m <sup>3</sup>	5	-	H
Pamuhatan Ram Pump	1	2017	Public	Pump Irrigation	10 m <sup>3</sup>	5	-	H
Sto. Niño Pump Irrigation Open Surface	1	2017	Public	Pump Irrigation	-	-	-	H
Patag Pump Irrigation Open Surface	1	2017	Public	Pump Irrigation	-	-	-	H

Source: National Irrigation Administration XI, Davao Region



Table EC – 5. Water Irrigation Systems, Davao City, 2018, cont.

Irrigation System	No. of Units	Year Constructed	Type of Ownership	Type of Irrigation	Capacity of Irrigation System (cu3/day)	Area Served (ha)	Hazard Susceptibility (L/M/H)	
							Fl	Lq
Magsaysay PIP	1	2017	Public	Pump Irrigation	-	-	-	H
Barangay Los Amigos OSP	1	2015	Public	Pump Irrigation	-	-	-	H
Biao Guianga Farmers Association	2	2015	Public	Pump Irrigation	-	-	-	H
Barangay Biao Escuela OSP	1	2015	Public	Pump Irrigation	-	-	-	H
Bonggan Solar PIP.	1	2016	Public	Pump Irrigation	6 m <sup>3</sup>	5	-	L
Pamuhatan Ram PIP	1	2018	Public	Pump Irrigation	12 m <sup>3</sup>	5	-	L
Mahalyang Ram PIP	1	2018	Public	Pump Irrigation	12 m <sup>3</sup>	5	-	L
Marahan Ram PIP	1	2018	Public	Pump Irrigation	12 m <sup>3</sup>	5	-	L
Masecampo Ram PIP	1	2018	Public	Pump Irrigation	12 m <sup>3</sup>	5	-	L
Talandang Solar PIP	1	2018	Public	Pump Irrigation	6 m <sup>3</sup>	3	-	H
Tigatto Solar PIP	1	2012	Public	Pump Irrigation	6 m <sup>3</sup>	5	M	-
<b>Sub-Total</b>	<b>37</b>	-	-	-	-	-	-	-
<b>Total</b>	<b>153</b>	-	-	-	-	-	-	-

Source: National Irrigation Administration XI, Davao Region

## Agricultural Support Facilities and Services

As of 2018, CAgro record shows 430 agricultural support facilities and services in the city (Table EC – 6, see next page). About 16.51% of agricultural support facilities and services are devoted to corn production. These include compact corn mill, and corn sheller/husker, 17 of these are located in Paquibato District, where corn production covers 3,400 hectares, an area representing 71% of the total corn production area of the city.

Around 39.06% of the agricultural support facilities and services are operational and these are located across agriculture-rich districts such as Talomo, Buhangin, Bunawan, Paquibato, Toril, Tugbok, Baguio, Marilog, and Calinan. Of the facilities that are operational, only the corn sheller/husker in Paquibato Proper, Paquibato District needs to be repaired.

At least 40 units of the pre and post-harvest facilities need to be repaired, including four (4) post-harvest facilities that are already non-operational. These include the agricultural bi-cable tramline in Tawan-Tawan, Baguio District; two (2) combined rice and corn mill in Tapak and Malamba, Paquibato District; 13 corn mill compact in Paradise Embac, Colosas, Tapak and Mapula, Paquibato District and Dalaglumot and Gumitan, Marilog District; corn sheller/husker in Gumitan and Suawan in Marilog District; two (2) farm tractors in Malagos, Baguio District and Buhangin Proper, Buhangin District; two (2) floating tillers in Malamba, Marilog District and Lacson, Calinan District; seven (7) hand tractors in Callawa, Buhangin District, Los Amigos, Tugbok District, Calinan Poblacion, Lacson and Saloy, Calinan District, Salaysay, Marilog District and Malabog, Paquibato District; mechanical dryer in Callawa, Buhangin District; rice mill in Gumitan, Marilog District; rice reaper in Callawa, Buhangin District; seven (7) rice thresher in Saloy, Calinan and Lacson, Calinan District, Malamba, Marilog District, Los Amigos, Tugbok District, Tapak, Paquibato District and Wines, Baguio District; stripping machine in Baracatan, Toril District; and two (2) weighing scales in Malamba, Marilog District and Wines, Baguio District.

On the other hand, there are 71 units, or 16.32% of the total agricultural support facilities and services that are non-operational. Twenty one (21) of these are located in Calinan District, including the sorting building, blowers, cassava chipper/granulator, cassava digger/uprooter, coffee/cacao roaster, coffee/cacao grinder, corn mill compact, mechanical dryer, shredder, and vermiculture tea brewer. There are also facilities that have been demolished and unutilized. One is the 8,000-seedling nursery establishment in Tambobong, Baguio District, which was demolished, and the rain shelter in Suawan, Marilog District, which was not utilized.

**Table EC – 6. Existing Agricultural Support Facilities and Services, Davao City, 2018**

Pre/Post-Harvest Facilities and Support	District	No. of Units	% Utilization	Type/Capacity	Remarks	
Agro-Processing Building	Toril	1	100	-	Operational	
Banana Packinghouse	Calinan	1	100	-	Operational	
Bio Fertilizer Shed	Baguio	1	100	-	Operational	
Cacao/Coffee Solar Dryer	Paquibato	2	100; 60	800 kilograms (kgs)/batch	Operational	
	Calinan	1	50	800 kgs./batch	Operational	
	Baguio	5	30;50;100	800 kgs//batch; 2,400 kgs./batch	Operational	
	Marilog	2	60	800 kgs/batch	Operational	
	Tugbok	3	50;100	800 kgs//batch	Operational	
	Cacao Fermentation Facility	Paquibato	3	50;60	600 kgs./batch; 1,400 kgs./batch	Two (2) operational; One (1) not operational
		Calinan	3	10;50;30	600 kgs./day; 700 kgs./day	Operational
Tugbok		6	50;100	600 kgs./day; 700 kgs./day; 1,200 kgs./day	Four (4) operational; Two (2) not operational	
Marilog		3	20; 60	600 kgs./day; 700 kgs./day	Operational	
Community Seed Bank	Baguio	8	30; 50; 100	600 kgs/day; 3,000 kgs./day	Operational	
	Buhangin	1	20	100 bags	Operational	
Tablea Processing Building	Calinan	1	20	100 bags	Operational	
	Baguio	1	100	3 tons/month	Operational	
	Tugbok	1	0	3 tons/month	Not operational	
	Paquibato	1	100	3 tons/month	Operational	
Greenhouse	Buhangin	1	25	0.021 hectares (ha)	Operational	
	Toril	3	80; 100	0.018 ha; 0.0216 ha	Operational	
	Talomo	2	100	0.018 ha	Operational	
Postharvest Facility and Machinery Shed	Baguio	1	30	0.009 ha	Operational	
Multi-Purpose Drying Pavement	Bunawan	1	10	40 bags/batch	Operational	
	Paquibato	11	80	40 bags/batch	Operational	
	Tugbok	3	20; 60; 80	40 bags/batch; 50 bags/batch	Operational	
	Baguio	3	40; 50	40 bags/batch	Operational	
	Marilog	9	50; 60; 100	40 bags/batch; 50 bags/batch	Operational	
	Toril	1	10	40 bags/batch	Operational	
	Buhangin	1	100	50 bags/batch	Operational	

Source: City Agriculturist's Office, Davao City

**Table EC – 6. Existing Agricultural Support Facilities and Services, Davao City, 2018, cont.**

Pre/Post-Harvest Facilities and Support	District	No. of Units	% Utilization	Type/Capacity	Remarks
Nethouse Establishment	Baguio	5	10; 30; 80	8,000 seedlings; 101,500 seedlings	Operational
	Marilog	1	60	8,000 seedlings	Operational
Nursery Establishment	Marilog	6	30; 50; 80; 100	8,000 seedlings	Operational
	Paquibato	3	60; 80	8,000 seedlings	Operational
	Calinan	4	30; 40; 100	8,000 seedlings; 11,500 seedlings	Operational
	Tugbok	3	70; 100	8,000 seedlings; 11,500 seedlings	Operational
	Baguio	3	30; 100	8,000 seedlings	Two (2) operational; One (1) demolished
	Toril	3	50	8,000 seedlings	Two (2) operational; One (1) not operational
	Talomo	1	0	8,000 seedlings	Not operational
Rain Shelter	Baguio	1	100	10 machineries/ equipment	Operational
	Tugbok	2	50	-	One (1) operational; One (1) not operational
	Toril	1	50	-	Operational
	Marilog	1	0	-	Not utilized
Rehabilitation of Micro-sprinkler Irrigation System	Baguio	1	100	0.25 ha	Operational
Screenhouse	Marilog	2	100	16,000 seedlings	Operational
	Baguio	2	100	11,500 seedlings	Operational
Sorting Building	Calinan	1	0	200 bags	Not operational
Tunnel Type Solar Dryer	Paquibato	1	50	1,000 kgs./batch	Operational
	Toril	1	50	1,000 kgs./batch	Operational
	Marilog	1	30	1,000 kgs./batch	Operational
	Baguio	1	0	1,000 kgs./batch	Not operational
	Calinan	3	30; 50	1,000 kgs./batch	Operational
	Tugbok	3	0; 60	1,000 kgs./batch	One (1) operational; Two (2) not operational
Tissue Laboratory Extension	Baguio	1	100	100,000 banana plantlets	Operational
Trichoderma Production Center	Baguio	1	100	5,000 packs of trichoderma	Operational
Vermiculture/ Vermicast Production Bin	Marilog	5	70	15 bags	Operational
	Buhangin	17	100	25 bags; 36 bags	Operational

**Table EC – 6. Existing Agricultural Support Facilities and Services, Davao City, 2018, cont.**

Pre/Post-Harvest Facilities and Support	District	No. of Units	% Utilization	Type/Capacity	Remarks
	Calinan	11	60; 80	15 bags; 18 bags	Operational
	Tugbok	5	50	15 bags	Operational
Agricultural Bi-Cable Tram-line	Baguio	6	100	350 kilos/trip	Five (5) operational; One (1) needs repair
	Toril	1	100	350 kilos/trip	Operational
	Paquibato	1	100	350 kilos/trip	Operational
Bag Sewer	Buhangin	1	30	40 tons/batch	Not operational
	Marilog	1	30	40 tons/batch	Not operational
Banana Chipper	Tugbok	1	10	100 kilos/hour	Operational
	Paquibato	1	10	100 kilos/hour	Not operational
Banana Stripper	Tugbok	1	10	50 kilos/hour	Not operational
	Paquibato	1	10	20 kilos/hour	Not operational
Blowers	Calinan	3	5; 10	1 ton/hour	Not operational
	Buhangin	1	10	1 ton/hour	Not operational
	Tugbok	1	10	1 ton/hour	Not operational
	Marilog	1	5	1 ton/hour	Not operational
	Paquibato	1	5	1 ton/hour	Not operational
Cacao Cracker with Cleaner	Paquibato	1	10	5 kilos/load	Not operational
Cacao Grinder	Paquibato	1	10	5 kilos/load	Not operational
Cacao Roaster	Paquibato	1	10	5 kilos/load	Not operational
	Calinan	1	10	5 kilos/load	Not operational
Cassava Chipper/Granulator	Tugbok	1	-	800 kilos/hour	Not operational
	Marilog	2	5; 10	800 kilos/hour	One (1) operational; One (1) not operational
	Paquibato	2	5	800 kilos/hour	One (1) operational; One (1) not operational
	Tugbok	2	10	800 kilos/hour	Operational
	Baguio	2	60; 70	800 kilos/hour	Operational
Cassava Digger/Uprooter	Buhangin	1	5	800 kilos/hour	Operational
	Calinan	2	10; 60	800 kilos/hour	Not operational
	Tugbok	1	-	0.5 ha/day	Not operational
	Baguio	2	-	0.5 ha/day	Not operational
Cassava Grater	Calinan	1	-	0.5 ha/day	Not operational
	Baguio	1	30	25 kilos/hour	Operational
	Marilog	1	50	5 kilos/load	Not operational
Coffee/Cacao Roaster	Calinan	2	50	5 kilos/load	Not operational
	Baguio	1	50	5 kilos/load	Operational
	Tugbok	1	50	5 kilos/load	Operational

Source: City Agriculturist's Office, Davao City

**Table EC – 6. Existing Agricultural Support Facilities and Services, Davao City, 2018, cont.**

Pre/Post-Harvest Facilities and Support	District	No. of Units	% Utilization	Type/Capacity	Remarks
Coffee/Cacao Grinder	Marilog	1	50	5 kilos/load	Not operational
	Calinan	2	50	5 kilos/load	Not operational
	Baguio	1	50	5 kilos/load	Operational
	Tugbok	1	50	5 kilos/load	Operational
	Toril	1	10	5 kilos/load	Not operational
Collapsible Dryer for Rice	Buhangin	1	70	1 ton/batch	Operational
	Marilog	1	20	1 ton/batch	Operational
	Calinan	1	30	1 ton/batch	Operational
	Tugbok	1	70	1 ton/batch	Operational
Collapsible Dryer for High Value Crops	Toril	5	40; 90	80 kilos/batch	Operational
	Calinan	7	90	80 kilos/batch	Operational
	Marilog	7	90	80 kilos/batch	Operational
	Tugbok	10	80; 90	80 kilos/batch	Operational
	Paquibato	2	10	80 kilos/batch	Operational
	Baguio	6	80	80 kilos/batch	Operational
Combined Rice and Corn Mill	Buhangin	1	60	Rice – 100 kilos/hour Corn – 150 kilos/hour	Operational
	Paquibato	2	40; 50	Rice – 100 kilos/hour Corn – 150 kilos/hour	Needs repair
Corn Mill, Compact	Toril	1	10	200-300 kilos/hour	Operational
	Paquibato	11	30; 40; 50	200-300 kilos/hour	Two (2) operational; Seven (6) need repair; Two (2) both needs repair and not operational One (1) not operational
	Buhangin	2	30; 50	200-300 kilos/hour	Operational
	Calinan	1	-	200-300 kilos/hour	Not operational
	Marilog	8	10; 40; 50; 60; 70	200-300 kilos/hour	Three (3) operational; Three (3) need repair; One (1) both needs repair and not operational One (1) not operational
Corn Sheller	Paquibato	4	90	40 cavans/hour	Operational

Source: City Agriculturist's Office, Davao City



**Table EC – 6. Existing Agricultural Support Facilities and Services, Davao City, 2018, cont.**

Pre/Post-Harvest Facilities and Support	District	No. of Units	% Utilization	Type/Capacity	Remarks
Corn Sheller/Husker	Paquibato	17	30; 40; 50; 60; 90	40 cavans/hour	15 operational; One (1) operational but needs repair; One (1) not operational
	Buhangin	1	10	40 cavans/hour	Operational
	Calinan	1	50	40 cavans/hour	Operational
	Marilog	10	10; 20; 40; 80	40 cavans/hour	Seven (7) operational; Two (2) need repair; One (1) not operational
	Baguio	2	50; 70	40 cavans/hour	Operational
Farm Tractor – 90 horsepower (hp)	Paquibato	1	90	1 ha/day	Operational
	Tugbok	2	80; 90	1 ha/day	Operational
	Baguio	1	40	1 ha/day	Needs repair
	Calinan	1	90	1 ha/day	Operational
Farm Tractor – 45 hp	Tugbok	1	60	1 ha/day	Operational
Farm Tractor – 35 hp	Marilog	1	70	1 ha/day	Operational
	Baguio	1	70	1 ha/day	Operational
	Buhangin	1	70	1 ha/day	Needs repair
Floating Tiller	Buhangin	1	80	1 ha/day	Operational
	Marilog	4	20; 30; 70	1 ha/day; 2 tons/hour	Three (3) operational; One (1) needs repair
Hauling Truck	Calinan	6	40; 50; 60; 70; 80	1 ha/day	Five (5) operational; One (1) needs repair
	Tugbok	1	20	1 ha/day	Operational
	Marilog	1	100	1 ton/trip	Operational
	Tugbok	1	100	1 ton/trip	Operational
	Paquibato	1	100	1 ton/trip	Operational
	Calinan	1	100	1 ton/trip	Operational
	Toril	1	100	1 ton/trip	Operational
Hand Tractor/Multicultivator	Marilog	6	20; 50; 60	0.5 ha/day	Operational
	Bunawan	1	50	0.5 ha/day	Operational
	Toril	2	10	0.5 ha/day	Operational
Hand Tractor/Multicultivator	Tugbok	3	5; 60	0.5 ha/day	Operational
	Paquibato	2	5; 10	0.5 ha/day	Operational
Hand Tractor/Power Tiller	Buhangin	2	10	0.5 ha/day	Needs repair
	Tugbok	2	10; 30	0.5 ha/day	One (1) operational; One (1) needs repair

Source: City Agriculturist's Office, Davao City

**Table EC – 6. Existing Agricultural Support Facilities and Services, Davao City, 2018, cont.**

Pre/Post-Harvest Facilities and Support	District	No. of Units	% Utilization	Type/Capacity	Remarks
	Calinan	4	10; 20; 50	0.5 ha/day	Needs repair
	Marilog	2	5; 10	0.5 ha/day	One (1) needs repair; One (1) not operational
	Talomo	1	40	0.5 ha/day	Operational
	Paquibato	1	20	0.5 ha/day	Needs repair
Mechanical Dryer	Baguio	1	10	6 tons/batch	Not operational
	Buhangin	2	10	6 tons/batch	Need repair
	Calinan	3	10	6 tons/batch	Not operational
	Paquibato	2	5; 10	6 tons/batch	Not operational
Rice Mill	Marilog	1	50	-	Needs repair
Rice Reaper	Tugbok	1	20	1 ha/day	Operational
	Buhangin	1	10	1 ha/day	Needs repair
Rice Thresher	Calinan	10	10; 40; 50; 60; 80; 90	2 tons/hour	Seven (7) operational; Three (3) need repair
	Buhangin	4	30; 50; 80	2 tons/hour	Operational
	Marilog	2	10; 50	2 tons/hour	One (1) operational; One (1) needs repair
	Tugbok	1	30	2 tons/hour	Needs repair
	Paquibato	1	40	2 tons/hour	Needs repair
	Baguio	1	40	2 tons/hour	Needs repair
	Talomo	1	60	2 tons/hour	Operational
Shredder	Buhangin	3	40	500 kilos/hour	Operational
	Marilog	1	40	500 kilos/hour	Not operational
	Calinan	1	20	500 kilos/hour	Not operational
	Tugbok	1	50	500 kilos/hour	Operational
	Paquibato	1	10	500 kilos/hour	Not operational
Stripping Machine	Toril	1	80	20 kilos/hour	Needs repair
Vacuum Pack Sealer	Paquibato	1	-	100 packs/hour	Not operational
	Tugbok	1	20	100 packs/hour	Operational
Vermi Tea Brewer	Buhangin	4	20	20 li/load	Not operational
	Marilog	1	20	20 li/load	Not operational
	Calinan	2	20	20 li/load	Not operational
	Tugbok	1	20	20 li/load	Not operational
	Calinan	1	20	20 li/load	Not operational
Weighing Scale	Buhangin	1	30	2 tons/batch	Operational
	Marilog	2	30; 50	2 tons/hour; 2 tons/batch	One (1) operational; One (1) needs repair
	Calinan	2	30; 90	2 tons/hour; 2 tons/batch	Operational
	Tugbok	1	30	2 tons/batch	Operational
	Baguio	1	40	2 tons/hour	Needs repair
	Talomo	1	60	2 tons/hour	Operational

Source: City Agriculturist's Office, Davao City

## I. Credit and Finance

Agricultural support programs in terms of loans and credit facilities are available for farmers and fisherfolk. Among these are financing programs of Landbank of the Philippines (LBP) and Production Loan Easy Access (PLEA) program of Department of Agriculture (DA).

The financing programs of LBP are Agricultural Credit Support Project (ACSP) and Agricultural and Fishers Financing Program (AFPP). Both provide credit support to finance agriculture and agri-related projects. Farmers and fisherfolk can avail of loan amount of up to 80% of their total project cost or 10% of the loan portfolio of the borrower while those who want to avail of the AFPP can apply for a minimum of ₱20,000 to a maximum of ₱300,000.

On the other hand, the Agricultural Credit Policy Council of DA provides PLEA, a loan facility designed to address the financial needs of marginal and small farmers and fisherfolk. These are non-collateralized loans with maximum loanable amount of ₱50,000 for short-term commodities and ₱150,000 for long-gestating commodities.

As of 2018, there are 3,199 farmers who were granted loans under the financing programs of LBP and DA. Of the total, majority or 94.06% of the farmers availed of the financing programs of LBP. The remaining 5.94% are under the PLEA program of DA.

**Table EC – 7. Credit and Finance Beneficiaries, Davao City, 2018**

Type of Credit Program	District	No. of Farmers
<b>Credit and Finance Programs of LBP</b>	Paquibato	308
	Marilog	1,527
	Calinan	1,174
Sub-Total		3,009
<b>Production Loan Easy Access (PLEA) Program</b>	Toril	190
	Sub-Total	190
<b>Total</b>		<b>3,199</b>

Source: City Agriculturist’s Office, Davao City

## II. Employment and Income

The agriculture sector generated jobs for 61,166 workers in 2018, excluding the livestock and poultry sub-sector, which has no available data. Of the total, majority or 71.43% were male farmers and fisherfolks while there were only 28.56% female workers. Majority or 88.56% of the total number of workers worked in the rural areas, where there are vast farm hectareage. Only 11.91% of the workers, mostly fisherfolk, were in urban areas. With regards to agricultural employment, majority or 88.08% of the total were crop farmers. Fisherfolk and ornamental plant growers only comprised of 12.20% and 0.04%, respectively.

**Table EC – 8. Major and Minor Agricultural Occupations/Groups in Urban and Rural Areas, Davao City, 2018**

Major and Minor Occupation	District	Urban			Rural			Total		
		M	F	Total	M	F	Total	M	F	Total
<b>Farmers</b>										
Crop Farmers	Talomo	193	522	715	-	-	-	193	522	715
	Buhangin	-	-	-	753	525	1,278	753	525	1,278
	Bunawan	-	-	-	492	375	867	492	375	867
	Paquibato	-	-	-	7,385	3,048	10,433	7,385	3,048	10,433
	Toril	-	-	-	4,866	840	5,706	4,866	840	5,706
	Tugbok	-	-	-	421	507	928	421	507	928
	Calinan	-	-	-	8,376	4,511	12,887	8,376	4,511	12,887
	Baguio	-	-	-	2,493	672	3,165	2,493	672	3,165
	Marilog	-	-	-	12,623	5,071	17,694	12,623	5,071	17,694
<b>Sub-Total</b>		<b>193.</b>	<b>522</b>	<b>715</b>	<b>37,409</b>	<b>15,549</b>	<b>52,958</b>	<b>37,602</b>	<b>16,071</b>	<b>53,673</b>
Orchard Farmers	-	-	-	-	-	-	-	-	-	-
Ornamental and Other Plant Growers	Calinan	-	-	-	-	22	22	-	22	22
	Paquibato	-	-	-	-	1	1	-	1	1
	Tugbok	-	-	-	-	4	4	-	4	4
<b>Sub-Total</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>27</b>	<b>27</b>	<b>-</b>	<b>27</b>	<b>27</b>

Source: City Agriculturist's Office, Davao City

**Table EC – 8. Major and Minor Agricultural Occupations/Groups in Urban and Rural Areas, Davao City, 2018, cont.**

Major and Minor Occupation	District	Urban			Rural			Total		
		M	F	Total	M	F	Total	M	F	Total
<b>Fisherfolks</b>										
Aqua Farm Cultivators	Talomo	16	6	22	-	-	-	16	6	22
Inland Fish Farmers	Paquibato	-	-	-	158	-	158	158	-	158
	Marilog	-	-	-	190	-	190	190	-	190
	Talomo	-	-	-	10	-	10	10	-	10
	Baguio	-	-	-	80	-	80	80	-	80
	Calinan	-	-	-	146	54	200	146	54	200
	Tugbok	-	-	-	187	40	227	187	40	227
	Toril	-	-	-	20	-	20	20	-	20
	Buhangin	-	-	-	10	-	10	10	-	10
Coastal Municipal Fisherfolks	Poblacion	44	35	79				44	35	79
	Agdao	107	139	246				107	139	246
	Bunawan	493	237	730	-	-	-	493	237	730
	Buhangin	292	132	424	-	-	-	292	132	424
	Talomo	1,580	583	2,163	-	-	-	1,580	583	2,163
	Toril	611	146	757	-	-	-	611	146	757
Deep Sea Fisherfolks	-	2,150	-	2,150	-	-	-	2,150	-	2,150
<b>Sub-Total</b>		<b>5,293</b>	<b>1,278</b>	<b>6,571</b>	<b>801</b>	<b>94</b>	<b>895</b>	<b>6,094</b>	<b>1,372</b>	<b>7,466</b>
<b>Total</b>		<b>5,486</b>	<b>1,800</b>	<b>7,286</b>	<b>38,210</b>	<b>15,670</b>	<b>53,880</b>	<b>43,696</b>	<b>17,470</b>	<b>61,166</b>

Source: City Agriculturist's Office, Davao City

### III. Areas Covered by National/Local Policies

#### CARPable Areas/Lands

The lands with agrarian-related concerns in Davao City total to 32,022 hectares as of 2018 (Table EC – 9). Majority of these areas, or 63.92%, are under the Comprehensive Agrarian Reform Program (CARP). These cover 20,470.01 hectares of lands awarded to 16,370 farmer-beneficiaries. Most of these lands are in Calinan, with 5,315.63 hectares, and in Bunawan with the least number of lands at 443.29 hectares. Of the CARPable lands, majority or 36.74% are acquired through voluntary land transfer while 20.85% are government-owned lands. The rest of these areas have certificates of land ownership through compulsory acquisition (3,312.18 hectares), voluntary offer to sell (3,075.48 hectares), emancipation patent (1,308.14 hectares), government financing institution (923.03 hectares) and settlement project (62.47 hectares).

The Department of Agrarian Reform (DAR) declared that they are currently planning to convert 377.75 hectares as CARPable lands, with targeted 377 farmers beneficiaries. Over half of these lands are in Toril at 215.33 hectares. Within this plan are four (4) sites with a combined land size of 27.73 hectares, have pending property issues. These are located in Carmen, Baguio District (7.41 hectares), Megkawayan, Calinan District (2.5 hectares), Catigan, Toril District (4.82 hectares) and Tagakpan, Tugbok District (13 hectares).

On the other hand, there are 11,174.24 hectares of agrarian reform communities (ARCs) in Baguio, Marilog, Calinan, Tugbok, Toril, Buhangin, and Paquibato, which are established to accelerate community development and sustain national growth. Across districts, Toril District has the largest land area for ARCs with 2,243.39 hectares while Buhangin has the lowest with 498.88 hectares. With a total of 8,884 farmer-beneficiaries under ARC, this brings an average area per farmer to 1.26 hectares.

**Table EC – 9. Agrarian Related Concerns, Davao City 2018**

Concerns	District	Area (Ha)	No. of Farmer-Beneficiaries
A. CARPable Lands			
1. Covered	Talomo	456.61	479
	Calinan	5,315.63	4,513
	Tugbok	3,264.35	3,132
	Baguio	1,959.90	1,910
	Buhangin	1,086.93	935
	Paquibato	3,097.64	1,436
	Toril	2,821.17	2,394
	Bunawan	443.29	201
	Marilog	2,024.49	1,370
<b>Sub-Total</b>		<b>20,470.01</b>	<b>16,370</b>



Table EC – 9. Agrarian Related Concerns, Davao City 2018

Concerns	District	Area (Ha)	No. of Farmer-Beneficiaries
2. To be covered	Baguio	27.47	-
	Buhangin	6.16	-
	Calinan	43.60	-
	Marilog	57.77	-
	Paquibato	4.10	-
	Talomo	10.31	-
	Toril	215.33	-
	Tugbok	13	-
<b>Sub-Total</b>		<b>377.75</b>	<b>377</b>
B. Agrarian Reform Communities	Baguio	1,346.83	1,514
	Marilog	1,953.10	1,330
	Calinan	1,194.63	950
	Tugbok	1,988.56	1,824
	Toril	2,243.39	1,799
	Buhangin	498.88	334
	Paquibato	1,948.85	1,133
	<b>Sub-Total</b>		<b>11,174.24</b>
<b>Total</b>		<b>32,022</b>	<b>25,631</b>

Source: Department of Agrarian Reform (DAR) Region XI, Provincial Agrarian Reform Office, Davao City

### Comparative Area Utilization of Significant Agricultural Activities

Production agricultural areas span 101,456.66 hectares, based on the existing land use data. Of the total, 74% are utilized and planted with different agricultural crops as of 2018 (Table EC – 10). The figures increased compared to the utilization rate of 34.88% in 2016. On the other hand, all areas that are occupied by commercial livestock and poultry producers are fully utilized. Apart from land-based agricultural activities, fishing is allowed in 19,333.2 hectares of marine waters or 97.5% of the total coastal areas within the coastal boundary of Davao City.

Table EC – 10. Comparative Area Utilization of Significant Agricultural Activities, 2018

Activities	2016		2017		2018	
	Area (Ha)	%	Area (Ha)	%	Area (Ha)	%
Crop Production	35,398.04	34.88	69,908.78	69.28	75,273.73	75
Livestock/Poultry	-	-	843.46	100	924.93	100
Fishing	19,333.2	97.5	19,333.2	97.5	19,333.2	97.5

Source: CAgrO, Davao City and CVO, Davao City

## Current and Projected Needs

Land conversion is among the issues that surfaced in the agriculture sector. As of 2018, DAR XI approved the conversion of 127.80 hectares of agriculture lands to other uses (see Annex for full list of converted lands). Almost all of these are converted to make way for the establishment of socialized housing units and for other residential uses except for the agricultural land that spans 4.44 hectares in Suawan, Calinan District. The Suawan agriculture area is slated to be submitted for institutional use. Most, or 32.06%, of the converted agricultural lands are in Talomo followed by Tugbok with 16.60%, Toril with 16.53%, Buhangin with 12.75%, Bunawan with 9.25%, Calinan with 5.34%, Baguio with 3.91% and Paquibato with 3.46%. The conversion of these lands are approved by DAR XI from 1995 to 2017. Aside from the regional office, the central office of DAR also approved the conversion of 1,825.66 hectares of agricultural lands in Tugbok, Toril, Marilog, Buhangin, Talomo and Baguio. These agricultural lands are converted into varied uses such as commercial, residential, institutional, industrial, and eco-tourism. The conversion of these lands were approved by DAR Central Office from 1994 to 2015. All of these converted lands, which were approved by DAR XI and DAR Central Office, totaled to 1,953.46 hectares.

Another issue is the decrease in volume of rice and corn production following the decrease of land areas that are planted with these two crops. The areas planted with rice, for instance, declined by 8.72% in 2018 from 2,050.78 hectares in 2017 to 1,886.15 hectares in 2018 while the areas for corn production decreased by 2.4% from 5,045.75 hectares. These resulted to the decline in rice and corn production by 1.34% and 3.21%, respectively, in 2018. High-yielding and climate change resistant varieties in all crops shall be introduced to meet volume demand through consolidation.

Meanwhile, the Organic Agriculture Ordinance of Davao City still lacked full implementation despite its passage in 2010 and approval of its implementing rules and regulations (IRR) in 2011. The ordinance is purposely aimed to promote organic agriculture as a contributor to the city's economy and attainment of food security, ecological sustainability, and well-being of the people of Davao City. Under its IRR, the city government targets to mainstream organic agriculture as a main agricultural practice in Davao City. To date, only Sibulan in Toril District is declared as the agricultural organic zone in the city, which shall be protected from encroachment and contamination by chemical-based farm inputs and genetically – engineered crops and other similar activities. As a strategy, organic agriculture shall be pursued in the city's agricultural areas, while inorganic agriculture or farms that utilize fertilizers shall be practiced or allowed at the boundaries of the city to protect the organic crops grown in the city's agricultural areas.

On the other hand, poultry growers are threatened by the expansion of subdivision areas. The Davao Poultry and Egg Producers Inc. pointed out that their farms are already in the area long before the expansion of residential areas particularly in Districts II and III. Their farms, however, are now subject to complaints by residents, being accused as the origin of the swarm of flies in the area. Poultry growers have recommended that there should be a food corridor to prevent their farms as well as those of livestock producers from closure due to expansion of residential areas.

Presence of poultry farms near the watershed is another issue of the poultry industry. In the 2018 Annual Report of Interface Development Interventions Inc. (IDIS), there were two (2) poultry establishments that already encroached the Panigan-Tamugan watershed. Proper monitoring by the Watershed Management Council shall be enforced to prevent the encroachment of farms near the watershed.

Based on updated satellite imagery, additional poultry farms are identified which are not included in the data provided by the City Veterinarian's Office (CVO). A total of 407.87 hectares of poultry farms were identified from the said satellite imagery, which are higher against the CVO figures of 293.65 hectares, both for broiler and layering poultry farms. The figures from CVO only cover the registered poultry farms. This means that the remaining 114.22 hectares of poultry farms need to be validated and registered.

With regards to fishing activities, illegal fishing has been detected in marine protected areas. The CAgrO reported that there were eight (8) fishing bancas that already encroached the marine protected areas particularly in Lapu Lapu, Agdao District and Bago Aplaya, Talomo District. The fisherfolk in these fishing *bancas* have been apprehended for violating the fishing ban in marine protected areas. Two (2) fishing *bancas* have been confiscated for using fine mesh nets, which are prohibited fishing gears.

The CAgrO has reported 71 agricultural support facilities and services that are not operational anymore. Twenty one of these are located in Calinan District, including the sorting building, blowers, cassava chipper/granulator, cassava digger/uprooter, coffee/cacao roaster, coffee/cacao grinder, corn mill compact, mechanical dryer, shredder and vermi tea brewer.

## Bright Prospects

Under the 2018-2045 Infrastructure Modernization for Davao Plan, Davao City shall continue to capitalize its strength and competitive advantage of having huge tracts of fertile land and the right climate suitable for agriculture. Potentially, agricultural production areas can be expanded by utilizing 110,000 hectares of grassland and pasture areas in Davao City. At present, there is dominance of agriculture in districts like of Paquibato, Baguio, Calinan, Marilog, Toril, and Tugbok. These are the production areas for Davao City's important agricultural crops, with large potential for further expansion of farms and plantations. These districts are also rich in pre-war history and homes to different farms and resorts. Toril and Marilog Districts, which have a large presence of indigenous peoples' communities, shall be developed for agri-based industries and agri-tourism.

Value-adding of commodities shall likewise be pursued as a way to bolster the income of agricultural producers. The City has also promising prospects to continue developing its industries for the different subsectors such as:

- a. Cacao – The CAgrO estimates that the annual production volume can be maximized up to 12,000 tons by using the appropriate lands of current plain and forests for cacao production. Aiming to make Davao City the "Chocolate Capital of the Philippines," different cacao industry players shall continue to bank on the need to augment and consolidate production volume, improve the quality of cacao beans, expand the

markets of the products and attract investments in cacao-based manufacturing facilities and industry-themed tourism sites (e.g., chocolate factories, chocolate parks, and chocolate museums).

- b. **Cardava Banana** – The Cardava variety, which is suitable for processing into a variety of products like banana chips, banana powder, banana flour, and banana syrup, is grown mostly by the small farmers in Tugbok, Toril, Calinan, and Bunawan. The direction of the industry is to further boost the production volume, bolster farm gate and export prices, improve quality, address the banana plant disease through research and development, better farm management practices, and develop higher premium through value-adding process for local and international markets. Cardava banana processing factories are best established near the Cardava banana farms for easy transfer of the commodities to the facilities.
- c. **Other High Value Crops** – The production volume of crops like cassava, abaca, and rubber shall be increased to support the requirements of processing plants that can be established near the production areas. Crop growers shall also be supported with the necessary production and post-harvest technology and processing equipment, financial and marketing assistance, and agricultural support infrastructure like irrigation systems and farm-to-market roads.

Moreover, there is a need to develop additional facilities that can support agricultural production, processing, and marketing. Facilities for testing and analysis of agricultural products shall be integrated in Davao Food Terminal Complex (DFTC), an agri-based food manufacturing estate, at Brgy. Daliao, Toril District. There is also a need for Davao City to identify and develop more manufacturing estates and economic zones for the growing number of agri-industrial locators.

## Presence of Risks

Agricultural areas in the northern part of Davao City, have high risks to landslides. The results of the Climate and Disaster Risk Assessment (CDRA) bared that barangays such as Buda and Suawan in Marilog District and Pandaitan in Paquibato District have frequent occurrences of landslide, where the hazard occurs every one (1) to three (3) years. All of these three (3) barangays have high severity of consequence score, where over 20% of the exposed production areas are severely damaged whenever there are occurrences of landslide. Majority or 73% of the combined agricultural areas at 5,143.69 hectares across these three (3) barangays are susceptible to landslide. The occurrence of landslides may result to the damage of crops and other agricultural facilities, amounting to ₱115,129,008.48 in those areas.

On the other hand, a total of 16 barangays such as Baganihan, Datu Salumay, Gumitan, Malamba, Marilog, Salaysay, Tamugan, Fatima, Lumiad, Malabog, Tambobong, Inayangan, New Carmen, Tigatto, Ma-a, and Matina Pangi have moderate occurrences of landslide, where the hazard happens in three (3) to 10 years. A total of 19,374.79 hectares are exposed to landslides in said barangays, which may damage agricultural facilities and crops worth ₱347,172,636.07.

Damage to crops may also happen in Barangays Gumitan and Tamugan in Marilog District where there are frequent occurrences of floods. These barangays are traversed by Gumitan River and Tamugan Watershed, respectively. At least 12% of these barangays, with a combined agricultural areas of 1,760.58 hectares, are susceptible to flooding. The occurrence of floods can potentially result to the damage of agricultural facilities and crops worth of ₱8,730,736.21.

The above-mentioned barangays are among the priority to disaster-risk prevention efforts. Risk management options shall be implemented including the need to improve extension services, establish irrigation and rainwater harvesting facilities, install early warning system for agricultural crop production, provide forestry-based alternative, pursue crop diversification, change to crops or species that are more resilient to climatic changes, reduce run-off through watershed reforestation and agri-forestry production, expand hectarage warehouses or temporary storage, and set up riverbank easement.

## **Production/Supply Projection**

### **Crops**

The production of all major crops, as identified by CAgro, are projected to increase until 2028 (Table EC – 11, see next page). Rice production will increase by 34% from 9,632.44 metric tons in 2018 while corn would hike by 22% from 25,914.95 metric tons in the current year. The industrial crops such as cacao, coffee, rubber and coconut would increase to 10,828.67 metric tons, 1,456.89 metric tons, 1,100.98 metric tons and 819,216.70 metric tons, respectively.

The production of fruits, including banana, durian, pineapple and mango are also expected to go up in the next 10 years. Banana production, for instance, would reach 392,680.27 metric tons by 2028 from 241,071.62 metric tons in 2018. On the other hand, durian, pineapple and mango will increase to 24,088.42 metric tons, 54,404.27 metric tons and 18,114.11 metric tons, respectively. The production of vegetables is also projected to increase to 37,124.95 metric tons by 2028 from 22,791.50 metric tons in 2018. Vegetables are mostly sourced from the upland areas in Marilog District.

The projections in Table EC – 12 are based on the assumptions that the growth rate per crop will be sustained until 2028. The growth rates of each crop are listed in the table below.

**Table EC – 11. Growth Rate Per Crop, Davao City, 2018**

Crop	Growth Rate
Rice	3%
Corn	2%
Cacao	10%
Coffee	4%
Rubber	3%
Coconut	58%
Banana	5%
Durian	5%
Pineapple	5%
Mango	5%
Vegetables	5%

Source: CAgrO, Davao City

**Table EC – 12. Projected Production of Major Crops, Davao City, 2018-2028**

Major Crops	Production (MT) 2018	Projected Production									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Cereals</b>											
Rice	9,632.44	9,921.41	10,219.06	10,525.63	10,841.40	11,166.64	11,501.64	11,846.69	12,202.09	12,568.15	12,945.19
Corn	25,914.95	26,433.25	26,961.91	27,501.15	28,051.18	28,612.20	29,184.44	29,768.13	30,363.49	30,970.76	31,590.18
<b>Industrial Crops</b>											
Cacao	4,174.92	4,592.41	5,051.65	5,556.82	6,112.50	6,723.75	7,396.13	8,135.74	8,949.31	9,844.24	10,828.67
Coffee	984.22	1,023.59	1,064.53	1,107.11	1,151.40	1,197.45	1,245.35	1,295.17	1,346.97	1,400.85	1,456.89
Rubber	819.23	843.81	869.12	895.19	922.05	949.71	978.20	1,007.55	1,037.78	1,068.91	1,100.98
Coconut	8,449.44	13,350.12	21,093.18	33,327.23	52,657.02	83,198.09	131,452.98	207,695.71	328,159.23	518,491.58	819,216.70
<b>Fruits</b>											
Banana	241,071.62	253,125.20	265,781.46	279,070.53	293,024.06	307,675.26	323,059.03	339,211.98	356,172.58	373,981.21	392,680.27
Durian	14,788.20	15,527.61	16,303.99	17,119.19	17,975.15	18,873.91	19,817.60	20,808.48	21,848.91	22,941.35	24,088.42
Pineapple	33,399.50	35,069.48	36,822.95	38,664.10	40,597.30	42,627.17	44,758.52	46,996.45	49,346.27	51,813.59	54,404.27
Mango	11,120.49	11,676.51	12,260.34	12,873.36	13,517.03	14,192.88	14,902.52	15,647.65	16,430.03	17,251.53	18,114.11
<b>Vegetables</b>											
	22,791.50	23,931.08	25,127.63	26,384.01	27,703.21	29,088.37	30,542.79	32,069.93	33,673.43	35,357.10	37,124.95

Source: CAgrO, Davao City

Note: To get the projected production of major crop the formula is production MT x growth rate



## Livestock and Poultry

The production of livestock and poultry are projected to increase by 39% from 43,330.37 metric tons in 2018 (Table EC – 13). Of the combined livestock and poultry production of 70,863.90 metric tons by 2028, majority or 99.20% are hog products. Hog products are projected to spur by 39% or 70,294.95 metric tons from 43,155 metric tons in 2018. The production of cattle, chickens, and eggs (poultry layering) are also projected to reach 451.79 metric tons, 63.85 metric tons and 53.31 metric tons, respectively.

The projections in Table EC – 14 are based on the assumptions that the growth rate per livestock/poultry will remain constant by 2028. The growth rates per livestock/poultry are shown in Table EC – 13 below.

**Table EC – 13. Growth Rate Per Livestock/Poultry, Davao City, 2018**

Livestock/Poultry	Growth Rate
Cattle	15%
Hog	5%
Poultry (Broiler)	4%
Poultry (Layering)	10%

Source: CVO, Davao City

**Table EC – 14. Projected Production of Livestock and Poultry, Davao City, 2018-2028**

Type	Production (MT) 2018	Projected Production									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Cattle	111.68	128.43	147.70	169.85	195.33	224.63	258.32	297.07	341.63	392.88	451.79
Hog	43,155	45,312.75	47,578.39	49,957.31	52,455.17	55,077.93	57,831.83	60,723.42	63,759.59	66,947.57	70,294.95
Poultry Broiler	43.14	44.87	46.66	48.53	50.47	52.49	54.59	56.77	59.04	61.40	63.85
Poultry Layering	20.55	22.61	24.87	27.35	30.09	33.10	36.41	40.05	44.05	48.47	53.31

Source: CVO, Davao City

Note: To get the projected production of Livestock and Poultry the formula is production MT x growth rate

## Fish and Seaweeds

Fish and seaweeds production are projected to increase by more than three-folds in 2028 from 1,759.1 metric tons in 2018 (Table EC – 16, see next page). The projected increase is mostly attributed from seaweeds production, which would spur to 5,356.80 metric tons by 2028 from 71.4 metric tons in 2018. Fish production from fresh water, brackish water, fish cages and coastal waters are expected to increase too, to 232.52 metric tons, 152.76 metric tons, 528.60 metric tons and 1,466.69 metric tons by 2028, respectively.

The projections are based on the assumptions that the growth rate of fish and seaweeds will remain constant until 2028. The growth rates of the fish and seaweeds are listed in Table EC – 15 below.

**Table EC – 15. Growth Per Type, Fish and Seaweeds, Davao City**

Type	Growth Rate
Tilapia	2%
Hito	1%
Seaweeds	54%
Fish catch from fish cages	4%
Municipal fish catch using motorized banca	2%
Municipal fish catch using non-motorized banca	6%

Source: CVO, Davao City

**Table EC – 16. Projected Production of Fish and Seaweeds, Davao City, 2018-2028**

Type	Production (MT) 2018	Projected Production									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Freshwater</b>											
Tilapia	12.180	12.42	12.67	12.93	13.18	13.45	13.72	13.99	14.27	14.56	14.85
Hito	197.054	199.02	201.01	203.02	205.06	207.11	209.18	211.27	213.38	215.52	217.67
<b>Brackishwater</b>	53.8	59.72	66.29	73.58	81.67	90.66	100.63	111.70	123.98	137.62	152.76
<b>Mariculture</b>											
Fish Cage	357.1	371.38	386.24	401.69	417.76	434.47	451.85	469.92	488.72	508.26	528.60
<b>Seaweeds Farming</b>	71.4	109.96	169.33	260.77	401.59	618.45	952.41	1,466.71	2,258.73	3,478.44	5,356.80
<b>Municipal Fish Catch</b>											
From Motorized Banca	664.216	677.50	691.05	704.87	718.97	733.35	748.02	762.98	778.23	793.80	809.68
From Non-Motorized Banca	403.35	423.52	444.69	466.93	490.27	514.79	540.53	567.55	595.93	625.73	657.01
<b>Total</b>	1,759.10	1,853.52	1,971.28	2,123.79	2,328.50	2,612.28	3,016.34	3,604.12	4,473.24	5,773.93	7,737.37

Source: CAgrO, Davao City

Note: To get the projected production of Fish and Seaweeds the formula is production MT x growth rate

## Demand Projection for Agricultural Products

### Projected Per Capita Consumption

Per capita consumption is the ratio of household food consumption over the consumption unit, according to the Philippine Statistics Authority (PSA). Food consumption refers to the consumption of all household members and visitors for the entire day while consumption unit pertains to the household size adjusted by the number of meals eaten outside by the household members and the number of meals shared by visitors.

Based on the 2017 Consumption of Selected Agricultural Commodities in the Philippines of PSA, the annual per capita consumption of each Davaoeño is 88.07 kilograms of rice, 35.92 kilograms of corn, 12.72 kilograms of banana, 6.77 kilograms of mango, 1.356 kilograms of pineapple, 3.86 kilograms of eggs, 1.42 kilograms of beef, 10.14 kilograms of chicken, 38.2 kilograms of seafood, 11.73 kilograms of pork and 20 kilograms of vegetables (Table EC – 17). With regards to the entire populace, the annual per capita consumption among Davaoeños as of 2018 reached to 153,977.90 tons of rice, corn reached 62,805.16 tons, vegetables reached 34,965.57 tons, banana reached 22,239.85 tons, mango reached 11,828.85 tons, pineapple reached 2,368.91 tons, pork reached 20,500.31 tons, beef reached 2,479.05 tons, chicken reached 17,718.80, eggs reached 6,744.85 tons and seafood reached 66,784.25 tons.

By 2028, the food consumption of the entire population in Davao City would continue to increase (Table EC – 18, see next page). The annual per capital rice consumption of all Davaoeños would reach to 193,292.39 tons, 78,840.92 tons of corn, 43,893.18 tons of vegetables, 27,918.25 tons of banana, 14,849.06 tons of mango, 2,973.76 tons of pineapple, 25,734.57 tons kilograms of pork, 3,112.02 tons of beef, 22,242.86 tons of chicken, 8,466.99 tons of eggs and 83,835.97 tons of seafood.

**Table EC – 17. Per Capita Consumption, By Commodity, 2017**

Commodity	Per Capita Consumption (kilograms/year)
Rice	88.07
Mango	6.77
Beef	1.42
Corn	35.92
Pineapple	1.36
Chicken	10.14
Banana	12.72
Eggs	3.86
Seafood	38.2
Pork	11.73
Vegetables	20

Source: Philippine Statistics Authority, February 2017

**Table EC – 18. Projected Per Capita Consumption of Agricultural Products, Davao City, 2018-2028**

Product	Per Capita Consumption 2018 (t)	Projected Per Capita Consumption									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Rice	153.98	157,519.40	161,142.35	164,848.62	168,640.14	172,518.86	176,486.79	180,545.99	184,698.55	188,946.62	193,292.40
Corn	62,805.17	64,249.69	65,727.43	67,239.16	68,785.66	70,367.73	71,986.19	73,641.87	75,335.63	77,068.35	78,840.93
Vegetables	34,965.58	35,769.78	36,592.49	37,434.12	38,295.10	39,175.89	40,076.93	40,998.70	41,941.67	42,906.33	43,893.18
Banana	22,239.85	22,751.37	23,274.65	23,809.97	24,357.60	24,917.82	25,490.93	26,077.23	26,677.00	27,290.57	27,918.26
Mango	11,828.85	12,100.92	12,379.24	12,663.96	12,955.23	13,253.20	13,558.03	13,869.86	14,188.87	14,515.21	14,849.06
Pineapple	2,368.92	2,423.40	2,479.14	2,536.16	2,594.49	2,654.17	2,715.21	2,777.66	2,841.55	2,906.90	2,973.76
Pork	20,500.32	20,971.82	21,454.18	21,947.62	22,452.42	22,968.82	23,497.11	24,037.54	24,590.40	25,155.98	25,734.57
Beef	2,479.06	2,536.08	2,594.41	2,654.08	2,715.12	2,777.57	2,841.45	2,906.81	2,973.66	3,042.06	3,112.03
Chicken	17,718.81	18,126.34	18,543.24	18,969.74	19,406.04	19,852.38	20,308.99	20,776.09	21,253.94	21,742.78	22,242.87
Eggs	6,744.86	6,899.99	7,058.69	7,221.04	7,387.13	7,557.03	7,730.84	7,908.65	8,090.55	8,276.63	8,466.99
Seafood	66,784.25	68,320.29	69,891.65	71,499.16	73,143.64	74,825.95	76,546.94	78,307.52	80,108.60	81,951.09	83,835.97

Source: Philippine Statistics Authority, Region XI

## Projected Food Requirement

The Food and Nutrition Research Institute (FNRI) under the Department of Science and Technology, then called as Food and Nutrition Research Council (FNRC), sets the recommended dietary/food requirement per capita, or for each person.

These recommended dietary allowances are levels of nutrient intakes which are considered adequate to maintain healthy bodies, according to the *“Philippine Food Fortification Act of 2000,”*

The FNRI prescribes an annual per capita dietary/food requirement at 124 kilograms of cereals, 70 kilograms of sugar, 60 kilograms of starchy roots and tubers, 39 kilograms of vegetables, 28 kilograms of fruits, four (4) kilograms of dried beans, nuts and seeds, (4) kilograms of eggs, and 54 kilograms of fish, meat and poultry products (Table EC – 19).

Based on the dietary requirement, the FNRI found Davaoeños consuming beyond the annual fruit requirement at 37 kilograms a year. Each Davaoeño also eats four (4) kilograms of eggs a year and 124 kilograms of cereals annually, which are the right amount for the year. However, a Davaoeño consumes below the annual food requirement standards for starchy roots and tubers, vegetables, meat and poultry, and fish at 2.96 kilograms, 22.12 kilograms, 23.31 kilograms, and 19.34 kilograms, respectively.

The food requirement for all Davaoeños for the year 2018 shall be 216,786.57 tons of cereals, 104,896.72 tons of starchy roots and tubers, 68,182.87 tons of vegetables, 48,951.80 tons of fruits, 94,407.05 tons of meat and poultry products, 6,993.11 tons of eggs and 94,407.05 tons of seafood in 2018 (Table EC – 20).

The food requirement of the entire populace will further grow to 272,137.71 ton of cereals, 131,679.54 tons of starchy roots and tubers, 85,591.70 tons of vegetables, 61,450.45 tons of fruits, 118,511.58 tons of meat and poultry products, 8,778.63 tons of eggs, and 118,511.58 tons of seafood by 2028.

**Table EC – 19. Food Requirement, Per Person, Davao City**

Commodity	Food Requirement Per Person (kilograms/year)	Actual Consumption Per Person in Davao City, 2017 (kilograms/year)
Cereals and cereal products	124	124
Starchy roots and tubers	60	2.96
Vegetables	39	22.12
Fruits	28	37
Meat/Poultry	54	23.31
Fish	54	19.34
Eggs	4	4

Source: Food and Nutrition Research Institute, Department of Science and Technology



Table EC – 20. Projected Food Requirement of Agricultural Products, Davao City, 2018-2028

Product	Food Requirement* 2018 (Kg)	Projected Food Requirement									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Cereals	216,786.57	221,772.66	226,873.43	232,091.52	237,429.63	242,890.51	248,476.99	254,191.96	260,038.38	266,019.26	272,137.72
Starchy Roots and Tubers	104,896.73	107,309.35	109,777.47	112,302.35	114,885.30	117,527.67	120,230.80	122,996.11	125,825.02	128,719.00	131,679.54
Vegetables	68,182.87	69,751.08	71,355.35	72,996.53	74,675.45	76,392.98	78,150.02	79,947.47	81,786.26	83,667.35	85,591.70
Fruits	48,951.81	50,077.70	51,229.49	52,407.76	53,613.14	54,846.24	56,107.71	57,398.18	58,718.34	60,068.87	61,450.45
Meat/ Poultry	94,407.06	96,578.42	98,799.72	101,072.11	103,396.77	105,774.90	108,207.72	110,696.50	113,242.52	115,847.10	118,511.59
Eggs	6,993.12	7,153.96	7,318.50	7,486.82	7,659.02	7,835.18	8,015.39	8,199.74	8,388.33	8,581.27	8,778.64
Seafood	94,407.06	96,578.42	98,799.72	101,072.11	103,396.77	105,774.90	108,207.72	110,696.50	113,242.52	115,847.10	118,511.59
Beef	2,479.06	2,536.08	2,594.41	2,654.08	2,715.12	2,777.57	2,841.45	2,906.81	2,973.66	3,042.06	3,112.03
Chicken	17,718.81	18,126.34	18,543.24	18,969.74	19,406.04	19,852.38	20,308.99	20,776.09	21,253.94	21,742.78	22,242.87

Source: Food and Nutrition Research Institute, Department of Science and Technology

\* Food requirement is computed by multiplying the food requirement standards to the population of Davao City.

## Food Balance Sheet

The food balance sheet bares a comprehensive picture of the city's food supply during a specified reference period, according to the Food and Agriculture Organization of the United Nations.

As shown in Table EC – 20, the city's food supply is insufficient to fill the food demand of all Davaoeños. Almost all of the agricultural products display a deficit vis-à-vis to the production in the years 2017 and 2018. The highest deficit is noted in rice as there should be an additional of 140,883.60 metric tons of rice to fill the per capita consumption or 207,154.13 metric tons. Production in Davao City was only 9,632.44 metric tons in 2018. To fill the demand, the national government, through the National Food Authority, imported rice from other countries like Vietnam and Thailand. The local rice traders also sourced supply from North Cotabato; Carmen, Davao del Norte; Bansalan, Davao del Sur and Banay-Banay, Davao Oriental. The city has 28 licensed grain traders. Also, the rice stocks in the warehouses are estimated to last for 253 days or about (8) months in a scenario when no supply or stock is being added.

Other agricultural products like vegetables and eggs are also sourced from Bukidnon, Davao del Norte and Davao del Sur.

Only bananas have adequate supply to cater both the per capita consumption and food requirement of the entire populace in Davao City. Banana supply has a surplus of 219,331.78 metric tons, more than enough for per capita consumption of 192,119.82 metric tons.

The supply of pineapple and pork products are adequate in meeting the annual per capita consumption. As of 2018, the supply of pineapple and pork products are sufficient with a surplus of 31,083.84 kilograms and 22,654.68 kilograms, respectively.

**Table EC – 21. Production and Consumption Food Balance Sheet, Davao City, 2017-2018**

Food Items	2017			2018		
	Production (MT)	Consumption (MT/year)	Surplus/Deficit	Production (MT)	Consumption (MT/year)	Surplus/Deficit
Cereals						
Rice	9,763.02	150,516.04	(140,753.02)	9,632.44	153,977.91	(140,883.60)
Corn	33,670.31	61,393.13	(27,722.82)	25,914.95	62,805.17	(35,478.18)
Fruits						
Banana	153,958.43	21,739.84	132,218.59	241,071.62	22,239.85	219,331.78
Mango	6,164.10	11,562.90	(5,398.80)	11,120.49	11,828.85	(442.41)
Pineapple	28,213	2,315.66	25,897.34	33,399.50	2,368.90	31,083.84
Vegetables	9,178	34,179.40	(25,001.40)	22,791.50	34,965.58	(11,387.90)

**Table EC – 21. Production and Consumption Food Balance Sheet, Davao City, 2017-2018, cont.**

Food Items	2017			2018		
	Production (MT)	Consumption (MT/year)	Surplus/Deficit	Production (MT)	Consumption (MT/year)	Surplus/Deficit
Livestock/Poultry						
Pork	41,295.60	20,039.41	21,256.19	43,155.00	20,500.32	22,654.68
Chicken	41.63	17,320.40	(17,278.77)	43.14	17,718.80	(17,675.66)
Beef	97.5	2,423.32	(2,325.82)	111.68	2,479.00	(2,367.33)
Eggs	18.7	6,593.20	(6,574.50)	20.55	6,744.86	(6,724.31)
Seafood	1,679.42	65,282.70	(63,603.28)	1,759.10	66,784.25	(65,025.15)

Source: CAgro, Davao City

### Agriculture Analysis Matrix

**Table EC – 22. Agriculture Analysis Matrix**

Technical Findings	Implications (Effects)	Policy Options/Interventions
<ul style="list-style-type: none"> <li>Land conversion of agricultural lands into commercial, residential, industrial and other uses</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of agricultural areas due to urban development</li> <li>Insufficient food production</li> <li>As the lands are converted for residential use, complaints arise from residents near the farms, especially those without disposal site for animal wastes</li> </ul>	<ul style="list-style-type: none"> <li>Sangguniang Panlungsod (SP) to pass an ordinance prohibiting prime agricultural areas from land reclassification to other uses and strict implementation of Zoning Ordinance on the issuance of permits</li> <li>Prohibit spot zoning</li> <li>Identify and establish area for shared service facility for animal waste fertilizer plant for proper animal waste disposal</li> </ul>
<ul style="list-style-type: none"> <li>Presence of livestock farms within critical watershed areas</li> </ul>	<ul style="list-style-type: none"> <li>No assurance of tenure for farm individual/company</li> <li>Contamination of water source</li> </ul>	<ul style="list-style-type: none"> <li>Pursue proper delineation of watershed areas</li> <li>Delineate areas fit for livestock/poultry</li> </ul>
<ul style="list-style-type: none"> <li>Crops are planted in lands that are not suited for production</li> </ul>	<ul style="list-style-type: none"> <li>Loss of income</li> <li>Crop propagation in unsuitable lands may potentially affect the quality and result to the reduction of production volume</li> </ul>	<ul style="list-style-type: none"> <li>Update the crop suitability lands data, which shall be identified by the Bureau of Soils and Water Management</li> <li>Implement soil quality test assessment as basis for decision of Local Zoning Review Committee and SP</li> </ul>

Table EC – 22. Agriculture Analysis Matrix, cont.

Technical Findings	Implications (Effects)	Policy Options/Interventions
<ul style="list-style-type: none"> <li>• Presence of informal settlers/homeowner's association application for relocation in agricultural areas</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural areas will be affected by housing development</li> <li>• Food problem security</li> </ul>	<ul style="list-style-type: none"> <li>• LGU to look for appropriate relocation site for housing development</li> <li>• Observe restrictions like buffer zone/proper waste disposal</li> <li>• Establish tenement building for informal settlers to avoid utilization of prime agricultural lands</li> </ul>
<ul style="list-style-type: none"> <li>• Inadequate infrastructure in the agricultural area:               <ul style="list-style-type: none"> <li>* Farm-To-Market Road (FMR)- standard design in remote sitios/puroks</li> <li>* Irrigation systems</li> <li>* Cold storage for livestock/poultry/fishery</li> <li>* Community fish landing centers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• High cost of production quality of produce affected</li> <li>• Limited adoption for modern technology</li> <li>• Production/Income loss</li> </ul>	<ul style="list-style-type: none"> <li>• Implement more FMRs</li> <li>• LGU to provide shared services/facility</li> </ul>
<ul style="list-style-type: none"> <li>• Depletion/Degradation/destruction of fishery resources including illegal fishing where there is encroachment of illegal fisherfolks in marine protected areas (CAgrO reported that there were eight (8) fishing bancas that encroached the marine protected areas in 2018)</li> </ul>	<ul style="list-style-type: none"> <li>• Low fish catch</li> <li>• Low income</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of alternative livelihood project micro-enterprises</li> <li>• Strict implementation of MPA Ordinance and Comprehensive Fisheries Ordinance of Davao City and Strengthening of bantay dagat/ Fishery law enforcement team</li> <li>• Establishment of Marine Protected Area Network (MPAN) within Davao Gulf from Davao Occidental to Mati</li> <li>• Establishment of mariculture park, which shall have proper management to prevent water pollution</li> </ul>

**Table EC – 22. Agriculture Analysis Matrix, cont.**

Technical Findings	Implications (Effects)	Policy Options/Interventions
<ul style="list-style-type: none"> <li>Limited agricultural development in areas covered by certificate of ancestral domain title (CADT) in Paquibato, Baguio, Toril, Calinan and Marilog Districts</li> </ul>	<ul style="list-style-type: none"> <li>Non-utilization of lands making those unproductive</li> <li>Difficulty in securing certificate of pre-condition from National Commission on Indigenous Peoples'</li> <li>High level of poverty incidence in CADT areas</li> </ul>	<ul style="list-style-type: none"> <li>Lobby for the amendment of the Indigenous Peoples' Rights Act</li> <li>Lease the unproductive areas for potential investors (e.g., agri-tourism, agricultural production)</li> </ul>
<ul style="list-style-type: none"> <li>* Climate change impact (e.g. El Niño/La Niña)</li> </ul>	<ul style="list-style-type: none"> <li>Low production/income</li> </ul>	<ul style="list-style-type: none"> <li>Pursue tax exemption of real property tax imposed in agricultural lands during calamities</li> <li>Use of resistant crop varieties (submerged, drought)</li> </ul>
<ul style="list-style-type: none"> <li>Frequent occurrences of landslides and floods have been observed in Marilog District, where there are agricultural production</li> </ul>	<ul style="list-style-type: none"> <li>Decline of crop yield</li> <li>Loss of income</li> </ul>	<ul style="list-style-type: none"> <li>Improve extension services with emphasis on climate and hazard resilient production techniques</li> <li>Establishment of irrigation and/or rainwater harvesting facilities</li> <li>Pursue crop diversification</li> <li>Establish warning system for agricultural crop production</li> </ul>

## Agriculture Related Projects

**Table EC – 23. Agriculture Related Projects, Approved/Funded for Implementation, 2018**

Name/Type of Project	Location	Type	Project Cost	Proponent (Government, Private, Other)	Estimated Start Date	Estimated Date of Completion
Cassava Cluster Model Farm - 2018	Brgy. Malamba, Marilog District	-	539,460.00	Government (DA)	January 2018	December 2018
Coastal-Based Resource Management Program - Marine Protected Areas Dev't Project	Coastal Areas of Davao City	-	1,595,971.97	Government (LGU)	January 2017	December 2018
Collapsible Dryer	Tamugan, Marilog District	Post Harvest	50,000.00	Government	January 2018	December 2018
Collapsible Dryer	Marilog Proper, Marilog District	Post Harvest	113,430.00	Government	January 2018	December 2018
Collapsible Dryer	Lumondao, Marilog District	Post Harvest	113,430.00	Government	January 2018	December 2018
Collapsible Dryer	Marilog Proper, Marilog District	Post Harvest	113,430.00	Government	January 2018	December 2018
Completion of the Development of Food Terminal at Daliao Toril (Agri-Pinoy Trading Center)	Brgy. Daliao, Toril District	-	70,000,000.00	Government (DA)	January 2017	December 2018
Construction of Agdao Farmers Market	Agdao, Davao City	Infrastructure	3,210,000.00	Government	January 2018	December 2018
Corn Mill	Baganihan, Marilog District, Davao City	Post-Harvest	408,000.00	Government	January 2018	October 11, 2018
Davao City Urban Organic Container Garden Center	Davao City (City Wide)	-	404,887.96	Government (LGU)	January 2017	December 2018
Floating Tiller	Riverside, Calinan District	Post Harvest	95,000.00	Government	January 2018	October 20, 2018
Floating Tiller	Bantol, Marilog District	Post Harvest	95,000.00	Government	January 2018	October 20, 2018
Floating Tiller	Cawayan, Calinan	Post-Harvest	95,000.00	Government	January 2018	October 20, 2018

Source: CAgrO, Davao City



**Table EC – 23. Agriculture Related Projects, Approved/Funded for Implementation, 2018, cont.**

Name/Type of Project	Location	Type	Project Cost	Proponent (Government, Private, Other)	Estimated Start Date	Estimated Date of Completion
Floating Tiller	Biao Gui-anga, Tugbo k District	Post-Harvest	95,000.00	Government	January 2018	October 20, 2018
Four Wheel Drive Farm Tractor (90hp)	Mabuhay, Paquibato District	Post-Harvest	1,980,000.00	Government	January 2018	August 20, 2018
Hauling Truck (Single Cab)	Tamayong, Calinan District	Post-Harvest	1,500,000.00	Government	January 2018	July 31, 2018
Hauling Truck (Single Cab)	Manambulan, Tugbok District	Post-Harvest	1,500,000.00	Government	January 2018	July 31, 2018
Hauling Truck (Single Cab)	Tungkalan, Toril District	Post-Harvest	1,500,000.00	Government	January 2018	July 31, 2018
Hauling Truck (Single Cab)	Salumay, Marilog District	Post-Harvest	1,500,000.00	Government	January 2018	July 31, 2018
Hauling Truck (Single Cab)	Salaysay, Marilog District	Post-Harvest	1,500,000.00	Government	January 2018	July 31, 2018
Mechanical Corn Sheller with Husker	Salumay, Marilog District	Post-Harvest	141,700.00	Government	January 2018	April 08, 2017
Mechanical Corn Sheller with Husker	Suawan, Marilog District	Post-Harvest	141,700.00	Government	January 2018	April 08, 2017
Municipal Fishery Development Project	Tibungco	-	6,000,000.00	Government (PAMANA)	January 2019	Dec-19
Provision of Post-Harvest Facilities and Mobility	Pañalum, Paquibato	-	4,000,000.00	Government (PAMANA)	January 2019	Dec-19
Rehabilitation of Perimeter Fence	Bago Oshiro, Tugbok District, Davao City	Post-Harvest		Government	January 2018	December 2018
Rice Reaper	Biao Gui-anga, Tugbo k District, Davao City	Post-Harvest	250,000.00	Government	January 2018	December 2018
Rice Thresher	Biao Gui-anga, Tugbo k District, Davao City	Post-Harvest	130,000.00	Government	January 2018	September 26, 2018
Small Water Impounding System (SWIS) - Establishment of Rainwater Catchment	Davao City (City Wide)	-	10,000,000.00	Government (LGU)	January 2017	December 2018

Source: CAgrO, Davao City

## Forestry

**Existing Situation** – Of the 244,000-hectare territory of Davao City, 48.94% is classified as forest and forest lands (Table EC – 24.) These are vital areas serving as the lungs of the city and host to an array of flora and fauna. Of the total forest and forest lands, majority or 77.90% are production forest while the remaining 22.10% is considered as protection forest.

The city's forest is situated in upland areas like Marilog and Paquibato Districts. To curb the depletion of forest resources, the Department of Environment and Natural Resources (DENR) implements the National Greening Program (NGP), a forest rehabilitation project. The NGP, which aims to cover unproductive, denuded, and degraded forestlands, is a priority program of the national government to promote environmental stability and biodiversity conservation and enhance climate change mitigation and adaptation.

The City Environment and Natural Resources Office (CENRO) also pursues reforestation of denuded forest, geotagging of greening projects, and deployment of forest rangers. The forest rangers, who are part of *Bantay Bukid*, monitor the greening projects and other programs of the city. These are included in the 2019-2023 Forest Land Use Plan, which targets to implement mitigating measures in forest land protection and conservation.

**Table EC – 24. Forest and Forest Lands, Davao City, 2018**

Land Classification	Area (Ha)	% to total Forest and Forest Lands
Production Forest	93,019.18	77.90
Protection Forest	26,392.12	22.10
<b>Total Forest and Forest Lands</b>	<b>119,411.31</b>	<b>100</b>

Source: Department of Environment and Natural Resources, Region XI

### Area and Location of Agroforestry Lands

Agroforestry lands cover 1,698.99 hectares of the city and these are located in Talomo, Poblacion, Buhangin, Bunawan, Paquibato, Baguio, Calinan, Marilog and Toril, according to data from the City Environment and Natural Resource Office (CENRO).

These agroforestry lands are communal and protected areas that are managed by different barangay councils, associations and cooperatives (Table EC – 21, see next page). These also cover the riverbank rehabilitation and mangrove rehabilitation projects of the City.

Of the total area, almost half or 45.79% is situated in Marilog District. Paquibato District is next with 35.90%. Calinan District has only 6.95%. A big part, or 75.99%, of the total agro-forestry lands is planted with tree species that are intended for protection purposes. These include Api-Api, Bakauan, Pagatpat, Malibago, African Tulip, Bamboo, Falcata, Mahogany, Narra, Gemelina, Cedar, Lauan, Acasia, Manguim and Sagimsim.

Areas planted with cacao and fruit trees, comprise 24.01% of the total agroforestry lands. This consists of 407.99 hectares in the districts of Paquibato, Marilog and Calinan. As of 2018, the production of cacao and fruit trees totaled to 1,568.87 metric tons with combined value of ₱77,030,934.68.

Only 3.18% of the agroforestry lands are planted with ornamental plants. These ornamental plants include Pine Trees, Eugenia and Palmera,. These areas are in the districts of Talomo, Buhangin and Bunawan. Nipa, a beach species, is also present in coastal areas especially in Poblacion and Bunawan.

Across nine (9) districts with agroforestry lands, registered enterprises declared an employment 964 workers.

There are 993.24 hectares for reforestation activities, which cover 58.46% of the total agroforestry lands. Most of the districts have areas for reforestation activities except in Talomo and Buhangin Districts.

The districts with agroforestry lands are susceptible to flood and landslides. Talomo, Paquibato, and Marilog are also susceptible to earthquake as fault lines are present in these districts. Liquefaction may as well persist in Talomo, Poblacion, Buhangin and Bunawan while storm surge may arise in Poblacion, Buhangin and Bunawan.

To further provide the protection to the agroforestry lands, the city government implements reforestation and rehabilitation activities. In 2018, these activities are implemented in 19.66 hectares within watershed areas, 3.95 hectares in mangrove areas, 10,995 linear meters in riverbanks and 3,240 linear meters for roadside planting.

**Table EC – 25. Area and Location of Agroforestry Lands by Sub-Category and Primary Use, 2018**

Name of Forestry	District	Area (Ha)	Dominant Tree Species	Type of Production	Annual		No. of Workers	Reforestation Activity Area (ha)	Hazard Susceptibility (L/M/H)				
					Volume (MT)	Value (₱)			Fl	Fa	Ln	Su	Lq
Barangay Council of Langub	Talomo	44	Pine Tree, Eugenia	Ornamental	-	-	70	-	M/H	v	L/M/H	-	L
Barangay Council of 10-A; Mangrove Rehabilitation Project; Riverbank Rehabilitation Project	Poblacion	10	Malibago, Api-Api, Bakauan, Pagatpat, Nipa, African Tulip, Bamboo	Timber; for protection purposes	-	-	59	11.36	L/M/H	-	L	2,3,4,5	H
Barangay Council of Hizon	Buhangin	1	Eugenia	Ornamental	-	-	50	-	L/M/H	-	L	2,3,4,5	M/H
Barangay Council of Lasang; Mangrove Rehabilitation Project	Bunawan	10	Palmera, Api-Api, Bakauan, Nipa	Ornamental; For protection purposes	-	-	101	0.51	L/M/H	-	L	2,3,4,5	L/M/H

Source: City Environment and Natural Resources Office (CENRO), Davao City and Department of Environment and Natural Resources (DENR), Region XI

Table EC – 25. Area and Location of Agroforestry Lands by Sub-Category and Primary Use, 2018, cont.

Name of Forestry	District	Area (Ha)	Dominant Tree Species	Type of Production	Annual		No. of Workers	Reforestation Activity Area (ha)	Hazard Susceptibility (L/M/H)				
					Volume (MT)	Value (₱)			Fl	Fa	Ln	Su	Lq
Pegdalahan Tribal Agro-Forestry Farmers; Malabog Integrated Enterprise Development Cooperative; Salapawan Farmers Marketing Cooperative, Surayan Palungan Galacia Farmers Consumers Cooperative; Barangay Pandaitan Farmers Association, Pandaitan Tribal Council, Paradise Embac Farmers Association	Paquibato	610	Falcata, Cacao, Durian, Lanzones, Giant Bamboo, Butong, Mahogany, Narra, Molave	Cacao; fruit trees; for protection purposes	411.90	25,656,600	295	346.35	L/M/H	v	L/M/H	-	-
Tawan-Tawan Farmers Association	Baguio	23	Mahogany, Narra, Molave, African Tulip	For protection purposes	-	-	18	15	M/H	-	L/M/H	-	-
SLT-CBFMA Multi-Purpose Cooperative; Megkawayan Agro-Forest Farmers Association; Sarawag Farmers Association	Calinan	118	Falcata, Mahogany, Cacao, Rambutan, Lanzones, Durian, Narra, Molave, African Tulip	Cacao; fruit trees; for protection purposes	106.03	5,701,100	79	91	L/M/H	-	L/M/H	-	-

Source: City Environment and Natural Resources Office (CENRO), Davao City and Department of Environment and Natural Resources (DENR), Region XI

**Table EC – 25. Area and Location of Agroforestry Lands by Sub-Category and Primary Use, 2018, cont.**

Name of Forestry	District	Area (Ha)	Dominant Tree Species	Type of Production	Annual		No. of Workers	Reforestation Activity Area (ha)	Hazard Susceptibility (L/M/H)				
					Volume (MT)	Value (₱)			Fl	Fa	Ln	Su	Lq
Magsaysay Marketing Coop.; Mabuhay Marilog Farmers Marketing Coop.; Malakiba People Improve Multi-Purpose Coop.; Tagbao Tamugan Consumer Coop.; SWAD Consumer's Coop.; D'Greenbelters Association; Kasadingan Patag Farmers Association; Sitio Unapan Green Height Association; Sitio Unapan Mini-Watershed Project	Marilog	778	Falcata, Cacao, Lanzones, Mangosteen, Durian, Giant Bamboo, Abaca, Mahogany, Gemelina, Pomelo, Butong, Narra, Molave, African Tulip, Labana	Cacao, fruit trees; for protection purposes	1,051	45,673,235	279	518.41	M/H	v	L/M/H	-	-
Summer Resort Association/ City Government Property	Toril	105	Mahogany, Lauan, Sagim-sim, Cedar, Acacia, Manguim, Narra, African Tulip, Molave, Falcata, Bamboo	For protection purposes	-	-	13	10.61	H	-	L/M/H	-	-
<b>Total</b>		<b>1,698.99</b>			<b>1,568.87</b>	<b>77,030,934.68</b>	<b>964</b>	<b>993.24</b>					

Source: City Environment and Natural Resources Office (CENRO), Davao City and Department of Environment and Natural Resources (DENR), Region XI



## Volume of Production by Forest Concessionaire

As of 2018, there were 16 forest concessionaires in the city spread across a total area of 1,301 hectares (Table EC – 26). These concessionaires are covered under a 25-year agreement with the Department of Environment and Natural Resources (DENR) through the Integrated Social Forestry program (ISF). The ISF program aims to promote more equitable distribution of forest bounty for forest occupants who are dependent on forest lands for their livelihood. All the contracts between the concessionaires and DENR already ended in 2018.

As shown in Table EC – 26, the harvests of the forest concessionaires, which are mainly from cacao and fruit trees, reached 1,839 metric tons with an estimated value of ₱105.419 million in 2018. Of the fruit trees, these were mostly mangosteen, durian, pomelo, rambutan and lanzones. Cacao, on the other hand, comprised 11% in terms of the combined volume of production. About half of the concessionaires grow cacao upon noting the huge demand of premium quality cacao beans around the globe. All of them are also planting other tree species that are primarily for protection purposes.

Reforestation activities are being implemented in 800 hectares or 61.49% of the total lands covered by forest concessionaires.

**Table EC – 26. Volume of Production by Forest Concessionaire, Davao City, 2018**

Forest Concessionaire	Area Covered (Ha)	Dominant Tree Species/ Other Products Delivered	Annual		Estimated Number of Workers	Reforestation Activities (Ha)
			Volume (MT)	Value (₱)		
Alan L. Taquiawan	11	Falcata	-	-	50	11
	8	Cacao	9	799,200	-	-
	6.5	Durian	44	2,231,003	-	-
	6.5	Mangosteen	50	5,011,500	-	-
	15	Butong	-	-	-	15
	3	Abaca	-	-	-	3
<b>Sub-Total</b>	<b>50</b>		<b>103</b>	<b>8,041,703</b>	<b>50</b>	<b>29</b>
Alexander A. Degamo	59	Falcata	-	-	50	59
	9	Cacao	10	899,100	-	-
	8.5	Lanzones	50	2,499,000	-	-
	8.5	Durian	58	2,917,465	-	-
	15	Giant Bamboo	-	-	-	15
<b>Sub-Total</b>	<b>100</b>		<b>118</b>	<b>6,315,565</b>	<b>50</b>	<b>74</b>
Allan P. Simo-ag	5	Palmera	-	-	50	5
<b>Sub-Total</b>	<b>5</b>		<b>-</b>	<b>-</b>	<b>50</b>	<b>5</b>
Antonino Pangilinan	89	Falcata	-	-	50	89
	17	Cacao	19	1,698,300	-	-
	14.5	Durian	99	4,976,852	-	-
	14.5	Lanzones	85	4,263,000	-	-
	30	Giant Bamboo	-	-	-	30
<b>Sub-Total</b>	<b>165</b>		<b>203</b>	<b>10,938,152</b>	<b>50</b>	<b>119</b>

Source: CENRO, Davao City and DENR, Region XI

Table EC – 26. Volume of Production by Forest Concessionaire, Davao City, 2018

Forest Concessionaire	Area Covered (Ha)	Dominant Tree Species/ Other Products Delivered	Annual		Estimated Number of Workers	Reforestation Activities (Ha)
			Volume (MT)	Value (₱)		
Gene C. Jumao-as	78	Falcata	-	-	50	78
	79	Cacao	88	7,892,100	-	-
<b>Sub-Total</b>	<b>157</b>		<b>88</b>	<b>7,892,100</b>	<b>50</b>	<b>78</b>
Leilani Tabay Del Mar Bacalso	5	Pine Tree	-	-	50	5
	6	Eugenia	-	-	-	6
<b>Sub-Total</b>	<b>11</b>		<b>-</b>	<b>-</b>	<b>50</b>	<b>11</b>
Leonardo A. Embangan	94	Falcata	-	-	50	94
	9	Cacao	10	899,100	-	-
	6	Mangosteen	46	4,626,000	-	-
	6	Durian	41	2,059,387	-	-
	6	Lanzones	35	1,764,000	-	-
	15	Giant Bamboo	-	-	-	15
	2	Abaca	-	-	-	2
<b>Sub-Total</b>	<b>138</b>		<b>132</b>	<b>9,348,487</b>	<b>50</b>	<b>111</b>
Mark Anthony C. Cayetano	5	Malibago	-	-	50	5
<b>Sub-Total</b>	<b>5</b>				<b>50</b>	<b>5</b>
Ramonito Dormile	70	Falcata	-	-	70	70
	70	Mahogany	-	-	-	-
	9	Cacao	10	899,100	-	-
	7	Rambutan	54	2,691,500	-	-
	7	Lanzones	41	2,058,000	-	-
	7	Durian	48	2,402,618	-	-
<b>Sub-Total</b>	<b>100</b>		<b>153</b>	<b>8,051,218</b>	<b>70</b>	<b>70</b>
Romeo Dela Cruz	69	Falcata	-	-	50	69
	69	Gemelina	-	-	-	-
	69	Mahogany	-	-	-	-
	9	Cacao	10	899,100	-	-
	7	Durian	48	2,402,618	-	-
	7	Lanzones	41	2,058,000	-	-
	7	Pomelo	61	1,731,222	-	-
<b>Sub-Total</b>	<b>99</b>		<b>160</b>	<b>7,090,940</b>	<b>50</b>	<b>69</b>
Oscar M. Relos	59	Falcata	-	-	50	59
	59	Mahogany	-	-	-	-
	9	Cacao	10	899,100	-	-
	17	Durian	116	5,834,930	-	-
	15	Giant Bamboo	-	-	-	15
<b>Sub-Total</b>	<b>100</b>		<b>126</b>	<b>6,734,030</b>	<b>50</b>	<b>74</b>
Ralph O. Abella	1	Eugenia	-	-	50	1
<b>Sub-Total</b>	<b>1</b>				<b>50</b>	<b>1</b>
Ricky E. Liparanon	11	Eugenia	-	-	50	1
<b>Sub-Total</b>	<b>11</b>				<b>50</b>	<b>1</b>
Romeo Noa	116	Falcata	-	-	163	116
	116	Mahogany	-	-	-	-
	116	Gemelina	-	-	-	-
	11	Cacao	12	1,098,900	-	-
	16	Rambutan	123	6,152,000	-	-
	16	Pomelo	139	3,957,078	-	-
	16	Durian	109	5,491,699	-	-
<b>Sub-Total</b>	<b>175</b>		<b>383</b>	<b>16,699,677</b>	<b>163</b>	<b>116</b>

Source: CENRO, Davao City and DENR, Region XI

**Table EC – 26. Volume of Production by Forest Concessionaire, Davao City, 2018**

Forest Concessionaire	Area Covered (Ha)	Dominant Tree Species/ Other Products Delivered	Annual		Estimated Number of Workers	Reforestation Activities (Ha)
			Volume (MT)	Value (₱)		
Ronnie O. Odeña	4	Eugenia	-	-	50	4
<b>Sub-Total</b>	<b>4</b>		<b>-</b>	<b>-</b>	<b>50</b>	<b>4</b>
Teodoro Rodaje	78	Mahogany	-	-	73	-
	78	Falcata	-	-	-	-
	19	Cacao	21	1,898,100	-	-
	12.5	Mangosteen	96	9,637,500	-	-
	12.5	Durian	86	4,290,390	-	-
	12.5	Rambutan	96	4,806,250	-	-
	12.5	Lanzones	74	3,675,000	-	-
	30	Bayog	-	-	-	30
	3	Abaca	-	-	-	3
<b>Sub-Total</b>	<b>180</b>		<b>373</b>	<b>24,307,240</b>	<b>73</b>	<b>33</b>
<b>Grand Total</b>	<b>1,301</b>		<b>1,839</b>	<b>105,419,112</b>	<b>956</b>	<b>800</b>

Source: CENRO, Davao City and DENR, Region XI

## Situational Analysis

The city's forest bounty comprises of the agroforestry lands which provide livelihood and jobs. As of 2018, a total of 964 individuals were provided with jobs in agroforestry lands while there were 956 workers in areas covered by forest concessionaires.

The different associations and cooperatives are also able to reap positive gains. In the same year, they were able to harvest 1,568.87 metric tons of cacao and fruits with combined value of ₱77,030,934.68. Forest concessionaires generated ₱105,419,112 from their produce that reached 1,839 metric tons. All of them harvested from cacao and fruit trees. The other tree species grown by the associations, cooperatives and barangay councils were mainly intended for protection purposes. The forest concessionaires, on the other hand, are awaiting the maturity of the tree species like Falcata and Mahogany before they could harvest as raw materials for wood products.

There is a noted scarcity of wooden raw materials in the city, however. The permittees of wood processing plants are finding their source of woods from other areas. As of 2018, there were seven (7) permittees of wood processing plants in Davao City (Table EC – 27, see next page). Their products are veneer, plywood, mini-sawmill, plyboard and blockboard. Most or 57% of the permittees are located in Bunawan District.

Aside from the lack of wood supply, the 2019-2023 Forest Land Use Plan (FLUP) noted other issues and concerns in the forestlands as those engaged in *kaingin* and timber poaching, unsound farming system, rampant selling of land rights of IPs to migrants, conversion of forestlands to agricultural use, and presence of armed group.

The city government is currently intensifying its efforts to curb incidences of forest degradation as attributed by the threats to forestlands. As stated in FLUP, there is a need to set up check-points and lookout tower, deputize forest guards, mobilize anti-timber poaching task force, and strengthen the monitoring processes in forestlands.

The areas delineated as protection zone should ideally be free from any slash and burn practices. The propagation of indigenous species and forest trees are highly encouraged in protection zone.

The communities have to be empowered to prevent the selling of land rights to migrants. There shall also be an established working procedures on law implementation and alternative livelihood to lessen the pressure in forestlands.

**Table EC – 27. List of Wood Processing Plants, Davao City, 2018**

Name of Permittee	Location	Products	Date Issued	Expiry Date	Remarks
Mintrade Corp.	888 Mintrade Drive, Lanang	Veneer, plywood, mini-sawmill	Aug. 01, 2017	Aug. 01, 2020	Imported/ Local
Charverson Wood Industries Corp.	Quitolao, Mahayag, Bunawan	Veneer, plywood, plyboard	Sept. 18, 2018	Sept. 18, 2021	Imported/ Local
Meque Marketing	Daliao, Toril	Mini-sawmill	Sept. 04, 2015	Sept. 04, 2018	Local; Renewal application on-process
SMWPI Wood Products Inc.	Daliao, Toril	Veneer, plywood	May 19, 2017	May 19, 2020	Imported/ Local
SMWPI Wood Products Inc.	Daliao, Toril	Mini-sawmill, recovery	Feb. 15, 2018	Feb. 15, 2021	Imported/ Local
Mindanao Omega Industries Corp.	Km 22, Bunawan	Veneer, plyboard, plywood	Feb. 15, 2018	Feb. 15, 2021	Local
Forever Richsons Trading Corp.	Quitolao, Mahayag, Bunawan	Plywood, plyboard, blockboard Mini-sawmill	Mar. 26, 2018	Mar. 26, 2021	Imported/ Local

Source: CENRO, Davao City

## Future Plans

Under the 2018-2045 Infrastructure Modernization for Davao Plan (IM4Davao), there shall be protection of canopy forests, rehabilitation of degraded forest, development of production with agroforestry and soil and water conservation to support the livelihood of the communities, and bolster the National Greening Program with expansion of nurseries.

To curb encroachment in forestlands, there shall be strict monitoring through satellite imaging technology. Farmers and foresters shall be given with training and assistance to protect the forestlands. The boundary of the forestlands shall be also clarified in the geographic information system map.

The city government has to pursue an agro-forestry development and strengthen its efforts to promote the conservation areas and integrate agro-forestry and prime agricultural areas in the land use.

## Presence of Risks and Hazards

Forest-rich areas such as Paquibato and Marilog Districts are found to be vulnerable to landslides particularly in Barangays Buda and Suawan in Marilog District and Barangay Pandaitan in Paquibato District, where there are frequent occurrences of landslides. The result of the Climate Disaster Risk Assessment (CDRA) recommended that there should be an improved extension of services in the areas with emphasis on climate and hazard resilient production techniques.

Barangays Gumitan and Tamugan, both in Marilog District, also have frequent occurrence of floods as these are traversed by rivers. Under CDRA, it would be best to plant trees like Malibago, Bamboo and fruit trees as riverbank easements. Malibago trees, for instance, are known for their ability to protect river banks from erosion. Planting of trees, instead of cash crops, would also help improve the forest cover. There shall also be strict enforcement of policies that would prohibit cutting of trees along watersheds. Likewise, soil and water conservation practices, which are recommended and appropriate in sloping areas, shall be adopted to prevent floods to recur in those areas.

## Forestry Analysis Matrix

Table EC – 28. Forestry Analysis Matrix

Technical Findings	Implications	Policy Interventions
<ul style="list-style-type: none"> <li>encroachment of monocrop plantations in timberland/conservation zones</li> </ul>	<ul style="list-style-type: none"> <li>decrease forest land</li> <li>decrease in soil and water quality</li> <li>threat to biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>strict implementation of Watershed Code, Zoning Ordinance, and other related laws, rules and regulations</li> </ul>
<ul style="list-style-type: none"> <li>depletion of forest resources</li> </ul>	<ul style="list-style-type: none"> <li>overexploitation of forest resources</li> </ul>	<ul style="list-style-type: none"> <li>intensify the protection of remaining old growth/dipterocarp and second growth forest from any form of destruction</li> <li>strengthen Bantay Bukid Program</li> <li>pursue massive reforestation</li> </ul>
<ul style="list-style-type: none"> <li>forest-rich areas such as Paquibato and Marilog Districts are found to be vulnerable to landslides particularly in Barangays Buda and Suawan in Marilog District and Barangay Pandaitan in Paquibato District, where there are frequent occurrences of landslides</li> </ul>	<ul style="list-style-type: none"> <li>reduced volume of harvest of perennial crops</li> <li>loss of income</li> </ul>	<ul style="list-style-type: none"> <li>improve extension services with emphasis on climate and hazard resilient production techniques</li> <li>establish irrigation and/or rainwater harvesting facilities</li> <li>pursue crop diversification</li> <li>establish warning system for agricultural crop production</li> <li>reduce run-off through watershed reforestation or agri-forestry production</li> <li>establishment of warehouses for temporary storage</li> <li>establish riverbank easement (i.e. planting of malibago and fruit trees and kawayan)</li> </ul>
<ul style="list-style-type: none"> <li>floods recur in forest areas particularly in Barangays Gumitan and Tamugan in Marilog District as these are traversed by rivers</li> </ul>	<ul style="list-style-type: none"> <li>reduced volume of harvest of perennial crops</li> <li>loss of income</li> </ul>	<ul style="list-style-type: none"> <li>improve forest cover in watersheds</li> <li>encourage planting of flood protection trees along riverbanks</li> </ul>



## Forestry Related Programs and Projects, 2018

**Table EC – 29. Existing Forestry Related Programs and Projects, 2018**

Programs/Projects	Location	Budget Allocation	Schedule of Implementation	Funding Source	Implementing Agencies
Integrated Protected Area Section	Buhangin, Paquibato, Toril, Tugbok, Poblacion, Marilog, Agdao District	6,500,000	January to December 2018	-	CENRO
A. Nursery activity (seedling production)			2018	-	CENRO
B. Reforestation/Rehabilitation Activity			2018	-	CENRO
a. Watershed area (seedling planted; hills)			2018	-	CENRO
b. Mangrove area (Propagated planted: hectares)			2018	-	CENRO
c. Riverbank (seedling planted; hills)			2018	-	CENRO
d. Roadside planting (seedling planted; hills)			2018	-	CENRO
C. Inspection of request to cut trees			2018	-	CENRO
D. Assist IEC on watershed coastal, mangrove and riverbank rehabilitation			2018	-	CENRO
Upland Community Project and Forest Management Section			January to December 2018	-	CENRO
1. Technology transfer for upland development through training			-	-	CENRO
2. Nursery Development and Management for plant propagation			-	-	CENRO
2.1 Plant Propagation/seedling production			-	-	CENRO
3. Agro-forestry and environmental critical area development			-	-	CENRO
3.1 Propagates and seedlings distribution for area development			-	-	CENRO
3.2 Area planted/develop			-	-	CENRO
3.3 Soil and water conservation			-	-	CENRO
4. Project monitoring and evaluation			-	-	CENRO
4.1 Project maintained			-	-	CENRO
5. Organized meeting conducted			-	-	CENRO
Cacao Based Agroforestry Project (MAPALA Greenview Farmers Association)	Brgy. Marilog Proper, Marilog District,	948,250.00	January-December 2018	CARP	DENR R-XI

## Commerce and Trade

**Existing Situation** – Exhibiting a ribbon-type development, commercial establishments expand alongside every major thoroughfare in Davao City’s booming economy. From only 520 hectares in 1994, the commercial area has doubled at 1,095.97 hectares as of 2018.

Despite the increasing commercial footprint in Davao City, commercial areas comprise only 0.45% of the city’s total land area.

### Inventory of Commercial Areas

Commercial areas consist of shopping malls, public markets, wet/dry neighbourhood commercial centers, *talipapas* (small wet market), commercial strips and commercial complexes. In terms of land area, malls occupy the largest space, which total 63.35 hectares (Table EC – 30). The largest in size is SM City Davao in Ecoland, Barangay Bucana, Talomo District with 12.16 hectares. Commercial complexes, on the other hand, come in second with land area totalling 26.31 hectares. The rest of the commercial establishments have land areas of 9.28 hectares for public markets, 6.09 hectares for wet/dry neighbourhood centers and 0.71 hectares for *talipapas*.

**Table EC – 30. Inventory of Commercial Areas, 2018**

Type of Commercial Areas	Location	Area (Ha)	Market Catered	
			Local	Outside (Export)
<b>Malls</b>				
SM City Davao	Brgy. Bucana	12.16	√	√
SM Lanang	Brgy. San Antonio	12.01	√	√
Victoria Plaza	Brgy. 20-B	5.72	√	√
Gaisano Mall of Davao	Brgy. 13-B	3.31	√	√
Gaisano Grand Citygate Mall	Brgy. Buhangin	3.43	√	√
Gaisano Mall of Toril	Brgy. Toril	3.00	√	√
Abreza Mall	Brgy. 20-B	4.37	√	√
NCCC Mall Buhangin	Brgy. Buhangin	8.1	√	√
Gaisano Grand Mall CitiMall	Brgy. 3-A	0.83	√	√
Gaisano Grand Mall	Brgy. Toril	1.66	√	√
Gaisano Grand Mall	Brgy. Calinan	1.61	√	√
Gaisano Grand Mall	Brgy. Tibungco	1.25	√	√
Felcris Centrale	Brgy. 40-D	5.9	√	√
<b>Sub-Total</b>		<b>63.35</b>		
<b>Public Markets</b>				
Bangkerohan Public Market	Brgy. 5-A	2.27	√	-
Toril Public Market	Brgy. Toril Proper	1.44	√	-
Agdao Public Market	Brgy. Agdao Proper	2.09	√	-
Calinan Public Market	Brgy. Calinan Poblacion	1.25	√	-
Bunawan Public Market	Brgy. Bunawan Proper	0.27	√	-
Panacan Public Market	Brgy. Panacan	0.77	√	-
Mintal Public Market	Brgy. Mintal	0.88	√	-
Buhangin Public Market	Brgy. Buhangin	0.31	√	-

Source: Business Bureau, Davao City

Table EC – 30. Inventory of Commercial Areas, 2018, cont.

Type of Commercial Areas	Location	Area (Ha)	Market Catered	
			Local	Outside (Export)
<b>Talipapa/ Wet or Dry Neighborhood Commercial Center</b>				
Los Amigos Wet & Dry Market	Brgy. Los Amigos	0.23	√	-
Davao Fish Port complex	Brgy. Toril	5.72	√	-
M Fish Traders Market	Brgy. 5-A	0.14	√	-
Matina Mini Market Vendors Association	Brgy. Matina Crossing	0.11	√	-
Piapi Vendors Association	Brgy. 22-C	0.11	√	-
Mabini Market Vendors Association	Brgy. 31-D	0.02	√	-
Matina Aplaya Public Market	Brgy. Matina Aplaya	0.41	√	-
Matina Aplaya Vendors Association	Brgy. Matina Aplaya	0.02	√	-
Catalunan Grande Market Vendors Association	Brgy. Catalunan Grande	0.02	√	-
Ulas Market Vendors Association	Brgy. Talomo Proper	0.02	√	-
<b>Sub-Total</b>		<b>6.80</b>		
<b>Commercial Strips*</b>				
41 commercial strips	Poblacion District	-	√	√
10 commercial strips	Talomo District	-	√	√
7 commercial strips	Buhangin District	-	√	√
7 commercial strips	Agdao District	-	√	√
3 commercial strips	Toril District	-	√	√
1 commercial strip	Calinan District	-	√	√
<b>Sub-Total</b>		<b>-</b>		
<b>Commercial Complex</b>				
Aldevinco	Brgy. 19-B	0.52	√	√
City Triangle	Brgy. 32-D	0.37	√	√
Center Point Matina	Matina Crossing	0.34	√	√
OroDerm City	Brgy. 35-D	0.35	√	√
Central Park Complex	Talomo Proper	0.24	√	√
Time Square	Brgy. 3-A	0.18	√	√
Santos Complex	Brgy. 3-A	0.11	√	√
Diaz Complex	Brgy. 35-D	0.21	√	√
EC Business Center	Brgy. 45-D	0.22	√	√
Regina Commercial Complex	Brgy. 35-D	0.29	√	√
La Fontaña De Remedios Complex	Brgy. 35-D	0.09	√	√
ATT Commercial Complex	F. Torres St., Brgy. 9-A	0.08	√	√
Mabini Commercial Complex	Brgy. 9-A	0.17	√	√
JJS Commerce	Brgy. 13-B	0.26	√	√
Chimes	Brgy. 27-C	0.46	√	√
Carlos Villa Abrille Complex	Brgy. 30-C	0.44	√	√
Central Plaza	Brgy. 12-B	0.53	√	√
Imperial Plaza	Brgy. 13-B	0.14	√	√
Plaza del Carmen	Brgy. 13-B	0.22	√	√
Landco	Brgy. 19-B	2.27	√	√
Bajada Plaza	Brgy. Paciano Bangoy	0.50	√	√
Robinsons Cybergate	Brgy. Buhangin	1.02	√	√
MK Central	Brgy. Wilfredo Aquino	0.05	√	√
Market Basket	Brgy. A. Angliongto	0.61	√	√
Lanang Business Park	Brgy. A. Angliongto	2	√	√
Matina Town Square	Brgy. Ma-a	1.53	√	√
NCCC Uyanguren	Brgy. 27-C	0.64	√	√

Source: Business Bureau, Davao City

Table EC – 30. Inventory of Commercial Areas, 2018, cont.

Type of Commercial Areas	Location	Area (Ha)	Market Catered	
			Local	Outside (Export)
DCLA Uyanguren	Brgy. 27-C	0.49	√	√
Unicity	Brgy. 3-A	0.19	√	√
Unitop	Brgy. 3-A	0.10	√	√
Prime Square	Brgy. 12-B	1.74	√	√
TNE Complex	Brgy. Calinan	0.20	√	√
Doña Segunda Complex	Brgy. 34-D	0.30	√	√
Leonora Complex	Brgy. 4-A	0.18	√	√
Quibod Commercial Center	Brgy. 3-A	0.15	√	√
Rizal Promenade	Brgy 3-A	0.13	√	√
ATU Plaza	Brgy 3-A	0.33	√	√
Amgar Plaza	Brgy 3-A	0.10	√	√
Nicolas Complex	Brgy 3-A	0.12	√	√
Plaza de Bole	Brgy 12-B	0.65	√	√
Pryce Tower	Brgy. 20-B	1.9	√	√
Leonora Arcade	Brgy. Matina Crossing	0.06	√	√
MS Land Compound Complex	Brgy. Matina Crossing	0.60	√	√
Paseo de Roxas Complex	Brgy. 34-D	0.32	√	√
West JBT Plaza	Brgy. Vicente Hizon	0.31	√	√
Nova Trading Square	Brgy. Vicente Hizon	0.27	√	√
The Veranda Ilustre	Brgy. 3-A	0.10	√	√
Pasalubong Center	Brgy. 4-A	0.09	√	√
Golden Matina Complex	Brgy. Bucana	0.24	√	√
Felcris (Toril)	Brgy. Toril	0.70	√	√
Metro Circle	Brgy. 2-A	0.57	√	√
Malengke	Brgy. 5-A	0.24	√	√
MoonBeam Reality Complex	Brgy. 5-A	0.24	√	√
Airport View Commercial Complex	Brgy. Buhangin	0.53	√	√
LDL Commercial Building	Brgy. Buhangin	0.37	√	√
EMCOR	Brgy. Agdao Proper	0.31	√	√
Avenue Square	Brgy. 11-B	0.07	√	√
Lakitan Shopping Center	Brgy. 3-A	0.15	√	√
The Site Complex	Brgy. 11-B	0.13	√	√
Farmers Market Center	Brgy. 2-A	0.59	√	√
<b>Sub-Total</b>		<b>26.31</b>		
<b>Total</b>		<b>105.74</b>		

Source: Business Bureau, Davao City

## Historical Data on Commercial Areas

Commercial areas in Davao City has increased by 2.81% in 2018 from 1,066.02 hectares in 2011. This increment is attributed to the rise of commercial establishments outside the Central Business District. As shown in Table EC – 31, the commercial footprint in other barangays like Sto. Niño in Tugbok District and Calinan Proper in Calinan District has increased to 4.13 hectares and 19.53 hectares, respectively. On the other hand, commercial areas in most barangays in Poblacion District, which are situated in Central Business District, remain constant with few land areas left for expansion. Vertical development is already evident in Poblacion District with the rise of condominiums, which usually have commercial components at the ground floor. The rest of the barangays sustain a decline in commercial footprint as some of their commercial areas have been converted to other uses.

**Table EC – 31. Historical Data on Commercial Areas**

Location	Commercial Areas (Ha)		% Increase/ Decrease
	2011	2018	
<b>Poblacion</b>			
1-A	1.37	1.4	2.19%
2-A	11.21	11.32	0.98%
3-A	14.9	14.9	0.00%
4-A	9.55	9.55	0.00%
5-A	4.34	4.34	0.00%
6-A	5.66	5.66	0.00%
7-A	6.79	6.79	0.00%
8-A	5.65	5.65	0.00%
9-A	7.49	7.49	0.00%
10-A	7.7	7.7	0.00%
11-B	4.52	4.52	0.00%
12-B	12.43	12.43	0.00%
13-B	8.52	8.52	0.00%
14-B	7.52	7.52	0.00%
15-B	24.46	24.46	0.00%
16-B	3.38	3.38	0.00%
17-B	3.89	3.89	0.00%
18-B	8.95	8.95	0.00%
19-B	28.23	28.23	0.00%
20-B	28.61	28.61	0.00%
21-C	0.3	0.3	0.00%
22-C	0.5	0.5	0.00%
23-C	0.78	0.87	11.54%
24-C	2.19	3.6	64.38%
25-C	1.87	2.24	19.79%
26-C	4.32	4.32	0.00%
27-C	18.61	18.61	0.00%

Source: Geographic Information System Division, City Planning and Development Office, Davao City

Table EC – 31. Historical Data on Commercial Areas, cont.

Location	Commercial Areas (Ha)		% Increase/Decrease
	2011	2018	
28-C	3.95	3.95	0.00%
29-C	6.88	6.88	0.00%
30-C	14.96	14.96	0.00%
31-D	0.61	0.61	0.00%
32-D	5.17	5.17	0.00%
33-D	2.47	2.89	17.00%
34-D	12.7	12.7	0.00%
35-D	4.13	4.13	0.00%
36-D	3.33	3.33	0.00%
37-D	0.82	0.82	0.00%
38-D	3.07	3.1	0.98%
39-D	5.34	5.34	0.00%
40-D	6.05	6.05	0.00%
<b>Sub-Total</b>	<b>303.22</b>	<b>305.68</b>	<b>0.81%</b>
<b>Agdao</b>			
Agdao Proper	24.81	22.65	-8.70%
Wilfredo Aquino	8.35	23.77	184.67%
Paciano Bangoy	39.70	37.06	-6.65%
Rafael Castillo	23.07	16.41	-28.87%
Centro	1.03	1.14	10.68%
Gov. V. Duterte	10.61	4.95	-53.34%
Leon Garcia Sr.	3.47	1.06	-69.44%
Lapu – Lapu	5.65	1.61	-71.50%
Tomas Monteverde	15.01	11.83	-21.18%
San Antonio	25.69	41.675	62.23%
Ubalde	3.93	1.53	-61.06%
<b>Sub-Total</b>	<b>161.31</b>	<b>163.685</b>	<b>1.47%</b>
<b>Buhangin</b>			
Buhangin Pro	39.08	51.315	31.31%
Cabantian	21.17	23.11	9.16%
Communal	21.44	11.99	-44.08%
Indangan	1.52	1.71	12.50%
Pampanga	19.82	11.31	-42.94%
Sasa	101.79	58.02	-43.00%
Tigatto	3.00	3.25	8.37%
A. Angliongto	33.52	38.75	15.60%
V. Hizon	29.35	25.25	-13.97%
<b>Sub-Total</b>	<b>270.69</b>	<b>224.705</b>	<b>-16.99%</b>
<b>Bunawan</b>			
Bunawan Proper	8.92	10.265	15.09%
Ilang	5.10	2.2	-56.86%
Lasang	0.96	2.13	121.88%
Mahayag		8.63	100.00%

Source: Geographic Information System Division, City Planning and Development Office, Davao City



Table EC – 31. Historical Data on Commercial Areas, cont.

Location	Commercial Areas (Ha)		% Increase/Decrease
	2011	2018	
Panacan	15.21	7.46	-50.95
Tibungco	4.91	9.88	101.22
<b>Sub-Total</b>	<b>35.10</b>	<b>40.565</b>	<b>15.57</b>
<b>Calinan</b>			
Calinan Proper	17.03	19.53	14.68%
Riverside	-	1.11	100%
Talomo River	-	0.30	100%
<b>Sub-Total</b>	<b>17.03</b>	<b>20.94</b>	<b>22.96%</b>
<b>Talomo</b>			
Bago Aplaya	10.88	12.91	18.66%
Bago Gallera		0.65	100%
Bucana	55.02889	63.45	15.30%
Catalunan Grande	4.66	6.03	29.40%
Catalunan Pequeño	1.53	3.55	132.03%
Dumoy	15.82	8.18	-48.29%
Langub		0.02	100%
Ma-a	84.19889	90.16	7.08%
Magtuod		0.77	100%
Matina Aplaya	17.77889	20.47	15.14%
Matina Crossing	31.43889	49.265	56.70%
Matina Pangi		4.89	100%
Talomo Proper	15.86889	20.65	30.13%
<b>Sub-Total</b>	<b>237.2044</b>	<b>280.995</b>	<b>18.46%</b>
<b>Toril</b>			
Baracatan	-	0.47	100%
Crossing Bayabas	10.13	9.26	-8.59%
Binugao	-	3.44	100%
Daliao	0.01	0.07	600%
Eden	-	0.09	100%
Lizada	3.04	2.79	-8.22%
Lubogan	1.37	0.79	-42.34%
Marapangi		2.99	100%
Sirawan		0.83	100%
Toril Proper	20.84	24.53	17.71%
<b>Sub-Total</b>	<b>35.39</b>	<b>45.26</b>	<b>27.89%</b>
<b>Tugbok</b>			
Bago Oshiro	-	0.31	100%
Los Amigos	0.17	1.03	505.88%
Mintal	5.60	6.08	8.57%
Sto. Niño	0.31	4.13	1,232.26%
Talandang	-	2.59	100%
<b>Sub-Total</b>	<b>6.08</b>	<b>14.14</b>	<b>132.57%</b>
<b>Total</b>	<b>1,066.02</b>	<b>1,095.97</b>	<b>2.81</b>

Source: Geographic Information System Division, City Planning and Development Office, Davao City

## Business Lines Granted for the Past Five Years

The number of businesses operating with multiple business lines in the past five (5) years displayed an upward trend. One business permit can have multiple business lines. From 59,732 business lines in 2014, the number hiked by 15.72% in 2018 at 69,120 business lines. Almost all or 98% are under tertiary sub-sector. Businesses under primary, which comprised of agriculture, hunting and forestry, fishing, mining and quarrying, increased from 355 in 2014 to 448 in 2018. The number of business permittees with multiple business line under secondary, which comprised of manufacturing, electricity, gas, and water supply, and construction, also increased from 857 in 2014 to 1,183 in 2018. On the other hand, businesses under tertiary, which comprised of service industries, increased from 58,520 in 2014 to 67,489 in 2018.

**Table EC – 32. Business Lines Granted for the Past Five Years**

Business Permits	2014		2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>										
Agriculture, Hunting & Forestry	229	64.51	308	70.64	319	72.67	305	70.11	314	70.09
Fishing	10	2.817	9	2.06	11	2.51	13	2.99	13	2.90
Mining & Quarrying	116	32.68	119	27.29	109	24.83	117	26.90	121	27.01
<b>Sub-Total</b>	<b>355</b>	<b>0.59</b>	<b>436</b>	<b>0.70</b>	<b>439</b>	<b>0.67</b>	<b>435</b>	<b>0.65</b>	<b>448</b>	<b>0.65</b>
<b>Secondary</b>										
Manufacturing	615	71.76	991	80.57	910	79.48	895	78.72	930	78.61
Electricity, Gas & Water Supply	110	12.84	99	8.05	97	8.47	103	9.06	109	9.21
Construction	132	15.40	140	11.38	138	12.05	139	12.23	144	12.17
<b>Sub-Total</b>	<b>857</b>	<b>1.43</b>	<b>1,230</b>	<b>1.97</b>	<b>1,145</b>	<b>1.76</b>	<b>1,137</b>	<b>1.71</b>	<b>1,183</b>	<b>1.71</b>
<b>Tertiary</b>										
Wholesale & Retail trade/repair of motor vehicles motorcycles personal & household goods	36,728	62.76	37,724	61.96	38,911	61.23	39,823	61.34	41,217	61.07
Hotels/Restaurants	3,054	5.22	3,078	5.06	3,187	5.01	3,294	5.07	3,395	5.03
Transport, Storage & Communication	2,953	5.05	3,147	5.17	3,465	5.45	3,590	5.53	3,711	5.50
Financial Intermediation	1,637	2.80	1,749	2.87	1,838	2.89	1,823	2.81	2,224	3.30
Real Estate, Renting & Business Activities	8,750	14.95	9,672	15.89	10,604	16.69	10,870	16.74	11,279	16.71

Source: Business Bureau, Davao City

**Table EC – 32. Business Permits Granted for the Past Five Years, cont.**

Business Permits	2014		2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%	No.	%
Public Administration & Defense/ Compulsory Social Security	168	0.29	185	0.30	199	0.31	221	0.34	226	0.33
Education	628	1.07	667	1.10	684	1.08	675	1.04	695	1.03
Health & Social Work	698	1.19	698	1.15	700	1.10	703	1.08	717	1.06
Other Community, Social & Personal Service activities	3,904	6.67	3,963	6.51	3,965	6.24	3,918	6.04	4,025	5.96
<b>Sub-Total</b>	<b>58,520</b>	<b>97.97</b>	<b>60,883</b>	<b>97.34</b>	<b>63,553</b>	<b>97.57</b>	<b>64,917</b>	<b>97.64</b>	<b>67,489</b>	<b>97.64</b>
<b>Total</b>	<b>59,732</b>	<b>100</b>	<b>62,549</b>	<b>100</b>	<b>65,137</b>	<b>100</b>	<b>66,489</b>	<b>100</b>	<b>69,120</b>	<b>100</b>

Source: Business Bureau, Davao City

## Employment by Type of Business and Trade

A total of 485,855 workers were employed in different businesses as of 2018. Almost half of them, or 41.99%, worked under wholesale and retail, trade/repair of motor vehicles and motorcycles, personal and household goods sector. Based on the Family Income and Expenditure Survey of the Philippine Statistics Authority, the annual average family income in Davao Region is ₱227,000 or ₱18,916.66 per month, with expenditure of ₱160,000 or ₱13,333.33 per month. Individually, the minimum wage as of 2018 in Davao Region is ₱396 per day for those who worked under non-agriculture, commercial, industrial and retail with over 10 workers; ₱391 for those under agriculture sector; and ₱381 for those under retail/service with less than 10 workers, according to the Department of Labor and Employment XI.

**Table EC – 34. Employment by Type of Business and Trade, 2018**

Type/Classification/Kind of Business and Trade	No. of Emp.	Population Served/ Markets Catered	
		Local	Outside (Export)
Agriculture, Hunting & Forestry	53,700	√	√
Fishing	7,466	√	-
Mining & Quarrying	322	√	-
Manufacturing	14,999	√	√
Electricity, Gas & Water Supply	859	√	√
Construction	2,081	√	√
Wholesale & Retail, Trade/Repair of Motor Vehicles, Motorcycles, Personal & Household Goods	204,002	√	√
Hotels/Restaurants	22,865	√	-
Transport, Storage & Communication	40,431	√	√
Financial Intermediation	16,021	√	√
Real Estate, Renting, & Business Activities	67,994	√	√
Public Administration, & Defense, Compulsory Social Security	1,011	√	-
Education	6,662	√	√
Health & Social Work	4,323	√	√
Other Community, Social & Personal Service Activities	43,119	√	√
<b>Total</b>	<b>485,855</b>		

Source: Business Bureau, Davao City

## Current and Projected Needs

Davao City is geared towards attaining one of its development thrusts, which is to bolster commercial development. Armed with its plan to have a multi-nodal concentric urban development, this would mean that the other barangays outside the Central Business District will gain a share of the development. Commercial investors are welcome even in far-flung areas, provided that they would adhere to the city's policies and regulations. The further spread of commercial development outside the Central Business District will help spur the economies of the minor, emerging, and satellite growth centers in Davao City. Traffic woes will be addressed as well, as people will no longer travel to downtown areas just to buy groceries or avail of any services.

The city's commercial landscape is expected to continuously improve in the next few years. By 2028, the commercial area requirement\* is 143.81 hectares. Based on the proposed land use, the city's commercial footprint will reach 4,647.43 hectares, or a four-fold increase from the current 1,095.97 hectares. It is expected that commercial establishments will emerge near the proposed terminals of soon-to-be-implemented projects like Mindanao Railway Station and High Priority Bus System. There will also be new malls like Vista Mall in Sto. Niño, Tugbok District and CityMall in Cabantian, Buhangin District. The new power resources in the Mindanao grid and bulk water project of Apo Agua Infraestructura Inc. and Davao City Water District assures stable and adequate power and water supply in commercial areas in the next decade.

New roads and transportation projects are also in the pipeline, to help ease the delivery of goods and other services. These projects include the Mindanao Railway System, all the bypass roads and the High Priority Bus System (HPBS). As carved out in the 2045 Infrastructure Modernization Plan for Davao, Poblacion, Talomo and Agdao Districts, which form part of the Central Business District, shall focus on strengthening their role as the commercial, business, financial, and urban tourism hubs of the city. Information Technology Parks/Centers shall also expand in Talomo, Buhangin, and Toril Districts. A low carbon-footprint society shall also be observed amid the robust commercial development. Proper mitigating measures shall be implemented to curbed the impact of climate change and risk to commercial establishments with a total land size of 760.06 hectares found to be vulnerable to landslides and floods in 75 barangays. Easements from waterways and fault lines shall also be properly observed when building new commercial establishments.

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\* *Area Requirement = Space Standard x Projected Built-Up Area – Existing Commercial Area*

## Commerce and Trade Analysis Matrix

**Table EC – 35. Commerce and Trade Analysis Matrix**

Technical Findings	Implications	Policy Interventions
<ul style="list-style-type: none"> <li>Development is focused on Central Business District</li> </ul>	<ul style="list-style-type: none"> <li>Transport congestion</li> </ul>	<ul style="list-style-type: none"> <li>Further expand the lands for commercial use up to far-flung communities</li> <li>Implement the Davao City Investment Incentive Code that attracts investors to venture in least developed areas such as Paquibato, Marilog, Baguio and Calinan Districts</li> </ul>
<ul style="list-style-type: none"> <li>Information Technology Parks/Centers are mostly established in the Central Business District</li> </ul>	<ul style="list-style-type: none"> <li>Generates employment</li> </ul>	<ul style="list-style-type: none"> <li>The establishment of additional Information Technology Parks/Centers shall be expanded in Talomo, Buhangin and Toril Districts</li> </ul>
<ul style="list-style-type: none"> <li>There are presence of commercial establishments near danger areas</li> </ul>	<ul style="list-style-type: none"> <li>Potential damage to properties</li> </ul>	<ul style="list-style-type: none"> <li>Observe easements from the waterways and fault lines</li> <li>Existing commercial establishments shall implement mitigating measures</li> </ul>



## Commerce and Trade Analysis Matrix

**Table EC – 35. Programs and Projects for Commerce and Trade**

Programs/Projects	Location	Budget Allocation	Schedule of Implementation	Funding Source	Implementing Agencies
Investment and Generation Promotion Program <ul style="list-style-type: none"> <li>International Relations</li> <li>Halal Industry Dev't. and Promotion</li> </ul>	Davao City	6,000,000.00	Jan- Dec. 2018	ADF 2018	DCIPC
Davao City Public- Private Partnership	Davao City	830,000.00	Jan- Dec. 2018	Lumpsum Appropriation	DCIPC
Export & Investment Programs <ul style="list-style-type: none"> <li>Facilitation of Market Linkages in coordination with PTIC</li> <li>International Trade Exhibits Participation</li> <li>Trainings, Seminars, Conference</li> <li>Investment Promotion/Facilitation</li> </ul>	Davao City	240,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI
Industry Development Program	Davao City	500,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI
MSME Development Program	Davao City	1,000,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI
Consumer Advocacy and Consumer Protection Program	Davao City	660,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI
Negosyo Centers (Magsaysay, Toril, Calinan)	Davao City	1,600,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI
OTOP Next Gen	Davao City	806,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI
Share Services Facilities <ol style="list-style-type: none"> <li>Metro Davao Helping Hands Foundation-SSF on Enhanced Garment Sewing</li> <li>USEP- Fabrication Laboratory</li> <li>Brgy. Paradise Embac- SSF Tribal Costume &amp; Garments Making</li> <li>Ateneo de Davao University- SSF on Shoe Making &amp; Co-Working Space</li> <li>MAMDI- Mindanao Assn. of Muslim w/ Disability- SSF on Leather Goods Production</li> </ol>	Davao City	600,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI

Source: Davao City Investment Promotion Center, Davao City and Department of Trade and Industry, Region XI

## Industry

**Existing Situation** – Davao City’s industrial footprint covers a combined land size of 1,501.43 hectares, or 0.62%, of the City’s total land area as of 2018. This includes industrial and agri-industrial investments, which also help generate employment in the city. A large chunk of this footprint is occupied by industrial companies, including manufacturing, at 60.96% (915.23 hectares), leaving the rest to agri-industrial companies at 39.04% (586.20 hectares).

### Historical Data on Industrial Areas

The table below (Table EC – 36) shows an increasing trend in the Industrial land areas of Davao City in the year 1994 to 2018 according to the existing land use map recorded by the Geographical Information System of the Office of the City Planning and Development Coordinator. The industrial areas in Davao City increased from 535.72 hectares in 1994 to 780.91 hectares in 2011 and 915.23 hectares in 2018 or 45.77% and 17.20% increases respectively. The acceleration was due mainly to the good business climate and stable peace and order situation experienced by the city. Moreover, the abundance of raw materials specifically on food-based manufacturing coupled with evenly distributed weather throughout the year also attracts more investors to relocate in the city. However, some industrial establishment are not transparent when applying for business permits before the Business Bureau to evade paying of appropriate taxes (i.e., declaring that their lands are for commercial use instead of registering those as under an industrial zone).

**Table EC – 36. Historical Data on Industrial Areas, Davao City, 2014-2018**

Year	Area Covered	
	Area (Ha)	Inc./Dec.
1994	535.72	-
2011	780.91	45.77
2018	915.23	17.20

Source: GIS, Office of the City Planning and Development Coordinator

## Inventory of Industrial Establishments

Among the 11 political districts, Talomo has the highest number of manufacturing establishments that total to 228 as of 2018 (Table EC – 37, see next page, and see Annex for full list of details). Buhangin comes in second with 199 industries followed by Bunawan with 148. The least is Paquibato District with only two (2) manufacturing companies.

Slightly more than half, or 60.33%, are classified as pollutive/hazardous industries. More than half also are located in Talomo District.

All of the manufacturing establishments have a combined capitalization of ₱14.79 billion. The bulk of these are infused in industries located in Bunawan District, pegged at ₱11.38 Billion. Bunawan District also recorded the highest employment, with 3,684 employees in 148 manufacturing establishments.

In a separate table (Table EC – 39, see next page), the establishments are categorized by industrial classification according to their capitalization and employment. In terms of capitalization assets, the following sectors have these share: micro-industries (₱150,000 and below), cottage industries (above ₱150,000 to ₱1,500,000), small-scale industries (above ₱1,500,000 to ₱15,000,000), medium-scale industries (₱15,000,000 to ₱60,000,000) and large-scale industries (above ₱60,000,000). With regards to employment size, the classification are as follows: micro-industries (no specific number), cottage industries (less than 10 workers), small-scale industries (10-99 employees), medium-scale industries (100-199 employees) and large-scale industries (200 or more employees).

Table EC – 39 bares the dominance of cottage industries in Davao City. With regards to capitalization, there are 350 industries with capitalization assets of above ₱150,000 to ₱1,500,000. There are also 649 industries with employment size of less than 10 workers. Only 305 industries are classified large-scale industries with capitalization assets of above ₱60,000,000 while only 11 large-scale industries declare that they have 200 or more employees.

**Table EC – 37. Inventory of Existing Industrial Establishments by Intensity, Capitalization and Employment, Davao City, 2018**

District	Number of Industrial Establishments Per Intensity Classification *									Total No. of Est.	Area (Ha)	Capitalization	Employment
	Non-Poll/NH	Non-Poll/H	Poll/NH	Poll/H	High-Poll/NH	High-Poll/H	High-Poll/EH	Poll/EH	Non-Poll/EH				
Poblacion	2	-	4	21	3	-	-	-	-	30	0.20	123,141,412.17	510
Talomo	15	5	21	143	31	3	6	4	-	228	5.59	872,877,476	3,323
Agdao	9	3	14	57	14	6	8	5	-	116	1.78	198,817,240.31	1,047
Buhangin	4	2	12	113	21	21	12	3	-	199	4.21	1,108,848,045.70	3,510
Bunawan	-	2	17	84	8	9	22	2	-	148	9.85	11,380,652,891.32	3,684
Paquibato	-	-	-	2	-	-	-	-	-	2	-	250,000	7
Baguio	-	-	4	1	2	-	-	-	-	7	0.01	4,876,000.24	103
Calinan	-	-	5	23	4	1	1	-	-	34	16.23	72,875,002	229
Marilog	-	-	-	11	-	-	-	-	-	11	1.03	958,000	15
Toril	6	-	11	65	14	4	3	-	-	103	10.19	943,098,368.58	2,109
Tugbok	-	-	9	32	7	3	-	1	-	52	2.56	84,333,952.15	462
<b>Total</b>	<b>36</b>	<b>12</b>	<b>97</b>	<b>552</b>	<b>104</b>	<b>47</b>	<b>52</b>	<b>15</b>	<b>-</b>	<b>915</b>	<b>51.65</b>	<b>14,790,728,388.47</b>	<b>14,999</b>

Source: Business Bureau, Davao City

**Table EC – 38. Industry Classification According to Capitalization and Employment Size, Davao City, 2018**

Scale	Number of Industries/Capitalization	Number of Industries/Employment Size
Micro-Industry	275	34
Cottage Industry	350	649
Small-Scale Industry	-	214
Medium-Scale Industry	-	22
Large-Scale Industry	305	11

Source: Business Bureau, Davao City

\* Non-Poll/NH (Non-Pollutive/Non-Hazardous); Non-Poll/H (Non-Pollutive/Hazardous); Poll/NH (Pollutive/Non-Hazardous); Poll/H (Pollutive/Hazardous); High-Poll/NH (Highly-Pollutive/Non-Hazardous); High-Poll/H (Highly-Pollutive/Hazardous); High-Poll/EH (Highly-Pollutive/Extremely Hazardous); Poll/EH (Pollutive/Extremely Hazardous); Non-Poll/EH (Non-Pollutive/Extremely Hazardous)

## Type of Industrial Establishments

Industrial establishments vary according to their degree of hazard and pollution. Light industries (I1) are those that are non-pollutive and non-hazardous industrial establishments while medium industries (I2) are pollutive and hazardous industrial establishments. Those that are highly pollutive and extremely hazardous industrial establishments are classified as heavy industries (I3).

Medium-sized industries dominate, which cover 70.93% of the total number of industries in Davao City (Table EC – 39). Most of these are located in Talomo District. At least 5.25% comprise are light industries while heavy industries account 23.82%. Buhangin District has the most number of heavy industries, which total to 57. The district includes heavy industries like Bayer CropScience Inc. and Labtech Corp. Talomo District, on the other hand, comes in second with 44 heavy industries, including companies like Pepsi Cola Products Philippines and Coca Cola and PhilBev. Products Inc.

Amid the presence of industries, Davao City maintains its status with the cleanest air in Southeast Asia, according to the 2018 World Air Quality Report of IQAir AirVisual and Greenpeace. The Environmental Management Bureau (EMB) of Department of Environment and Natural Resources (DENR)-XI reported that all industries are compliant with maintaining the air quality as they were able to set up pollution control devices.

All of the industries are susceptible to different hazards. Majority are susceptible to floods, liquefaction, landslide and storm surge as most of the industrial establishments are located near Davao Gulf and other waterways. A total of 109 manufacturing companies are also situated within active fault line systems.

**Table EC – 39. Inventory of Existing Industrial Establishments by Manufacturing/Industrial Process, Davao City, 2018**

District	No. of Industries Per Type of Industry			Area (Ha)	Hazard Susceptibility (Low (L)/Medium (M)/High (H)) <sup>*</sup>				
	Light	Medium	Heavy		Flood	Liquefaction	Fault Line	Landslide	Storm Surge
Poblacion	2	25	3	0.20	L - 57 L/M - 5 L/H - 35	M-8 H - 56 L/M - 1 M/H - 32	-	L - 82 L/H - 15	2m - 11 3m - 1 5m - 15 2m/3m-22 3m/4m -14 4m/5m-22 2m/3m/4m-5 2m/3m/4m/5m-7
Talomo	20	164	44	5.59	H-2 L/M-2 M/H-3 L/M/H-192	L-12 M-15 H-18 L/M/H-152	44	L-73 L/H-42 L/M/H-84	4m/5m-2 3m/4m/5m-42 2m/3m/4m/5m-126

Source: Business Bureau, Davao City

\* The column enlists on how many industries are affected per hazard and whether its susceptibility are low, medium or high

**Table EC – 40. Inventory of Existing Industrial Establishments by Manufacturing/Industrial Process, Davao City, 2018, cont.**

District	No. of Industries Per Type of Industry			Area (Ha)	Hazard Susceptibility (Low (L)/Medium (M)/High (H))				
	Light	Medium	Heavy		Flood	Liquefaction	Fault Line	Landslide	Storm Surge
Agdao	12	71	33	1.78	L/M-34 L/H-14 L/M/H-39	-	-	L-84	2m-16 2m/3m-13 2m/3m/4m-17 2m/3m/4m/5m-41
Buhangin	6	125	57	4.21	M-2 L/H-11 L/M/H-152	H-18 L/M-2 M/H-61 L/M/H-55	-	L-29 L/M-15 L/M/H-121	2m/5m-18 2m/3m/4m/5m-68
Bunawan	2	101	41	9.85	L/M/H-107	L/M-19 M/H-10 L/M/H-78	-	L-10 L/M-19 L/H/M-78	2m/3m/4m/5m-106
Paquibato	-	2	-	-	H-1	-	1	L/M/H-1	-
Baguio	-	5	2	0.01	M/H-4 L/M/H-3	L-3	3	L/H-3 L/M/H-4	-
Calinan	-	28	6	16.23	L/H - 1 L/M/H - 22	L-17	16	L-2 L/H-2 L/M/H-18	-
Marilog	-	11	-	1.03	H-3	-	-	L/M/H-3	-
Toril	6	76	21	10.19	L-13 H-1 L/M-7 L/H-8 M/H-3 L/M/H-41	L-11 L/M-11 L/M/H-45	25	L-47 L/M-2 L/H-4 L/M/H-20	2m/3m/4m/5m-32
Tugbok	-	41	11	2.56	L/M/H-28	L-11	20	L-28	-
<b>Total</b>	<b>48</b>	<b>649</b>	<b>218</b>	<b>51.65</b>	-	-	<b>109</b>	-	-

Source: Business Bureau, Davao City



## Inventory of Oil Depot

All nine (9) oil terminals in Davao City are strategically located near the coastline of Buhangin and Bunawan Districts for easy transfer of imported crude oil from tankers/ barges to the depot (Table EC – 40, see next page). Two-thirds, or 67%, of the oil terminals are established in Barangay Sasa, Buhangin District, which is near the Sasa Port.

Of the oil terminals, slightly more than half, or 56%, are fuel bulk depot while the remaining terminals are liquefied petroleum gas (LPG) refilling plants. The oil terminals with the largest annual capacities are owned and managed by the Philippines' top three (3) oil big players: Petron Corp., Pilipinas Shell Petroleum Corp., and Chevron Philippines.

The oil depot of Chevron Philippines topped the list with an annual capacity of ₱167.3 million barrels followed by the fuel bulk depot of Pilipinas Shell Petroleum Corp. (131.923 million barrels) and fuel bulk depot of Petron Corp. (113.8 million barrels).

Almost all of the oil terminals are susceptible to different hazards such as floods, liquefaction, landslide and storm surge except the LPG refilling plant of Filsure Enterprise Corp. in Barangay Mahayag, Bunawan, which is only vulnerable to storm surge as it situated within coastal area.

**Table EC – 40. Inventory of Fuel Depot, Davao City, 2018**

Name of Depot	Location	Area Occupied (Ha)	Year Constructed	Type of Depot	Annual Capacity	Hazard Susceptibility (L/M/H)			
						Fl	Ln	Lf	Su
TWA/Insular Oil Corporation	Km. 10, Sasa, Davao City	4.5	2007	Fuel Bulk Depot/Oil Terminal	4.8MLi.	L/M/H	L/M/H	L/M/H	2m/3m/4m/5m
Pilipinas Shell Petroleum Corporation	Km. 10, Sasa, Davao City	-	-	Fuel Bulk Depot	131.923MB	L/M/H	L/M/H	L/M/H	2m/3m/4m/5m
Chevron Phils	Sasa, Davao City	4.3	1953	Fuel Bulk Depot	167.3MB	L/M/H	L/M/H	L/M/H	2m/3m/4m/5m
Petron Corporation	Sasa, Davao City	4.18	1963	Fuel Bulk Depot	113.8MB	L/M/H	L/M/H	L/M/H	2m/3m/4m/5m
Petron Corporation	Sasa, Davao City	-	1970	LPG Refilling Plant	570MT;350MT;162MT;154MT;177MT	L/M/H	L/M/H	L/M/H	2m/3m/4m/5m
Phoenix Pet. Phils., Inc./ Davao Terminal Oil Corporation	Bo. Pampan-ga, Lanang, Davao City	1.07	2002	Fuel Bulk Depot	GASOLINE-375,000 GALS.; DIESEL-375,000GALS	L/M/H	L	H	2m
Isla LPG Corporation	Km. 10, Sasa, Davao City	-	-	LPG Refilling Plant/Import Terminal	120MT;170MT;300MT;250MT	L/M/H	L/M/H	L/M/H	2m/3m/4m/5m
Phoenix Petroleum Phils., Inc. (Formerly Petronas Energy Phils.)	Km. 23, Bunawan, Davao City	4.224	1996	LPG Refilling Plant	141.912MT	L/M/H	L/M	L/M/H	2m/3m/4m/5m
Filsure Enterprise Corporation	Prk.11, Kitulaw, Brgy. Mahayag, Bunawan, Davao City	1.0	2014	LPG Refilling Plant	5000GAL	-	-	-	2m/3m/4m/5m

Source: Department of Energy-Mindanao Field Office, Davao City

## Current and Future Needs

Davao City sets its sight at becoming a globally liveable city with low-carbon and eco-friendly industrial establishments, and aligned to its vision of drawing investors in light industries and green projects to minimize pollutions or reduce greenhouse gas emissions. As of 2018, there were only 48 light industries, which are lower compared to medium with 649 industries and heavy with 218 industries. The city government is currently beefing up its efforts by providing fiscal incentives to augment the number of light industries, which are not pollutive nor hazardous to the environment.

To curb the rise of carbon footprint of the city, the application for medium and heavy industries shall be subjected for further review. As much as possible, new industrial establishments, especially those that are highly pollutive and extremely hazardous industries, will only be zoned in particular areas to easily monitor the industrial establishments. Bunawan is identified as suitable for industrial development with ample spaces for new industries and presence of vital infrastructure facilities, provided that there shall be strict observance of easement from industrial site to residential areas. Agricultural production areas such as Calinan, Baguio, and Tugbok Districts remain viable especially for agri-industrial establishments.

**Table EC – 41. Projected Industrial Area Requirement, Davao City, 2019-2028**

Year	Projected Population	Area Requirement				
		Light	Medium	Heavy	Agri-Industrial	Gross
2018	1,748,279	1,399	4,371	6,993	1,399	14,161
2019	1,788,489	1,431	4,471	7,154	1,431	14,487
2020	1,829,624	1,464	4,574	7,318	1,464	14,820
2021	1,871,706	1,497	4,679	7,487	1,497	15,161
2022	1,914,755	1,532	4,787	7,659	1,532	15,510
2023	1,958,794	1,567	4,897	7,835	1,567	15,866
2024	2,003,847	1,603	5,010	8,015	1,603	16,231
2025	2,049,935	1,640	5,125	8,200	1,640	16,604
2026	2,097,084	1,678	5,243	8,388	1,678	16,986
2027	2,145,317	1,716	5,363	8,581	1,716	17,377
2028	2,194,659	1,756	5,487	8,779	1,756	17,777

Source: Research and Statistics Division, OCPDC, Davao City

\* Industrial Area Requirement=Population x Standard Area per 1,000 population. The standard varies per intensity, where Light = 0.80 hectare per 1,000 population; Medium = 2.50 hectare per 1,000 population; Heavy = 4 hectare per 1,000 population and Gross = 7.30 hectare per 1,000 population

The IM4Davao Report by the Japan International Cooperation Agency (JICA) and city government also recommended industrial establishments that promote a low carbon society. Under the IM4Davao, Davao City is envisioned to become the country's most advanced and well-known local government for Reduce, Reuse, and Recycle Program once there will be a recycling industrial park. Tugbok District is potentially the location for the recycling industrial park, which covers recycling businesses (e.g., automobile wrecking/scraping, recycling of construction waste, used paper, medical equipment, aluminium and steel, among others). The IM4Davao Report recommended that both Buhangin and Bunawan Districts shall have industrial and logistics estates, noting the areas' vast lands and proximity to regional gateway ports and Davao International Airport (Table EC – 42).

**Table EC – 42. Potential Investment Projects by District, IM4Davao, Davao City**

District	Potential Industrial Investment Projects
Agdao	Agricultural Equipment Fabrication
Buhangin	Industrial Estate
Bunawan	Agro-Processing/Manufacturing Estate, Light to Medium Industrial Estate, Industrial Estate, Processing of Cardava Banana
Paquibato	Cassava Processing Center, Abaca Processing Center
Calinan	Cacao/Chocolate Processing Zone, Processing of Cardava Banana
Marilog	Cassava Processing Center, Abaca Processing Center
Toril	Processing of Cardava Banana
Tugbok	Recycling Industrial Estate

Source: IM4Davao, JICA and City Government of Davao

Investors are clamoring to have a 25-hectare industrial zone as recommended by the Philippine Economic Zone Authority (PEZA). With PEZA-accredited industrial zones, industrial locators can maintain 100% foreign ownership and enjoy fiscal incentives up to the national level. According to the Davao City Investment Promotion Center (DCIPC), the city's attraction to invest is high, receiving from five (5) to 10 queries a month from potential investors to locate in a PEZA-required industrial zone as of 2018. However due to absence of PEZA-accredited industrial zones, industrial locators tend to transfer to other areas where there are already PEZA-accredited zones.

The Climate and Disaster Risk Assessment shows that 66% of the total number of industries are vulnerable to storm surge and high risk to floods as the industrial establishments are located near Davao Gulf and other waterways. Proper easements shall be observed and mitigating measures shall be implemented to prevent the destruction of the industrial establishments, which may wreak havoc the entire populace near the industries.

## Industry Analysis Matrix

**Table EC – 43. Industry Analysis Matrix**

Technical Findings	Implications	Policy Interventions
<ul style="list-style-type: none"> <li>23% of the 930 industrial establishments are classified as high pollutive and extremely hazardous industries</li> </ul>	<ul style="list-style-type: none"> <li>potential increase of greenhouse gas emissions</li> <li>health hazards</li> </ul>	<ul style="list-style-type: none"> <li>establish industrial parks, where pollutive industries would be allowed, which are away from housing/dwelling units and hazard-prone areas</li> <li>strict implementation of the Zoning Ordinance</li> <li>expand the National Greening Program</li> <li>intensify monitoring of industries</li> <li>encourage/attract investors into light industries (e.g., manufacturers of electronic data processing machinery, semiconductors)</li> </ul>
<ul style="list-style-type: none"> <li>presence of unregistered industrial establishments and industrial businesses that did not declare right information (e.g., land area, capitalization and employment)</li> </ul>	<ul style="list-style-type: none"> <li>LGU income loss</li> </ul>	<ul style="list-style-type: none"> <li>pursue crackdown against unregistered industries</li> <li>strengthen implementation of policies requiring establishments to declare the right information</li> </ul>
<ul style="list-style-type: none"> <li>potential industrial investors transfer to other areas that have Philippine Economic Zone Authority (PEZA)-accredited industrial zone/s</li> </ul>	<ul style="list-style-type: none"> <li>decrease of potential markets/investors, where most of them want to locate in PEZA-accredited industrial zones that offer high fiscal incentives</li> <li>there are limited areas for industrial expansion due to high price of lands</li> </ul>	<ul style="list-style-type: none"> <li>encourage private sector initiative to consolidate areas for PEZA accreditation.</li> </ul>
<ul style="list-style-type: none"> <li>there are presence of industries near danger areas</li> </ul>	<ul style="list-style-type: none"> <li>potential loss of lives and damage to properties</li> </ul>	<ul style="list-style-type: none"> <li>observe easements from the waterways and fault lines</li> <li>industrial establishments shall implement mitigating measures</li> </ul>

## Existing Programs and Projects for Industrial Development

**Table EC – 44. Existing Programs and Projects for Industrial Development, 2018**

Programs/Projects	Location	Budget Allocation	Schedule of Implementation	Funding Source	Implementing Agencies
Investment and Generation Promotion Program <ul style="list-style-type: none"> <li>Halal Industry Dev't. and Promotion</li> </ul>	Davao City	6,000,000.00	Jan- Dec. 2018	ADF 2018	DCIPC
Export & Investment Programs <ul style="list-style-type: none"> <li>Facilitation of Market Linkages in coordination with PTIC</li> <li>International Trade Exhibits Participation</li> <li>Trainings, Seminars, Conference</li> <li>Investment Promotion/ Facilitation</li> </ul>	Davao City	240,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI
Industry Development Program	Davao City	500,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI
Share Services Facilities <ul style="list-style-type: none"> <li>Metro Davao Helping Hands Foundation-SSF on Enhanced Garment Sewing</li> <li>USEP- Fabrication Laboratory</li> <li>Brgy. Paradise Embac-SSF Tribal Costume &amp; Garments Making</li> <li>Ateneo de Davao University- SSF on Shoe Making &amp; Co-Working Space</li> <li>MAMDI- Mindanao Assn. of Muslim w/ Disability-SSF on Leather Goods Production</li> </ul>	Davao City	600,000.00	Jan. -Dec. 2019	DTI-XI Regular MOOE 2019	DTI

Source: DCIPC, Davao City and DTI, Region XI



## Tourism

Tourism industry is among the key industries being supported in Davao City with the aim of increasing tourism receipts.

Tourism attractions and tourism related businesses, both man-made or natural, occupy a total of 206.35 hectares, or 0.08% of the city's total land territory, based on the existing land use data in 2018.

As of 2018, expenditures from tourists alone reached ₱8.2 billion, based on the estimated average spending of each tourist at ₱4,093 in a three-day stay in the city.

According to the City Tourism Operations Office, the office has accredited a total of 22 tourism sites in 2018 with an derived income from tax dues amounting to ₱2,619,151 in 2018 (Table EC – 48). The city's income as derived from the tax dues of the accredited tourism sites total ₱2,619,151 in 2018 (Table EC – 48). The figure contributes 0.031% out of ₱8.55 billion worth of combined revenues, which the city earned from both business and real property taxes.

The number of tourist arrivals exhibits an upward trend in the last five years amid security threats which prompted President Rodrigo R. Duterte to place the entire Mindanao under Martial Law in June 2017. Tourist arrivals even went up to 2,012,629 in 2017 from 1,864,355 in 2016. The two-million mark was sustained in 2018, even up by 19% from the previous year. The number of foreign tourists also increased in the last five years except in 2016 when it slightly declined to 124,875 from 128,940 in 2015. The city is consistent in attracting foreign markets with tourists from United States (21,324) on top of the list followed by those from Japan (12,800), China (10,827), Korea (8,936) and Australia (7,117).

New direct international flights have been also launched including Davao-Hong Kong, which is serviced by Cathay Pacific; Xiamen,China-Davao, which is operated by Xiamen Air; Qatar-Davao, which is serviced by Qatar Airways; and Manado, Indonesia-Davao, which is operated by Garuda Indonesia.

With the projected continuous increase in tourist arrivals, the tourism industry is beefing up its efforts to sustain the growth momentum. For one, it is already position itself as a MICE, or Meeting, Incentives, Conferences and Events, destination in this part of southern Philippines, and even as a viable alternative hosting center for MICE events in the country. The city government, through its tourism office, shall coordinate this matter with the Department of Tourism, and including matters related to medium and long-term plans. Thus it shall strengthen the coordination link between the city and the DOT.

The City Government of Davao has identified potential tourism sites to make the economic growth inclusive up to the far-flung areas. The potential tourism sites are located in Sicao Tamayong, Calinan District; Brgy. Datu Salumay, Marilog District; Brgy. Carmen, Baguio District; and Brgy. Tapak, Paquibato District (Table EC – 52). Another proposal is to further develop Chinatown as tourist destination with food strips that showcase Chinese delicacies, promote Chinese culture, establish pocket parks, and make all establishments in Chinatown

with Chinese-theme façade. All these proposed tourism sites are anchored on the goal to spur the tourism industry.

## Existing Situation

### a. Inventory of Tourism Sites

Davao City has different tourism sites ranging from providing leisure and entertainment to showcasing the city's bountiful nature. As of 2018, there were a total of 126 existing tourism sites (see annex for the full list of tourism sites). Of the total, only 22 tourism sites are accredited by the City Tourism Operations Office (CTOO). Each of the tourism sites offers varied services, amenities and activities (Table EC – 45, see next page).

Of the accredited tourism sites, two (2) are located at the foothills of Mt. Talomo. These are Eden Nature Park and Resort and Loleng's Mountain Resort, where both have man-made features for sports, leisure and office bonding activities. Loleng's Mountain Resort, for instance, has man-made lake while Eden Nature Park and Resort has man-made falls. There are also establishments that are found to have historical accounts like D' Japanese Tunnel in Diversion Road, in Barangay Talomo Proper that highlights the man-made hideout for Japanese soldiers and which were built by Filipino prisoners of war in 1942; and Gumamela Cave Rock Resort in Matina Biao, where there are man-made caves and foxholes established by the Japanese during World War II.

Considered as one of Davao's pride, Philippine Eagles are the main attraction at the Philippine Eagle Center in Malagos, Baguio District while nearby, Waling-Waling orchids are in full-bloom display alongside premium quality cacao, which are raised, cultured, and even processed at Malagos Garden Resort. Different fauna species can also be found at the zoo section of the Davao Crocodile Park while the preserved bone remnants of beached whales and dolphins are featured at D'Bone Collector Museum in Barangay 76-A. The city government also established tourism attractions such as People's Park, Kadayawan Tribal Village in Magsaysay Park and Museo Dabawenyo.

The tourism sites such as Davao Eagle Ridge Resort, Philippine Eagle Center, and Bamboo Sanctuary and Ecological Park are located along the fault line. The Davao Crocodile Park, Seagull Beach Resort, DCG Inland Resort, Felis Resort Complex, Jones Beach Resort, Magsaysay Park (Kadayawan Tribal Village), Mergrande Ocean Resort, People's Park, Villa Carmelita Inland Resort, Museo Dabawenyo and D'Bone Collector Museum were found to have high susceptibility to liquefaction. Mitigating measures have to be implemented by these establishments to prevent or cushion impact of such risks. These establishment should also improve on disaster preparedness given the natural hazards inherent in their respective locations.

Some of these sites also have to pursue mitigating measures as well as improve on disaster preparedness given the natural hazards inherent in their respective locations.

**Table EC – 45. Inventory of Tourism Sites, Davao City, 2018**

Name of Tourist Attraction	Brgy.	Area (ha)	Type of Tourism Products and Services*	Description	Accommodation		Name of Owner	Hazard Susceptibility (Low (L)/Moderate (M)/High (H))			
					Type **	No. of Rooms		Flood (Fl)	Landslide (Ln)	Liquefaction (Lq)	Fault Line (Fa)
Eden Nature Park and Resort	Eden, Toril, Davao City	80	N, C, L	Eden Nature Park and Resort is a mountain resort, which offers fresh food products and different amenities, located at the foothills of Mt. Talomo.	Resort	11	Jesus V. Ayala	-	M	-	-
Davao Crocodile Park	Diversion Road, Ma-a, Davao City	2	N, L, E	Crocodile Park highlights 'state of the art' crocodile farming system.	-	-	Philip Dizon	H	H	H	-
Philippine Eagle Center	Malagos, Baguio District, Davao City	8.4	N	The Philippine Eagle Center is home to 36 Philippine Eagles, 18 of which are captive-bred.	-	-	Philippine Eagle Foundation	L	L	-	V
Malagos Garden	Malagos, Baguio District, Davao City	12	N, L	Malagos Garden highlights homegrown orchids and other Davao-made products. Its latest feature is the Chocolate Museum.	Resort	21	Charita Puentespina	L	L	-	-

Source: City Tourism Operations Office, Davao City and Geographic Information System Division, Office of the City Planning and Development Coordinator, Davao City

\*Based on the Department of Tourism's Development Plan, the types of tourism products and services are nature (N), sun and beach (SB), health, wellness and retirement (H), cultural (C), leisure and entertainment (L), cruise and nautical (CN), diving and marine sports (DM), education (E) and meetings, incentives, conferencing, and exhibitions and events (M).

\*\*The types of accommodation are hotel, resort, inn, pension, others.

**Table EC – 45. Inventory of Tourism Sites, Davao City, 2018, cont.**

Name of Tourist Attraction	Brgy.	Area (ha)	Type of Tourism Products and Services	Description	Accommodation		Name of Owner	Hazard Susceptibility (L/M/H)			
					Type	No. of Rooms		Fl	Ln	Su*	Lq
Jack’s Ridge	Shrine Hills, Matina, Davao City	-	N, L	Jack’s Ridge is located at the mountain ridge of Shrine Hills, where visitors can enjoy the overview of Davao City. It is once part of the Japanese forces’ headquarters during World War II.	Cottage	3	Carmelito Mercado	-	H	2M	-
Loleng’s Mountain Spring Resort	Eden, Toril, Davao City	80	N	Loleng’s Mountain Spring Resort is 95% man-made, built at 3,000 feet above sea level in the mountain slope of Eden.	Resort	10	Guillermo P. Torres Jr.	-	M	-	-
People’s Park	Camus St. Davao City	4	L, E, C	The P72-million People’s Park, which opened on Dec 15, 2007, is a cultural-theme park with mini-forest, interactive fountain and other structures. It has a wide area fit for people into active lifestyle.	-	-	City Government of Davao	L	L	3M	H
Museo Dabawenyo	Magallanes St., Davao City	-	C	The City’s museum is nestled in the former Court of First Instance. It showcases the rich history and diverse cultural heritage of Davao.	-	-	City Government of Davao	L	L	5M	H

Source: City Tourism Operations Office, Davao City and Geographic Information System Division, Office of the City Planning and Development Coordinator, Davao City

\* Storm Surge (Su) is gauged by determining the expected rise of the storm surge in meters (e.g., 2 meters, 3 meters, 4 meters, and 5 meters).

Table EC – 45. Inventory of Tourism Sites, Davao City, 2018, cont.

Name of Tourist Attraction	Brgy.	Area (ha)	Type of Tourism Products and Services	Description	Accommodation		Name of Owner	Hazard Susceptibility (L/M/H)			
					Type	No. of Rooms		Fl	Ln	Su	Lq
Jones Beach Resort	Salakot Drive, Talomo, Davao, City	1	L, SB	Jones Beach Resort is multi-awarded resort beginning 2003 with wide swimming pool and other amenities.	Resort	-	Nene L. Abijar	H	L	2M	H
Felis Resort Complex	Matina Aplaya, Davao	-	L	Felis Resort Complex has different amenities including swimming pool.	Resort	50	Severino Domingo	-	-	2M	H
Gap Farm Resort	Diversion Road, Ma-a, Davao City	10	L,E,N	Gap Farm Resort is famous for educational tours as it features World War II Japanese cave, Indigenous Peoples, Philippine folklore and other structures. It also features different agricultural products.	-	-	Leny Villegas-Castillo	-	H	-	-
D' Japanese Tunnel Family Resort and Restaurant	Balusong Ext., Matina, Davao City	-	C, E	The resort highlights the man-made hideout built by prisoners of war in 1942.	Resort, Hotel	41	Leonora Lim	L	L	-	-
Gumamela Cave Rock Farm Resort	Purok 3, Barangay, Matina Biao, Tugbok District, Davao City	2	N	The resort is bounded by a creek with accretions along the riverbanks, rain forest, waterfalls, springs and natural vegetation. It has also a well-preserved World War II Japanese-made caves and foxholes.	-	-	Dr. Carlos T. Capitan	M	L	-	-

Source: City Tourism Operations Office, Davao City and Geographic Information System Division, Office of the City Planning and Development Coordinator, Davao City

**Table EC – 45. Inventory of Tourism Sites, Davao City, 2018, cont.**

Name of Tourist Attraction	Brgy.	Area (ha)	Type of Tourism Products and Services	Description	Accommodation		Name of Owner	Hazard Susceptibility (L/M/H)				
					Type	No. of Rooms		Fl	Ln	Su	Lq	Fa
Seagull Beach Resort	Punta Dumalag, Talomo, Davao City	-	SB, L	Seagull Beach Resort highlights its white-sand beach and swimming pool.	Resort	20	Elizabeth Dureza	-	-	2M	H	-
D’Leonor Inland Resort	Communal, Buhangin District, Davao City	26	L	D’Leonor Inland Resort is a 26-hectare inland resort and adventure park.	Resort	-	Leonora Lim	-	L	-	-	-
Davao Eagle’s Ridge	Upper Ulas, Talomo, Davao City	-	N, M	Davao Eagle’s Ridge is an inland resort fit for family vacation, business meetings and conferences, wedding reception, pool parties, and other social gatherings.	Resort	-	Carmencita P. Molina	M	L	-	-	v
Kadayawan Tribal Village	Inside Magsaysay Park, Magsaysay, Leon Garcia St., Davao City	3	C, E, L	The Kadayawan Tribal Village showcases the houses of 11 tribes based in the City.	-	-	City Government of Davao	H	L	2M	H	-
Mergrande Ocean Resort	Bago Aplaya, Dumoy, Talomo, Davao City	8.8	L,SB	Mergrande Ocean Resort is classified as a Class AA Beach Resort by the Department of Tourism.	Resort	-	Ernesto C. Evangelista	M	L	2M	-	-
Davao Bamboo Sanctuary	Malagos, Baguio District, Davao City	3.5	N, L, E	Davao Bamboo Sanctuary is an inland resort with green forest cover of 26 varieties of bamboo and other trees.	Resort	5	Rolando De Veyra	H	L	-	-	v

Source: City Tourism Operations Office, Davao City and Geographic Information System Division, Office of the City Planning and Development Coordinator, Davao City



**Table EC – 45. Inventory of Tourism Sites, Davao City, 2018, cont.**

Name of Tourist Attraction	Brgy.	Area (ha)	Type of Tourism Products and Services	Description	Accommodation		Name of Owner	Hazard Susceptibility (L/M/H)			
					Type	No. of Rooms		Fl	Ln	Su	Lq
DCG Inland Resort	Toril, Davao City	-	M	DCG Inland Resort has different amenities including swimming pool and vast function rooms.	Resort	-	Diane G. Simon	-	L	3M	H
Villa Carmelita Inland Resort	Toril, MacArthur Highway, Davao City	26	L	Villa Carmelita Inland Resort has swimming pool, hotel, function rooms and other amenities.	Resort and hotel	21	Erdonio T. Lictaoa	L	L	-	L
D' Bone Collector Museum	Brgy. 76-A, Davao City	750 sq. meters	E	D' Bone Collector Museum houses over 6,500 specimens including relics of African lion, southern white rhino, whales and hippopotamus.	-	-	Darrell D. Blatchley	H	L	2M	H

Source: City Tourism Operations Office, Davao City and Geographic Information System Division, Office of the City Planning and Development Coordinator, Davao City

## b. Accessibility of Existing Tourism Sites and Tourist Attractions

All accredited tourism sites are accessible by land. Only the roads leading to Mergrande Ocean Resort and Davao Bamboo Sanctuary are unpaved. Tourism sites such as D'Leonor Inland Resort, Crocodile Park, and Gap Farm Resort are near the Davao International Airport (Francisco Bangoy International Airport) with a distance of 5 kilometers (kms.), 8.1 kms., and 9.1 kms., respectively while Kadayawan Tribal Village is only 450 meters (m) away from Sta. Ana Wharf. Most of the establishments are near a national highway.

**Table EC – 46. Accessibility of Existing Tourism Sites and Tourist Attractions, Davao City, 2018**

Name of Tourism Site	Means of Transportation*	Distance from Nearest Airport (km)	Distance from Nearest Seaport (km)	Distance from National Highway (km)	Access Road**		Accessibility
					Pavement	Condition	
Eden Nature Park	Land	36	41.3	13	Cement	Good	Accessible all year round by ordinary vehicle
Davao Crocodile Park	Land	8.1	12.7	1.57	Asphalt	Good	Accessible all year round by ordinary vehicle
Philippine Eagle Center	Land	41	44	5	Cement	Good	Accessible all year round by ordinary vehicle
Museo Dabawenyo	Land	10.1	9.5	4.9	Asphalt	Fair	Accessible all year round by ordinary vehicle
Malagos Garden	Land	38.6	43	3.4	Cement	Good	Accessible all year round by ordinary vehicle
Gap Farm Resort	Land	9.1	13.5	0.05	Cement	Good	Accessible all year round by ordinary vehicle
Peoples Park	Land	10	9.5	0.13	Cement	Good	Accessible all year round by ordinary vehicle
Bone Museum	Land	10.1	9.6	0.90	Cement	Good	Accessible all year round by ordinary vehicle

Source: City Tourism Operations Office, Davao City

\* Means of transportation include land, air and water.

\*\* Access road are either paved (cement, asphalt) or unpaved (gravel, earth). It varies whether the condition is good, fair or poor.

Table EC – 46. Accessibility of Existing Tourism Sites and Tourist Attractions, Davao City, 2018, cont.

Name of Tourism Site	Means of Transportation*	Distance from Nearest Airport (km)	Distance from Nearest Seaport (km)	Distance from National Highway (km)	Access Road**		Accessibility
					Pavement	Condition	
Jones Beach Resort	Land	18.2	23	3.2	Cement	Good	Accessible all year round by ordinary vehicle
Gumamela Cave Rock	Land	29	34	18	Cement	Good	Accessible all year round by ordinary vehicle
Japanese Tunnel	Land	15	13.9	0.003	Cement	Good	Accessible all year round by ordinary vehicle
Villa Carmelita Inland Resort	Land	24.3	16	0.22	Cement	Good	Accessible all year round by ordinary vehicle
Lolengs Mountain Resort	Land	34.6	27.5	0.11	Cement	Good	Accessible all year round by ordinary vehicle
Davao Eagle Ridge	Land	18.8	11.8	0.26	Cement	Good	Accessible all year round by ordinary vehicle
Kadawayan Tribal Village	Land	8.9	450 m	0.02	Cement	Good	Accessible all year round by ordinary vehicle
Mergrande Ocean Resort	Land	21.9	14.8	1.71	Unpaved (Gravel)	Fair	Accessible all year round by ordinary vehicle
Davao Bamboo Sanctuary	Land	39.3	19.6	1.54	Unpaved (earth)	Fair	Accessible all year round by ordinary vehicle
DCG Inland Resort	Land	26.7	19.6	2.10	Cement	Good	Accessible all year round by ordinary vehicle
Felis Resort Complex	Land	16.2	15	3	Cement	Good	Accessible all year round by ordinary vehicle
Jack's Ridge	Land	13.4	18	2.4	Cement	Good	Accessible all year round by ordinary vehicle
Seagull Beach Resort	Land	18	16.7	5.5	Cement	Good	Accessible all year round by ordinary vehicle
D'Leonor Inland Resort	Land	5	9.5	4	Cement	Good	Accessible all year round by ordinary vehicle

Source: City Tourism Operations Office, Davao City

### c. Inventory of Tourism Sites and Support Facilities, 2018

All accredited tourism sites cater to local and foreign tourists. Majority of the tourism sites have swimming pools and restaurants. Function rooms are available in D’ Leonor Inland Resort, Felis Resort Complex, Eden Nature Park and Resort, Malagos Garden Resort, Villa Carmelita Inland Resort, Davao Eagle Ridge and DCG Inland Resort. Most of the sites amenities were built for fun, adventure and leisure. Themed museums are present in Crocodile Park (The Wild Museum) and Malagos Garden Resort (Chocolate Museum and Butterfly Museum). All accredited tourism sites have first aid kits. Only Eden Nature Park and Resort and Crocodile Park have Employees’ Clinic. Banks, money changers, and ATM machines, however, are not present in any of the accredited tourism sites. The offices of tour operators or travel agencies are also non-existent in the accredited tourism sites.

**Table EC – 47. Inventory of Tourism sites and Support Facilities, Davao City, 2018**

Name of Tourism Site	Facilities Present*						No. of Employees	Markets Catered
	AF	CF	MF	EF	S/F	Others		
Seagull Resort	White-sand Beach Resort, Inflatable Waterpark, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Floating Restaurant, Coffee Shop	Souvenir Shop	Recreational Facility, KTV Bar	15	Local/ National/ International
D’Leonor Inland Resort	Inland Resort, Wave Pool with Giant Slide and Bumper Boats, Spa, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant, Coffee Shop	Souvenir Shop	Function Hall, Theme Park with three various rides, wall climbing, ATV, Zipline, Go Kart and Mini Golf Course	245	Local/ National/ International

Source: City Tourism Operations Office, Davao City and City Treasurer’s Office, Davao City

\* Facilities include: af – accommodation facilities (hotels, resorts, picnic huts, cottages, comfort rooms, dressing/change rooms, swimming pool, vehicular parking); ff – financial facilities (banks and money changers); cf – communication facilities (telecommunication); mf – medical facilities (hospitals, clinics); ef – restaurants and other eating facilities; s/f – shopping facilities; tr – travel agencies and tour operators, airline offices, passenger ferry/shipping services, tourist transport operators/rent-a-car; and others – churches and other religious facilities, town, plaza, parks, zoos, recreational facilities, other entertainment facilities.

Table EC – 47. Inventory of Tourism sites and Support Facilities, Davao City, 2018, cont.

Name of Tourism Site	Facilities Present*						No. of Employees	Markets Catered
	AF	CF	MF	EF	S/F	Others		
Jones Beach Resort	Inland Resort, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant	-	KTV Bar	9	Local/ National/ International
Felis Resort Complex	Cottages, Inland Resort, Swimming Pool Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant	-	Function Rooms, Viewdeck, KTV Bar	37	Local/ National/ International
Gap Farm	Resort, Swimming pool, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant	Souvenir Shop	Farm, Chapel, Theme Park	2	Local/ National/ International
People's Park	Picnic huts, Comfort Rooms, Vehicular Parking	Telephone, Internet	-	Food stalls	The park is beside the City-owned Pasalubong Center	Theme Park with man-made structures such as falls, pond, and fountain, Playground	100	Local/ National/ International
D' Bone Collector Museum	Comfort Rooms	Telephone, Internet	-	-	Souvenir Shop	-	3	Local/ National/ International
Jack's Ridge	Resort, Swimming Pool, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Taklobo Restaurant, Kai's Bar and Grill, Karlo's Gourmet and Coffee	Souvenir Shop	Penmar Hall I and II, Tap Room Piano and KTV, Playground, Amphitheater	45	Local/ National/ International

Source: City Tourism Operations Office, Davao City and City Treasurer's Office, Davao City

Table EC – 47. Inventory of Tourism sites and Support Facilities, Davao City, 2018, cont.

Name of Tourism Site	Facilities Present*						No. of Employees	Markets Catered
	AF	CF	MF	EF	S/F	Others		
Eden Nature Park and Resort	Resort, Cottages, Swimming Pool, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	Employees' Clinic	Vista Restaurant (which offers fresh farm products), Café Vista, Fisher's Grill (fresh catch seafood) and Skyview Café	Souvenir Shop	Function Halls, Fishing Village, Horseback Riding, Amphitheater, Aviary, Deer Park, Flower Garden, Playground, Farm, Butterfly Garden, Hiking Trail, "Tinubdan" Cultural Park and Extreme Adventure Activities such as Skyrider, Skycycle, Indiana Jones, and Sky Swing	69	Local/ National/ International
Crocodile Park	Comfort Rooms, Vehicular Parking	Telephone, Internet	Employees' Clinic	Restaurant, which highlights roasted Crocodile, Crocodile ice-cream and Civet coffee	Souvenir Shop	Butterfly House, The Wild Museum and Tribu K'Mindanawon (Cultural Village)	42	Local/ National/ International
Philippine Eagle Foundation	Comfort Rooms, Vehicular Parking	Telephone, Internet	-	Cafeteria	Souvenir Shop	Zoo, Forest	44	Local/ National/ International
Museo Dabawenyo	Comfort Rooms	Telephone, Internet	-	-	-	-	24	Local/ National/ International

Source: City Tourism Operations Office, Davao City and City Treasurer's Office, Davao City



Table EC – 47. Inventory of Tourism sites and Support Facilities, Davao City, 2018, cont.

Name of Tourism Site	Facilities Present*						No. of Employees	Markets Catered
	AF	CF	MF	EF	S/F	Others		
Malagos Garden	Resort, Swimming Pool, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Koi Café, Viewdeck Café, Malagos Chocolate Bar, Roberto's Garden Restaurant	Souvenir Shop (which also sells Malagos Cheese and Malagos Chocolate)	Malagos Chocolate Laboratory, Chocolate Museum, Function Rooms, Playground, Treeline, Birdwatching Deck, Museo de Mariposa (Butterfly Museum), Bird Feeding Dome, Powerplay, Butterfly Dome, Petting Zoo, Music Lounge, Horseback Riding, Calesa Ride, Billiard Hall, Mindanao Contemporary Art Gallery, Waling Waling (Orchid) Forest, Zen Garden, Noah's Deck	2	Local/ National/ International
Gumamela Cave Rock	Resort, Swimming pool, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant	Souvenir Shop	Garden, Historical Cave and Foxholes	9	Local/ National/ International
D' Japanese Tunnel	Resort, Swimming pool, Cottages, Hotel, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant and Sushi Bar	Souvenir Shop	Historical Tunnel	50	Local/ National/ International
Villa Carmelita Inland Resort	Resort, Cottages, Hotel, Swimming pool, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant	-	Multi-Function Room, KTV Bar	11	Local/ National/ International

Source: City Tourism Operations Office, Davao City and City Treasurer's Office, Davao City

Table EC – 47. Inventory of Tourism sites and Support Facilities, Davao City, 2018, cont.

Name of Tourism Site	Facilities Present*						No. of Employees	Markets Catered
	AF	CF	MF	EF	S/F	Others		
Lolengs Mountain Resort	Resort, Free-flowing spring water swimming pool, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Loleng's Grill and Maia's Café Restaurant	Souvenir Shop	Recreation Facility, Camping Site, Tennis Court, Basketball Court, Playground, Fishing, Boating, Chapel	7	Local/ National/ International
Davao Eagle Ridge	Resort, Swimming pool, Hotel, Cabana, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Anthon's Grill, Open Dining Hall	-	Function Rooms, Playground, Garden, Gazebo	10	Local/ National/ International
Kadayawan Tribal Village	Comfort Rooms, Vehicular Parking	Telephone, Internet	-	Food stalls	Souvenir Shop	Park	-	Local/ National/ International
Mergrande Ocean Resort	Resort, cottages Swimming pool, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Canteen, Store, Restaurant, Bar	Souvenir Shop and Store (swimsuits, goggles, lifebuoys)	Convention Hall, Events Dome, Billiard Hall, Fishing Village, 18-hole mini-golf course, Recreational Facility, KTV Bar, Playground, Park	35	Local/ National/ International
Bamboo Sanctuary	Resort, Spring swimming pool, Spa, Cottages, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant	-	Dome Garden, Shekinah Hall, Pond, Kayaking, Gondola, Fishing, ATV, UTV, KTV Bar	-	Local/ National/ International
DCG Inland Resort	Resort, Cottages, Swimming pool, Comfort Rooms, Dressing/Change Rooms, Vehicular Parking	Telephone, Internet	-	Restaurant	-	Function Hall, Playground, Billiard, Garden, KTV Bar	3	Local/ National/ International

Source: City Tourism Operations Office, Davao City and City Treasurer's Office, Davao City

#### d. Local Revenue and Employment by Tourism Activities for the Past Five Years

Three (3) of the 22 accredited tourism sites are under the management of the city government. The rest are privately-owned. Of the private-owned tourism sites, the 80-hectare Eden Nature Park and Resort remain the leading taxpayer. Its tax dues increased by 98%, that amounted to P919,772 in 2018 from P 463,785 in 2014.

**Table EC – 48. Local Revenue and Employment by Tourism Activities for the Past Five Years, Davao City, 2014-2018**

Name of Tourist Attraction/ Establishment	2014		2015		2016		2017		2018	
	Revenue	Employment	Revenue	Employment	Revenue	Employment	Revenue	Employment	Revenue	Employment
Eden Nature Park	463,785.28	52	544,089.40	58	653,284.08	59	849,924.04	66	919,772.36	69
Crocodile Park	37,030.72	38	8,560.72	40	9,351.04	42	9,351.12	41	21,013.48	42
Philippine Eagle	11,116.80	36	11,704.36	41	11,929.72	41	12,053.36	41	13,269.32	44
Museo Dabawenyo	-	24	-	24	-	24	-	24	-	24
Malagos Garden	68,414.60	65	74,992.16	65	98,964.08	53	108,754.28	53	89,470.28	42
Gap Farm	-	2	2,142.80	2	2,933.16	2	4,015.00	2	4,416.48	2
People's Park	-	100	-	100	-	100	-	100	-	100
Bone Museum	13,612.48	3	15,262.48	3	19,085.00	3	19,085.00	3	20,993.52	3
Jones Beach Resort	51,792.48	17	54,755.64	18	57,783.24	18	70,306.28	18	69,024.92	9
Felis Resort Complex	92,527.16	40	66,564.60	34	55,607.32	37	62,443.68	37	91,207.24	37
Jack's Ridge	206,632.96	57	254,445.85	57	292,748.36	45	318,399.52	45	343,832.04	45
Seagull Beach Resort	14,433.08	17	16,066.68	13	22,806.96	12	23,412.04	11	27,284.32	15
D'Leonor Inland Resort	314,846.88	234	267,689.48	234	245,820.44	176	434,059.68	222	517,612.32	245
Gumamela Cave Rock	12,347.64	9	16,450.00	9	26,886.60	9	27,140.16	9	16,934.08	9
Japanese Tunnel	51,567.72	63	33,153.76	53	30,929.08	46	53,963.32	50	57,629.80	50
Villa Carmelita Inland Resort	54,983.48	8	61,745.52	10	87,122.04	11	80,114.24	11	97,248.72	11
Loleng's Mountain Resort	38,245.68	7	40,051.84	7	42,673.76	7	47,762.80	7	57,789.44	7
Davao Eagle Ridge	16,655.04	8	17,793.24	9	23,263.40	12	34,395.60	9	47,958.72	10
Mergrande Ocean Resort	190,770.52	31	195,545.64	32	202,674.56	32	203,345.04	32	238,234.28	35
Bamboo Sanctuary	-	-	-	-	-	-	-	-	20,993.52	-
DCG Inland Resort	7,970.00	3	10,148.12	3	11,592.12	3	16,734.72	3	12,424.88	3
<b>Total</b>	<b>1,646,732.52</b>	<b>690</b>	<b>1,691,162.29</b>	<b>688</b>	<b>1,895,454.96</b>	<b>608</b>	<b>2,375,259.88</b>	<b>660</b>	<b>2,619,151.00</b>	<b>678</b>

Source: City Treasurer's Office, Davao City

## e. Inventory of Tourists by Country of Origin for the Past Five Years

Davao City contributes 60% share to the total tourist arrivals in Davao Region, mainly because of its Davao International Airport, the Sasa port and being the main terminal for interprovincial bus routes across Mindanao. As of 2018, tourist arrivals in Davao City reached 2,393,395, who are mostly comprised of domestic tourists (92%). Foreign tourists constitute eight percent (8%) of the total. The top foreign markets are the tourists from United States (21,324), Japan (12,800), China (10,827), Korea (8,936) and Australia (7,117).

**Table EC – 49. Number of Tourists by Country of Origin for the Past Five Years, Davao City, 2014-2018**

Country of Residence	2014	2015	2016	2017	2018
<b>Region XI</b>	<b>2,524,795</b>	<b>2,838,806</b>	<b>3,006,962</b>	<b>3,238,929</b>	<b>3,975,528</b>
<b>Domestic</b>	<b>2,387,116</b>	<b>2,664,324</b>	<b>2,850,801</b>	<b>3,090,821</b>	<b>3,777,514</b>
Domestic Travellers/Tourists	2,380,104	2,649,625	2,827,480	3,042,801	3,716,546
Balikbayan	7,012	14,699	23,321	48,020	60,968
<b>Foreign</b>	<b>137,679</b>	<b>174,482</b>	<b>156,161</b>	<b>148,108</b>	<b>198,014</b>
<b>Davao City</b>	<b>1,529,907</b>	<b>1,730,327</b>	<b>1,864,355</b>	<b>2,012,629</b>	<b>2,393,395</b>
<b>Domestic</b>	<b>1,418,354</b>	<b>1,601,387</b>	<b>1,739,480</b>	<b>1,886,331</b>	<b>2,208,900</b>
Domestic Travellers/Tourists	1,411,342	1,586,688	1,716,224	1,838,311	2,150,185
Balikbayan	7,012	14,699	23,256	48,020	58,715
<b>Foreign</b>	<b>111,553</b>	<b>128,940</b>	<b>124,875</b>	<b>126,298</b>	<b>184,495</b>
<b>Asia</b>					
Bahrain	851	348	277	208	491
Bangladesh	448	169	126	273	254
Brunei	544	301	193	377	256
Cambodia	93	204	125	368	462
China	5,409	7,013	8,816	9,236	10,827
Egypt	454	314	110	137	277
Hongkong	2,197	966	1,171	1,323	1,832
India	2,228	3,182	2,835	4,979	6,509
Indonesia	1,502	994	965	1,253	1,555
Iran	17	244	160	184	273
Israel	332	495	205	211	404
Japan	9,207	11,459	14,133	12,513	12,800
Jordan	71	185	246	279	303
Korea	6,964	8,658	8,460	7,553	8,936
Kuwait	711	576	558	650	981
Laos	38	162	122	165	157
Malaysia	2,434	1,938	2,049	2,024	2,449
Myanmar	208	265	114	166	336
Nepal	49	117	78	129	257
Pakistan	99	262	218	414	706
Saudi Arabia	1,617	1,631	2,144	2,372	2,242
Singapore	3,006	3,571	4,135	4,041	4,985
Sri Lanka	511	349	117	117	135

Source: City Tourism Operations Office, Davao City, Philippine Statistics Authority, Region XI, and Department of Tourism, Region

**Table EC – 49. Number of Tourists by Country of Origin for the Past Five Years, Davao City, 2014-2018, cont.**

Country of Residence	2014	2015	2016	2017	2018
Taiwan	1,800	1,464	1,217	1,846	1,868
Thailand	1,512	1,484	1,428	1,881	2,338
United Arab Emirates	1,885	1,520	1,414	1,950	2,703
Vietnam	421	560	306	484	901
<b>North America</b>					
Canada	2,907	4,285	3,435	4,017	5,392
Mexico	1,104	653	299	439	820
USA	13,014	19,220	22,859	20,787	21,324
<b>South America</b>					
Argentina	82	395	150	162	310
Brazil	89	640	198	229	580
Colombia	86	430	115	171	162
Peru	78	179	87	111	184
Venezuela	79	312	44	84	213
<b>Europe</b>					
Austria	1,254	1,288	727	988	1,188
Belgium	929	783	346	312	457
Commonwealth Independent States	97	21	48	69	45
Denmark	1,076	599	525	815	696
Finland	726	289	232	272	352
France	1,605	963	943	779	1,304
Germany	2,464	2,190	2,198	1,965	2,398
Greece	1,058	327	238	214	506
Ireland	742	540	454	440	708
Italy	1,330	1,017	836	878	1,099
Luxembourg	12	184	92	96	108
Netherlands	1,471	797	625	764	1,376
Norway	1,371	1,066	807	790	1,176
Poland	562	197	140	140	192
Portugal	640	180	132	140	144
Russia	1,274	676	259	454	681
Serbia & Montenegro		38	29	27	45
Spain	1,208	956	641	692	1,166
Sweden	958	698	561	476	790
Switzerland	1,464	1,041	1,114	1,066	1,513
United Kingdom	3,236	3,859	4,156	3,285	4,287
<b>Oceania</b>					
Australia	4,632	6,083	6,323	5,930	7,117
Guam	626	586	131	223	213
Nauru	31	228	19	17	57
New Zealand	923	1,145	992	1,271	1,865
Papua New Guinea	59	341	241	97	112
<b>Africa</b>					
Nigeria	114	331	233	93	111
South Africa	247	339	233	228	436
<b>Others</b>	19,397	27,633	22,691	22,644	60,111

Source: City Tourism Operations Office, Davao City, Philippine Statistics Authority, Region XI, and Department of Tourism, Region

## f. Cultural and Tourism Activities/Festivals

The city government spearheads the holding of annual festivities, to generate tourism and business activities in the city. Its major activities are the Chinese New Year Festival in February, the city's founding anniversary celebration (Araw ng Davao) in March, the Kadayawan Festival (a celebration of bountiful flora and fauna) in August and the Pasko Fiesta (Christmas Festival) in December.

Kadayawan Festival is the biggest event in the city, with more than 250,000 tourists arrivals to witness the Mindanao's festival of all festivals. It is originally called as Apo Duwaling in 1986 as a combination of Mt. Apo, Durian and Waling-Waling and it was renamed Kadayawan Festival two years later. The festivity honors the 11 tribes in the city and celebrates the grand harvests every month of August. Activities in the festival include Indak-Indak sa Kadalanan (a street dance competition), Pamulak sa Kadayawan (floral float parade), Hiyas sa Kadayawan (a pageant of the fairest female among the 11 tribes), Subang Sinugdanan (tribal fluvial parade), Panagtagbo (tribal convergence), Dula Kadayawan (tribal games), Kadayawan Dragon Boat Festival, Pitik Kadayawan (drumbeating competition), Tunog sa Kadayawan (song writing contest), and Tambayayong Kadayawan (traditional dance and song competition).

Sports tourism-related activities are also being held at specific periods of the year in Davao city. These include the conduct of fun run, motocross, off-road race, trail run, triathlon, and other sports-tourism related activities. In the first semester of 2019 alone, the city hosted major sports activities including Davao Region Athletic Association Meet (a regional event), Palarong Pambansa (a national activity), and Ironman 70.3 Triathlon (an international event). All these activities and festivities are seen to further spur the number of local and foreign tourists in the City.

**Table EC – 50. Cultural and Tourism Activities/Festivals, Davao City**

Activity	Frequency of Activity	Duration of Activity
Chinese New Year Festival	Once a year	First week of February
Araw ng Davao	Once a year	One week (March)
Kadayawan Festival	Once a year	One week (August)
Pasko Fiesta	Once a year	Whole month of December
Pantatan Festival	Once a year	Last week of October
Accredited Sports Tourism-Related Activities	Anytime of the year	One to two days

Source: City Tourism Operation Office, Davao City and Museo Dabawenyo, Davao City



## Situational Analysis

Davao City positions itself as a prime gateway for a variety of destinations that highlight natural resource endowments, agriculture, rich history and ethnic cultures. To develop the drawing potential of the city's destinations, supplementary infrastructure facilities are needed to support the development of the tourism industry.

Under the 2016-2019 Executive Legislative Agenda (ELA), among the needed projects include information centers, signages in international languages, and community-based village museum. Roads leading to tourist destinations provide ease for both domestic and foreign tourists. Access roads particularly those leading to Mergrande Ocean Resort in Bago Aplaya, Dumoy Talomo District and Davao Bamboo Sanctuary in Malagos, Baguio District shall be paved for smoother access to these tourism sites. Other facilities like money changers and travel agency offices shall also be established in tourism sites.

The city government also provides fiscal incentives to investors of tourism and recreation facilities, which are among the top 10 preferred investment areas of Davao City. The city welcomes those who want to venture in projects like retirement villages, mountain resorts, theme parks, hotels, convention centers, novel and innovative facilities, medical tourism facilities, eco and agri-tourism parks, historical and cultural heritage projects.

In the long-term, the 2018-2045 Infrastructure Modernization Plan cites the need to establish a tourism development corridor project, which features Davao's history and agriculture. The corridor diverges from Toril District and extends to Calinan District and at the foothills of Mt. Apo. The corridor is targeted to consist of the following:

- a. Farm/agri-tourism circuit in Toril District – The circuit will have observation tours, exhibitions, and agriculture-related events, where the Davao Food Complex (DFC) in Daliao, Toril is proposed to be the center of the circuit.
- b. Little Tokyo in Mintal – Mintal is dubbed as Little Tokyo as it is a major agricultural and residential area of Japanese immigrants in the pre-war period. The city's 20.2-hectare property will be developed as a destination with signages, visitor information center, museum, parking lots, paved roads, and other facilities.
- c. Davao Pioneer Museum in Calinan District – This will replace the Philippine-Japan Historical Museum managed by the Philippine Nikkei-Jin Kai, Inc., which consists of old relics, Japanese World War II vintage books, pamphlets, and other materials.
- d. Madayaw Traveler's Station in Los Amigos, Tugbok District – This will offer tourists a nice view of Mt. Apo. It will have a parking lot, comfort rooms, tourist information center, souvenir shop, restaurant, and other facilities. The traveler's station is intended to make tourists enjoy shopping and eating local food products.
- e. Kadayawan Cultural Village in Eden, Toril District - This is proposed to be set up in the 10.2 hectares of property of the City Government, which will include a multi-purpose amphitheatre, a cultural village that highlights the traditions of the 11 tribes based in the City, prayer areas, restaurants, souvenir shop, parking spaces, comfort rooms, and other facilities.

## Pressing Issues

The city government shall intensify its efforts in strictly enforcing the laws, such as Zoning Ordinance and Tourism Code to curb the existence of unregulated tourism sites.

The city government discovered that there were tourism sites in non-tourism development zones particularly in Marilog and Paquibato Districts. Of the 50 inspected tourism sites in 2018 most were located in landslide prone areas. The inspection team found out that there were 13 tourism sites in agricultural non-tillage zone, eight (8) in conservation zone, three (3) in landslide mitigation zone, five (5) in marginal agricultural land sub-zone and two (2) rural settlement area. Only 19 were situated in tourism development zone, but failed to secure business permits. Most of the tourism sites are also located in landslide-prone areas.

The owners of the tourism sites have been given notices to secure the necessary permits and establish disaster-risk mitigating measures. Another conservation zone, classified as Conservation Zone 2 (CZ2), has been designated to allow eco-tourism as an allowable activity in areas that are already identified as conservation zone. Agri-tourism shall likewise be an allowable activity in the agro-non-tillage zone.

## Potential Tourist Attractions

The CTOO is on the lookout for potential tourist attractions especially in far-flung areas or sites that could be packaged by introducing improvements. Feasible locations are mostly in the Third District, particularly in Sitio Datu Sicao, Tamayong, Calinan District, Barangay Datu Salumay, Marilog District, and Barangay Carmen, Baguio District. Only the potential site in Barangay Tapak in Paquibato District is situated in the Second District.

The development of Sitio Datu Sicao, Tamayong as a tourist destination is part of the strategy to strictly enforce the ordinance that prohibits trekking activities in Mt. Talomo, where the sitio was earlier utilized as part of the trail leading to the mountain. Sicao Falls, Daragdag Falls and Cultural Village of the Bagobo K'lata are among the tourist attractions in Barangay Tamayong. The potential site in Barangay Datu Salumay, on the other hand, is aimed to be established with tribal village of the Matigsalog tribe. This is intended to provide livelihood and promote the culinary treats of the tribe. The development of Barangay Carmen and Barangay Tapak as tourist destinations are also anchored on the goal to promote peace and prevent insurgencies in the areas. The development is projected to generate income or job opportunities even to the rebel returnees who reside within those sites.

Another potential tourist attraction is Chinatown in Barangays Kapitan Tomas Monteverde, 27-C and 30-C; and portions of Barangays 13-B, 14-B, 26-C, 28-C, and 29-C. The city's Chinatown is poised to become a shopping mecca, walkable destination, and food hub. It is currently zoned as Tourism Development Zone in the 2013-2022 Comprehensive Land Use Plan (CLUP). However, its current zone makes the existing commercial establishments non-conforming to what is allowed in the area. As of 2018, there were 1,411 establishments in Chinatown areas (see annex for full list of details). A large pie or 21% of the establishments was into trucking services (294 establishments) followed by merchandisers (198) and service/manpower contractors (185). As the dominant use in the area was

commercial, the entire Chinatown shall be rezoned to commercial zone. A Cultural Tourism Development Overlay Zone shall be integrated in the area to allow tourist-related establishments and other facilities.

Also, the existing and new establishments in Chinatown shall be required to have Chinese-themed facades. The Davao City Chinatown Development Council (DCCDC) recommends that the theme of the area shall conform to the traditional/oriental/modern Chinese architecture and bring a visual perception of Chinese culture (see annex for full list of DCCDC's proposals).

There is also the need to have a store/building signage's with 60% Chinese characters and 40% English and way finding signage's with 50% Chinese characters and 50% English within Chinatown areas. Sidewalks shall also be improved for the safety of pedestrians with a clear zone of 2.40 meters and landscape/green zone of 1.2 meters on the roadside. The size of the sidewalk shall be in standard size of 3.60 meters with floor finish that have non-skid coating.

On the susceptibility of the potential tourist attractions to different hazards, proper mitigating measures shall be pursued to curb possible impact brought by natural disasters. Data shown in Table EC – 51 cited that the potential tourism sites in Sitio Datu Sicao, Brgy. Datu Salumay, Brgy. Carmen and Brgy. Tapak have high susceptibility to landslide. Barangays Datu Salumay, Carmen and Tapak and those within Chinatown have high susceptibility to floods. The barangays within Chinatown area are also potentially at risk of liquefaction.

**Table EC – 51. Potential Tourist Attractions in the Locality, Davao City**

Barangay	Potential Attraction*	Within Forest Lands**	Type of Accommodation	Hazard Susceptibility (H/M/L)			
				Fl	Lq	Ln	Su
Sitio Datu Sicao, Brgy. Tamayong, Calinan District	Natural Forest, Falls, Mountain	Protected Area	Homestay	M/H	-	H	-
Antayapan Matigsalug, (CBT) Brgy. Datu Salumay, Marilog District	Cultural	Protected Area	Homestay	-	-	H	-
Brgy. Carmen, Baguio District	Cultural	Protected Area	Homestay	H	-	H	-
Brgy. Tapak (Paquibato District)	Nature and Cultural	Production	Homestay	M/H	-	H	-
Barangays Kapitan Tomas Monteverde, 27-C and 30-C; and portions of Barangays 13-B, 14-B, 26-C, 28-C, and 29-C	Chinatown Development	-	Inns, Hotels	L/M/H	H	L	2M/3M

Source: City Tourism Operation Office, Davao City and Geographic Information System Division, Office of the City Planning and Development Coordinator, Davao City

\* Potential attraction: cave, falls, mountains, beaches, natural forest river, lakes, wetlands (e.g., mangroves)

\*\* Within Forest Lands: indicate whether production or protection area

## CDRA Results

Result of the Climate Change Vulnerability Assessment (CCVA) and Disaster Risk Assessment (DRA) under the Climate and Disaster Risk Assessment (CDRA) bared that the current tourist attractions and destinations, which are either unregistered or registered by the CTOO, are vulnerable and at risk to different hazards.

Under CCVA, the tourist attractions are found to be vulnerable to storm surge, liquefaction, flood, and landslide. There are also presence of active fault line systems. Tourist attractions, mostly beach resorts, in Barangays 27-C, Pampanga, Vicente Hizon, Panacan, Bucana, Matina Aplaya, Talomo Proper, Daliao, and Lizada are moderately vulnerable to storm surge. Those in Barangays 27-C, Pampanga, Vicente Hizon, Panacan, Bucana, Dumoy, Matina Aplaya, Talomo Proper, Ma-a, Daliao, and Lizada are also moderately vulnerable to liquefaction. Among the tourist attractions that are vulnerable to liquefaction are Davao Crocodile Park, Seagull Beach Resort, DCG Inland Resort, Felis Resort Complex, Jones Beach Resort, Magsaysay Park (Kadayawan Tribal Village), Mergrande Ocean Resort, People's Park, Villa Carmelita Inland Resort, Museo Dabawenyo and D'Bone Collector Museum.

Tourist attractions, including Davao Eagle Ridge Resort, Philippine Eagle Center, and Bamboo Sanctuary and Ecological Park, in Barangays Los Amigos, Talomo Proper, Malagos, and Catalunan Pequeño have presence of active fault line systems. A total of 19 barangays and 16 barangays, which have presence of tourist attractions, are vulnerable to floods and landslides, respectively.

With regards to DRA, 16 barangays with tourism-related establishments have experience in flooding. Twelve (12) barangays are highly at risk with flood depth of over one (1) meter. These include Barangays 27-C, Panacan, Bucana, Dumoy, Ma-a, Matina Aplaya, Talomo Proper, Marapangi, Matina Biao, Los Amigos, and Tugbok Proper. Among the tourist attractions that are at high risk to flood are Davao Crocodile Park, Jones Beach Resort, Felis Beach Resort, Gap Farm Resort, D' Japanese Tunnel, Gumamela Cave Rock Resort, Seagull Beach Resort, and Mergrande Ocean Resort.

Tourist attractions in Barangays Megkawayan, Baganihan, Magsaysay, Marilog Proper, Ma-a, and Matina Pangí are also highly at risk to landslides. These include Jack's Ridge Resort, Davao Crocodile Park, and Gap Farm Resort. Tourism-related businesses in Barangays Malagos, Communal, Indangan, Datu Salumay, Malabog, Paquibato, Langub, Bayabas, Eden, and Marapangi are moderately at risk to landslides.

All tourism sites within danger areas have to implement mitigating measures through retrofitting or redesigning of structures and legal provisions of limitations of activities to prevent loss of lives and damage to properties.

## Tourism Analysis Matrix

**Table EC – 52. Tourism Analysis Matrix**

Technical Findings/ Observation	Implications (Effect)	Policy Options/Interventions
<ul style="list-style-type: none"> <li>spread of tourism sites in non-tourism development zones (e.g., agricultural non-tillage zone, conservation zone, landslide mitigation zone)</li> </ul>	<ul style="list-style-type: none"> <li>substandard services</li> <li>incurred LGU revenue loss as most of the tourism sites in non-tourism development zones are not registered by the Business Bureau and accredited by the City Tourism Operations Office</li> <li>most of the identified establishments are located in landslide-prone areas</li> </ul>	<ul style="list-style-type: none"> <li>expand the areas for tourism-related businesses by designating ecotourism an allowable use in conservation zone and integrating agri-tourism as among the allowable activities in agricultural non-tillage zone and CADT areas</li> <li>pursue crackdown against tourism sites, which operate without licenses and permits</li> <li>require tourism sites in landslide-prone areas to pursue disaster-risk mitigating measures</li> </ul>
<ul style="list-style-type: none"> <li>presence of unregulated tourism sites/tour operators/</li> <li>Non-registration of tourist transportation vehicles</li> </ul>	<ul style="list-style-type: none"> <li>substandard services</li> <li>uncollected taxes/LGU revenue loss</li> <li>weak consumer protection</li> </ul>	<ul style="list-style-type: none"> <li>implement crackdown against tourism sites, which operate without licenses and permits</li> <li>pursue amendment of Tourism Code to include the need to have tourism standards compliance and require all tourism sites advertising in social media platforms to prominently display their business permit QR codes as way to protect the consumers against scammers and unregistered tourism sites</li> </ul>
<ul style="list-style-type: none"> <li>there is a hotel-room demand-supply gap due to insufficient number of hotel rooms</li> </ul>	<ul style="list-style-type: none"> <li>tourists may opt to transfer in neighbouring areas where there are accommodation facilities</li> <li>large groups of tourists may be discouraged to stay in the City</li> </ul>	<ul style="list-style-type: none"> <li>Encourage online marketplace for arranging/offering homestays and lodging (e.g AirBnB)</li> <li>encourage investors to venture into the establishment of hotels and other accommodation facilities</li> </ul>
<ul style="list-style-type: none"> <li>polluted waters along beach resorts</li> </ul>	<ul style="list-style-type: none"> <li>health hazard</li> </ul>	<ul style="list-style-type: none"> <li>impose closure of the establishments that lack untreated waste water discharge</li> <li>require Waste Water Treatment Facilities (WWTF) in every beach resort</li> <li>observe easement along waterways</li> </ul>
<ul style="list-style-type: none"> <li>lack of designated areas that offer culinary tourism</li> </ul>	<ul style="list-style-type: none"> <li>low income</li> <li>cannot maximize the purchasing power of tourists</li> </ul>	<ul style="list-style-type: none"> <li>coordinate with the Department of Tourism and private sectors to identify areas for culinary tourism</li> </ul>
<ul style="list-style-type: none"> <li>lack of tourism-related amenities (e.g., inns, shopping center) in transport terminals</li> </ul>	<ul style="list-style-type: none"> <li>no tourist exciting and impressive transport terminal experience</li> </ul>	<ul style="list-style-type: none"> <li>request the Department of Transportation to improve all transport terminals as tourist destination</li> </ul>

## Tourism Analysis Matrix

**Table EC – 52. Tourism Analysis Matrix, cont.**

Technical Findings/ Observation	Implications (Effect)	Policy Options/Interventions
<ul style="list-style-type: none"> <li>congested sidewalks due to presence of street vendors</li> </ul>	<ul style="list-style-type: none"> <li>inconvenient to commuters/ tourists</li> </ul>	<ul style="list-style-type: none"> <li>identify strategic areas for vendors</li> <li>prohibit vendors in near cross walks with high density populated area</li> <li>pursue a walkable city concept</li> </ul>
<ul style="list-style-type: none"> <li>The intended plans for Chinatown Area is not suitable with its current zone (Tourism Development Zone in the 2013-2022).</li> </ul>	<ul style="list-style-type: none"> <li>hampered commercial growth, resulting to loss of revenue and employment opportunities</li> </ul>	<ul style="list-style-type: none"> <li>designate Chinatown as Commercial Zone (base zone) with an overlay of Cultural Tourism Development Overlay Zone to ensure the viability of the Chinatown District as a world class commercial and business destination with a thriving and well-preserved Chinese cultural heritage</li> <li>existing/new establishments shall be required to adopt Chinese thematic designs</li> <li>rehabilitate all sidewalks and pavements within the Chinatown District, where Chinese thematic designs shall be highlighted along the sidewalks</li> </ul>
<ul style="list-style-type: none"> <li>limited presence of historical landmarks/tourist attractions</li> </ul>	<ul style="list-style-type: none"> <li>tourists will have less tourism experience</li> <li>tourists may opt to transfer in other areas</li> </ul>	<ul style="list-style-type: none"> <li>establish historical landmarks that will attract tourists</li> <li>entice investors to venture in developing tourist attractions/destinations</li> </ul>
<ul style="list-style-type: none"> <li>need to establish/ upgrade infrastructure to support tourism development</li> </ul>	<ul style="list-style-type: none"> <li>low revenue</li> <li>cannot maximize the purchasing power of tourist</li> </ul>	<ul style="list-style-type: none"> <li>implement Tourism Infrastructure Enhancement Program of DOT and City Government</li> <li>install signages in different international languages</li> <li>establish additional information centers</li> <li>develop on-site and off-site facilities for tourism destination</li> </ul>
<ul style="list-style-type: none"> <li>commercialization of the cultural heritage of the indigenous people (IP)</li> </ul>	<ul style="list-style-type: none"> <li>continuous exploitation of IPs and possible destruction of their social values</li> </ul>	<ul style="list-style-type: none"> <li>designate Brgy. Malagos and Marilog Proper as tourism and eco-tourism areas</li> <li>establish community-based village museum for traditions and culture in Brgy. Datu Salumay, Marilog District</li> <li>establish Cultural and IP Knowledge Center</li> </ul>
<ul style="list-style-type: none"> <li>presence of tourism sites in nine (9) barangays that are vulnerable to storm surge, four (4) barangays with active fault line systems, 12 barangays that are vulnerable to liquefaction, 17 barangays that are at risk to floods and 16 barangays that are at risk to landslides</li> </ul>	<ul style="list-style-type: none"> <li>possible loss of lives and damage to properties</li> </ul>	<ul style="list-style-type: none"> <li>strict implementation of Zoning Ordinance</li> <li>tourist establishments shall have mandatory retrofitting or redesigning of structures and limiting of tourism-related activities</li> </ul>



## Tourism Related Programs and Projects, 2018

**Table EC – 53. Tourism Related Programs and Projects, Davao City, 2018**

Programs/Projects	Location	Budget Allocation	Schedule of Implementation	Funding Source	Implementing Agencies
City Tourism Master Plan	Davao City	₱10 million	December 2018	TIEZA	CTOO, CPDO
Kadayawan Tribal Village Enhancement	Magsaysay Park, Sta. Ana Ave., Davao City	₱550,000	2018	ADF	CTOO, CMO, CTO, City Architect, CEO, CENRO
Development of Community-based Village Museum for Traditions and Culture in Sitio Sicao	Brgy. Tamayong, Calinan District	₱302,940	2018	ADF	CTOO, CEO, CMO, CPDO, CTO, PSSCC
Development of Community-based Village Museum for Traditions and Culture in Antayapan Tribal Village	Datu Salumay, Marilog District				
Araw ng Davao 2018	Davao City	CTOO- ₱13,775,470 CIO – ₱244,550 Trust fund - ₱2,535,175 CMO- ₱5,532,805	March 2018	ADF	CTOO, CMO, CIO, CTO, CAO, Araw ng Davao Executive Committee
Kadayawan sa Davao 2018	Davao City	CTOO- ₱37,063,563.28 Trust Fund ₱19,490,150 CMO - ₱4,850,520 CIO - ₱575,000	August 2018	ADF	CTOO, CMO, CADO, CIO, CTO, CAO, Kadayawan sa Davao Executive Committee
Pasko Fiesta sa Davao 2018	Davao City	₱44,703,038	December 2018	ADF	CMO, CADO, CTOO, CIO, CTO, CAO, Pasko Fiesta Executive Committee
Pantatan sa Barangay Los Amigos	Los Amigos, Tugbok District, Davao City	₱100,000	October 2018	ADF	City Agriculturist's Office, City Tourism Operations Office

Source: City Tourism Operations Office, Davao City

## Integrated Economic Sector Analysis

This section determines the prime economic growth driver per administrative district in Davao City. To have an approximate view of the economy, the employment per sector (e.g., primary, secondary and tertiary) and types of economic activities are analyzed and utilized for the computation of urbanization level, location quotient, and economic base multiplier.

### Employment by Type of Economic Activity

#### A. Poblacion District

A big concentration of the jobs are in the Poblacion District, where most of businesses thrive. Of the 482,995 workers across different economic activities in Davao City in 2018, Poblacion District absorbed a third of the pie, at 34.36% (Table EC - 54). Almost all, or 98.93%, of the workers in Poblacion District are pooled under the tertiary sector specifically in businesses that are engaged in wholesale and retail trade/repair of motor vehicles, motorcycles, personal and household goods. The same trend is also observed for the entire city, where a large number of employees (204,002) work in wholesale and trade sub-sector. There are no recorded employment related to agriculture, hunting, forestry, and fishing in the Central Business District as per record of the Business Bureau but in terms of fisherfolk on the Poblacion District it registered a total of 79 in 2018 according to City Agriculturist Office. The dominance of wholesale and retail in terms of the recorded number of businesses as well as in providing employment opportunities is such that it employs almost 50% of the labor force.

**Table EC – 54. Employment by Type of Economic Activity, Poblacion District, Davao City, 2017-2018**

Economic Activity	Poblacion				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	-	-	-	-	51,427	11.01	53,673	11.11
Fishing	79	0.05	79	0.05	4,874	1.04	4,874	1.01
Quarrying	2	0.0014	2	0.0013	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>2</b>	<b>0.0014</b>	<b>81</b>	<b>0.0546</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	674	0.47	678	0.46	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	315	0.22	315	0.21	837	0.18	859	0.18
Manufacturing	501	0.35	510	0.34	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>1,490</b>	<b>1.03</b>	<b>1,503</b>	<b>1.01</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.71</b>
<b>Tertiary</b>								
Education	2,522	1.75	2,678	1.80	6,445	1.38	6,662	1.38
Financial Intermediation	6,532	4.52	6,595	4.44	15,838	3.39	16,021	3.32
Hotels/Restaurants	10,270	7.11	10,668	7.19	22,136	4.74	22,865	4.73
Health & Social Work	2,514	1.74	2,563	1.73	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	18,716	12.96	19,027	12.82	41,604	8.91	43,119	8.93

Source: Business Bureau, Davao City  
City Agriculturist Office

**Table EC – 54. Employment by Type of Economic Activity,  
Poblacion District, Davao City, 2017-2018, cont.**

Economic Activity	Poblacion				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
Public Administration and Defense	308	0.21	338	0.23	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	27,729	19.21	28,355	19.11	66,506	14.24	67,994	14.08
Transport, Storage & Communication	7,285	5.05	7,431	5.01	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	66,999	46.41	69,237	46.66	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>142,875</b>	<b>98.97</b>	<b>146,892</b>	<b>98.93</b>	<b>393,049</b>	<b>84.12</b>	<b>406,428</b>	<b>84.11</b>
<b>Total</b>	<b>144,367</b>	<b>100.00</b>	<b>148,476</b>	<b>100</b>	<b>467,226</b>	<b>100</b>	<b>483,236</b>	<b>100</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## B. Talomo District

Talomo District, having a wide-range of businesses, is in the second spot for the most number of employees in Davao City, where its 95,186 workers comprised one fifth, or 19.69%, of the total number of employees in the city (Table EC – 55). As of 2018, the bulk or 92.65% of the workers are under the tertiary sector (wholesale and retail trade sub-sector) with 40,808 employees, which is reflective of the trend observed in the entire city. On the other hand, primary sector covers 3.09% in terms of employment size in Talomo District, with 2,939 employees. Again, as observed in the Central Business District, the second biggest employer after wholesale and retail trade in Talomo is real estate business.

**Table EC – 55. Employment by Type of Economic Activity, Talomo District, Davao City,  
2017-2018**

Economic Activity	Talomo				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	715	0.79	153	0.75	51,427	11.01	53,673	11.11
Fishing	2,195	2.42	2,195	2.31	4,633	0.99	4,633	0.96
Quarrying	29	0.03	29	0.03	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>2,939</b>	<b>3.23</b>	<b>2,939</b>	<b>3.09</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	601	0.66	610	0.64	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	121	0.13	128	0.13	837	0.18	859	0.18
Manufacturing	3,279	3.61	3,323	3.49	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>4,001</b>	<b>4.54</b>	<b>4,061</b>	<b>4.39</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.71</b>
<b>Tertiary</b>								
Education	1,774	1.95	1,794	1.88	6,445	1.38	6,662	1.38
Financial Intermediation	2,200	2.42	2,241	2.35	15,838	3.39	16,021	3.32
Hotels/Restaurants	5,155	5.67	5,305	5.57	22,136	4.74	22,865	4.73
Health & Social Work	568	0.63	568	0.60	4,270	0.91	4,323	0.90

Source: Business Bureau, Davao City  
City Agriculturist Office

**Table EC – 55. Employment by Type of Economic Activity, Talomo District, Davao City, 2017-2018, cont.**

Economic Activity	Talomo				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
Other Community, Social & Personal Service Activities	8,684	9.56	9,737	10.23	41,604	8.91	43,119	8.93
Public Administration and Defense	267	0.29	267	0.28	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	14,171	15.60	14,499	15.23	66,506	14.24	67,994	14.08
Transport, Storage & Communication	11,656	12.83	12,967	13.62	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	39,448	43.41	40,808	42.87	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>83,923</b>	<b>92.36</b>	<b>88,186</b>	<b>92.65</b>	<b>393,049</b>	<b>84.12</b>	<b>406,428</b>	<b>84.11</b>
<b>Total</b>	<b>90,863</b>	<b>100</b>	<b>95,186</b>	<b>100</b>	<b>467,226</b>	<b>100</b>	<b>483,236</b>	<b>100</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

### C. Agdao District

The tertiary sector dominates in Agdao District with 33,989 employees, which is 96.35% of the total number of employees. Many of the workers are absorbed in businesses under the wholesale and retail trade subsector. The district, with some barangays located in the Davao gulf recorded 246 fisherfolk or 0.72% in terms of employment from City Agriculturist Office however Business Bureau recorded 11 fisherfolk. The number of employees in the city, Agdao District accounts for 8.17%. The number of employees in the district is projected to further rise as it is among the growth centers in Davao City.

**Table EC – 56. Employment by Type of Economic Activity, Agdao District, Davao City, 2017-2018**

Economic Activity	Agdao				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	-	-	-	-	51,427	11.01	53,673	11.11
Fishing	246	0.72	246	0.69	4,874	1.04	4,874	1.01
Quarrying	-	-	-	-	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>246</b>	<b>0.72</b>	<b>246</b>	<b>0.69</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	186	0.55	186	0.52	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	38	0.11	44	0.12	837	0.18	859	0.18
Manufacturing	934	2.74	1,047	2.95	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>1,158</b>	<b>3.40</b>	<b>1,277</b>	<b>3.60</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.71</b>
<b>Tertiary</b>								
Education	528	1.55	530	1.49	6,445	1.38	6,662	1.38
Financial Intermediation	1,287	3.77	1,318	3.71	15,838	3.39	16,021	3.32
Hotels/Restaurants	1,442	4.23	1,520	4.28	22,136	4.74	22,865	4.73
Health & Social Work	256	0.75	256	0.72	4,270	0.91	4,323	0.90

Source: Business Bureau, Davao City  
City Agriculturist Office

**Table EC – 56. Employment by Type of Economic Activity, Agdao District, Davao City, 2017-2018, cont.**

Economic Activity	Agdao				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
Other Community, Social & Personal Service Activities	2,006	5.88	2,106	5.93	41,604	8.90	43,119	8.92
Public Administration and Defense	45	0.13	64	0.18	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	6,377	18.70	6,493	18.28	66,506	14.23	67,994	14.07
Transport, Storage & Communication	2,402	7.04	2,862	8.06	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	18,349	53.82	18,840	53.05	197,697	42.31	204,002	42.22
<b>Tertiary Sub-Total</b>	<b>32,692</b>	<b>95.88</b>	<b>33,989</b>	<b>95.71</b>	<b>393,049</b>	<b>84.12</b>	<b>406,428</b>	<b>84.11</b>
<b>Total</b>	<b>34,096</b>	<b>100</b>	<b>35,512</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, City  
City Agriculturist Office

#### D. Buhangin District

Buhangin District covers 14.88% of the total number of employees as recorded by the Business Bureau in Davao City in 2018, making it the third largest host of employees in the city. Employment is high in the district as it is home to different commercial establishments and service-led businesses. The number of employees in the district also increased by 3.56%, compared to 2017 when there were only 69,446 workers. Of the employed workforce, most or 92.04% are under the tertiary sector, particularly in wholesale and retail trade sub-sector that employs 32,760 workers in 2018.

**Table EC – 57. Employment by Type of Economic Activity, Buhangin District, Davao City, 2017-2018**

Economic Activity	Buhangin				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	1,287	1.84	1,278	1.78	51,427	11.01	53,673	11.11
Fishing	266	0.62	266	0.62	4,874	1.04	4,874	1.01
Quarrying	137	0.20	139	0.19	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>1,849</b>	<b>2.66</b>	<b>1,851</b>	<b>2.57</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	256	0.37	256	0.36	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	105	0.15	109	0.15	837	0.18	859	0.18
Manufacturing	3,457	4.98	3,510	4.88	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>3,818</b>	<b>5.50</b>	<b>3,875</b>	<b>5.39</b>	<b>17,562</b>	<b>4.20</b>	<b>17,939</b>	<b>4.15</b>
<b>Tertiary</b>								
Education	925	1.33	948	1.32	6,445	1.38	6,662	1.38
Financial Intermediation	2,005	2.89	2,038	2.83	15,838	3.39	16,021	3.32
Hotels/Restaurants	3,336	4.80	3,403	4.73	22,136	4.74	22,865	4.73

Source: Business Bureau, Davao City  
City Agriculturist Office

**Table EC – 57. Employment by Type of Economic Activity,  
Buhangin District, Davao City, 2017-201, cont.**

Economic Activity	Buhangin				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
Health & Social Work	367	0.53	370	0.51	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	5,588	8.05	5,608	7.80	41,604	8.91	43,119	8.93
Public Administration and Defense	161	0.23	172	0.24	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	11,246	16.19	11,494	15.98	66,506	14.24	67,994	14.08
Transport, Storage & Communication	8,598	12.38	9,405	13.08	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	31,553	45.44	32,760	45.55	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>63,779</b>	<b>93.36</b>	<b>66,198</b>	<b>93.51</b>	<b>393,049</b>	<b>94.02</b>	<b>406,428</b>	<b>94.11</b>
<b>Total</b>	<b>69,446</b>	<b>100</b>	<b>71,924</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

### E. Bunawan District

Bunawan District, which is positioned as a minor growth center, contributes in absorbing 5.28% of the total number of employees in Davao City. The district only lands in the sixth spot in terms of having the largest employment as there are more job opportunities in other districts like Poblacion and Talomo. There are 25,510 workers employed in different businesses in the district in 2018. It has vast potential to increase the number of employment as it is already identified for industrial expansion. Once there would be additional industrial locators, more jobs will be available in the district. Looking closely at the statistics of employment per economic activity, majority or 78% are under tertiary sector, particularly in the wholesale and trade sub-sector with 9,644 employees. Secondary sector also shares a huge pie at 16%, especially in manufacturing sub-sector, which was able to hire 3,684 employees as of 2018. The least among them is primary sector with a percentage share of 6.34%

**Table EC – 59. Employment by Type of Economic Activity,  
Bunawan District, Davao City, 2017-2018**

Economic Activity	Bunawan				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	867	3.46	867	3.40	51,427	11.01	53,673	11.11
Fishing	730	2.92	730	2.86	4,874	1.04	4,874	1.01
Quarrying	21	0.09	21	0.09	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>1,618</b>	<b>6.465</b>	<b>1,618</b>	<b>6.343</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	313	1.25	313	1.23	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	63	0.25	63	0.25	837	0.18	859	0.18
Manufacturing	3,651	14.59	3,684	14.44	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>4,027</b>	<b>16</b>	<b>4,060</b>	<b>16</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.72</b>

Source: Business Bureau, Davao City  
City Agriculturist Office



**Table EC – 58. Employment by Type of Economic Activity,  
Bunawan District, Davao City, 2017-2018, cont.**

Economic Activity	Bunawan				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Tertiary</b>								
Education	183	0.73	183	0.72	6,445	1.38	6,662	1.38
Financial Intermediation	221	0.88	221	0.87	15,838	3.39	16,021	3.32
Hotels/Restaurants	174	0.70	176	0.69	22,136	4.74	22,865	4.73
Health & Social Work	45	0.18	45	0.18	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	1,934	7.73	1,936	7.59	41,604	8.91	43,119	8.93
Public Administration and Defense	31	0.12	31	0.12	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	2,843	11.36	2,958	11.60	66,506	14.24	67,994	14.08
Transport, Storage & Communication	4,604	18.40	4,638	18.18	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	9,347	37.35	9,644	37.80	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>19,382</b>	<b>77.44</b>	<b>19,832</b>	<b>78</b>	<b>393,049</b>	<b>94.02</b>	<b>406,428</b>	<b>94.11</b>
<b>Total</b>	<b>25,027</b>	<b>100</b>	<b>25,510</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## F. Paquibato District

Paquibato District's employment totals to 10,894 as of 2018, which is 2.25% number of employees in the entire city. The district has the highest employment share in terms in primary sector specially in agriculture with 10,433 farmers or 96.03% compared to the secondary and tertiary sector (micro business and sari-sari store) which only has 0.06% and 2.16 share, respectively. The district has the largest land area in term of farming in all rural district with 17,473.93 has.

**Table EC – 59. Employment by Type of Economic Activity,  
Paquibato District, Davao City, 2017-2018**

Economic Activity	Paquibato				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	9,474	95.65	10,433	96.03	51,427	11.01	53,673	11.11
Fishing	158	1.60	158	1.45	4,874	1.04	4,874	1.01
Quarrying	31	0.31	31	0.29	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>97.56</b>	<b>97.56</b>	<b>10,622</b>	<b>97.77</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	-	-	-	-	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	-	-	-	-	837	0.18	859	0.18
Manufacturing	7	0.07	7	0.06	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>7</b>	<b>0.07</b>	<b>7</b>	<b>0.06</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.72</b>
<b>Tertiary</b>								
Education	1	0.01	1	0.01	6,445	1.38	6,662	1.38
Financial Intermediation	6	0.06	6	0.06	15,838	3.39	16,021	3.32
Hotels/Restaurants	2	0.02	2	0.02	22,136	4.74	22,865	4.73
Health & Social Work		-		-	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	9	0.09	9	0.08	41,604	8.91	43,119	8.93
Public Administration and Defense	-	-	-	-	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	3	0.03	3	0.03	66,506	14.24	67,994	14.08
Transport, Storage & Communication	6	0.06	6	0.06	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	208	2.10	208	2.10	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>235</b>	<b>2.37</b>	<b>235</b>	<b>2.16</b>	<b>393,049</b>	<b>84.23</b>	<b>406,428</b>	<b>84.21</b>
<b>Total</b>	<b>9,905</b>	<b>100</b>	<b>10,864</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## G. Baguio District

Baguio District accounts for only 0.90% of the total number of employees in Davao City. In terms of employment per economic activity, both primary and tertiary sectors reign in the district with 74.95% and 22.62%, respectively. The primary sector generates employment in the district, especially the agriculture sector with 3,165 employees. This is largely due to the presence of huge plantations like Dole Philippines and Sumifru in the district. The district is also home to world-class cacao producers like Puentespina Farm in Barangay Malagos. The secondary sector, which contributes a mere 5.42% of the total number of employees in the district, is last among the sectors.

**Table EC – 60. Employment by Type of Economic Activity,  
Baguio District, Davao City, 2017-2018**

Economic Activity	Baguio				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	3,165	70.77	3,165	73.06	51,427	11.01	53,673	11.11
Fishing	80	1.79	80	1.85	4,874	1.04	4,874	1.01
Quarrying	2	0.09	2	0.10	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>3,247</b>	<b>72.61</b>	<b>3,247</b>	<b>74.95</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	-	-	-	-	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	2	0.04	2	0.05	837	0.18	859	0.18
Manufacturing	103	2.30	103	2.38	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>105</b>	<b>2.35</b>	<b>105</b>	<b>2.42</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.72</b>
<b>Tertiary</b>								
Education	4	0.09	4	0.09	6,445	1.38	6,662	1.38
Financial Intermediation	17	0.38	17	0.39	15,838	3.39	16,021	3.32
Hotels/Restaurants	145	3.24	145	3.35	22,136	4.74	22,865	4.73
Health & Social Work	-	-	-	-	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	116	2.59	116	2.68	41,604	8.91	43,119	8.93
Public Administration and Defense	44	0.98	44	1.02	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	65	1.45	68	1.57	66,506	14.24	67,994	14.08
Transport, Storage & Communication	146	3.26	146	3.37	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	583	13.04	606	13.99	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>1,120</b>	<b>25.04</b>	<b>1,146</b>	<b>22.62</b>	<b>393,049</b>	<b>84.23</b>	<b>406,428</b>	<b>84.21</b>
<b>Total</b>	<b>2,183</b>	<b>100</b>	<b>2,213</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## H. Calinan District

Calinan District covers 5.30% of the total number of employees in Davao City. the bulk of the workers are employed under primary sector at 51.19% mostly under agriculture at 12,887 farmers. Tertiary sector, on the other hand, contributes a share of 48%, with employing 12,251 workers. The secondary sector has a single-digit percentage share of 1.63% with the construction sub-sector having only two (2) declared employees.

**Table EC – 61. Employment by Type of Economic Activity,  
Calinan District, Davao City, 2017-2018**

Economic Activity	Calinan				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	12,692	50.46	12,887	50.38	51,427	11.01	53,673	11.11
Fishing	200	0.80	200	0.78	4,874	1.04	4,874	1.01
Quarrying	9	0.06	9	0.06	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>12,901</b>	<b>51.29</b>	<b>13,096</b>	<b>51.19</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	2	0.01	2	0.01	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	3	0.02	3	0.02	837	0.18	859	0.18
Manufacturing	229	0.91	229	0.90	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>234</b>	<b>0.93</b>	<b>234</b>	<b>0.91</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.72</b>
<b>Tertiary</b>								
Education	112	0.93	127	0.88	6,445	1.38	6,662	1.38
Financial Intermediation	1,018	4.05	1,018	3.98	15,838	3.39	16,021	3.32
Hotels/Restaurants	294	1.17	295	1.15	22,136	4.74	22,865	4.73
Health & Social Work	128	0.51	128	0.50	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	753	2.99	754	2.95	41,604	8.91	43,119	8.93
Public Administration and Defense	21	0.08	21	0.08	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	609	2.42	613	2.42	66,506	14.24	67,994	14.08
Transport, Storage & Communication	728	2.89	741	2.90	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	8,353	33.21	8,554	33.44	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>12,016</b>	<b>48</b>	<b>12,251</b>	<b>48</b>	<b>393,049</b>	<b>84.23</b>	<b>406,428</b>	<b>84.21</b>
<b>Total</b>	<b>14,143</b>	<b>100</b>	<b>14,383</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## I. Marilog District

Marilog district corners a share of just 3.85% out of the total number of employees in the entire city. The district has the highest number of employee especially in agriculture, which is also situated as among the farthest from the Central Business District, has the potential to experience an upward trend in terms of employment with the latest amendments to its land use assign portions for tourism industry. Cultural-based tourism, agri-tourism, and eco-tourism are seen to flourish in the district. As to its employment per economic activity, primary sector leads in the district by contributing a huge share of 96.33%

**Table EC – 62. Employment by Type of Economic Activity,  
Marilog District, Davao City, 2017-2018**

Economic Activity	Marilog				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	17,490	95.11	17,694	95.13	51,427	11.01	53,673	11.11
Fishing	190	1.03	190	1.02	4,874	1.04	4,874	1.01
Quarrying	33	2.41	33	2.39	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>17,713</b>	<b>96.32</b>	<b>17,917</b>	<b>96.33</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	-	-	-	-	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	-	-	-	-	837	0.18	859	0.18
Manufacturing	15	0.08	15	0.08	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>15</b>	<b>0.08</b>	<b>15</b>	<b>0.08</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.72</b>
<b>Tertiary</b>								
Education	4	0.02	4	0.02	6,445	1.38	6,662	1.38
Financial Intermediation	14	0.08	14	0.08	15,838	3.39	16,021	3.32
Hotels/Restaurants	29	0.16	29	0.16	22,136	4.74	22,865	4.73
Health & Social Work	18	0.10	18	0.10	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	27	0.15	27	0.15	41,604	8.91	43,119	8.93
Public Administration and Defense	7	0.04	7	0.04	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	19	0.10	19	0.10	66,506	14.24	67,994	14.08
Transport, Storage & Communication	217	1.18	217	1.18	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	326	1.77	332	1.77	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>661</b>	<b>3.59</b>	<b>667</b>	<b>3.59</b>	<b>393,049</b>	<b>84.23</b>	<b>406,428</b>	<b>84.21</b>
<b>Total</b>	<b>18,389</b>	<b>100</b>	<b>18,599</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## J. Toril District

Toril District accounts for 7.66% of the total number of employees in Davao City. Majority or 87% are employed under the tertiary sector, particularly the wholesale and retail trade sub-sector with 17,326 employees. The presence of malls like Gaisano Mall of Toril and Gaisano Grand Mall Toril help generate employment in the district. Additional commercial establishments are also expected to rise in the district once there would be transport terminals (e.g., for Mindanao Railway Station, bus-rapid transit) in the district. On the other hand, primary sector contribute a share of 18% in terms of agriculture with 5,706 employees. The least is secondary sector with six percent (6%) of share in terms of employment with the presence of industries like Aboitiz Power and Interbev Philippines Inc.

**Table EC – 63. Employment by Type of Economic Activity,  
Toril District, Davao City, 2017-2018**

Economic Activity	Toril				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	4,818	13.51	5,706	15.43	51,427	11.01	53,673	11.11
Fishing	777	2.18	777	2.10	4,874	1.04	4,874	1.01
Quarrying	24	0.07	28	0.09	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>5,619</b>	<b>16</b>	<b>6,511</b>	<b>18</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	11	0.03	13	0.04	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	151	0.42	156	0.42	837	0.18	859	0.18
Manufacturing	2,039	5.72	2,109	5.70	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>2,201</b>	<b>6</b>	<b>2,278</b>	<b>6</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.72</b>
<b>Tertiary</b>								
Education	256	0.72	257	0.69	6,445	1.38	6,662	1.38
Financial Intermediation	1,897	5.32	1,912	5.17	15,838	3.39	16,021	3.32
Hotels/Restaurants	968	2.71	990	2.68	22,136	4.74	22,865	4.73
Health & Social Work	310	0.87	311	0.84	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	2,912	8.16	2,934	7.93	41,604	8.91	43,119	8.93
Public Administration and Defense	21	0.06	21	0.06	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	2,767	7.76	2,783	7.53	66,506	14.24	67,994	14.08
Transport, Storage & Communication	1,612	4.52	1,656	4.48	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	17,102	47.95	17,326	46.85	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>27,845</b>	<b>78</b>	<b>28,190</b>	<b>76</b>	<b>393,049</b>	<b>84.23</b>	<b>406,428</b>	<b>84.21</b>
<b>Total</b>	<b>35,665</b>	<b>100</b>	<b>36,979</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## K. Tugbok District

Tugbok District contributes 2.33% of the total number of employees throughout the city. Most or 88% of the workers are from businesses under the tertiary sector, largely in wholesale and retail trade sub-sector with 5,687 employees. Primary sector comes in second with a share of 11% especially in agriculture sub-sector with 928 employees. Only five percent (5%) of the total is under secondary sector. Majority of the employees in the secondary sector are under manufacturing sub-sector, mostly in agri-industries, with 462 employees.



**Table EC – 64. Employment by Type of Economic Activity,  
Tugbok District, Davao City, 2017-2018**

Economic Activity	Tugbok				Davao City			
	2017		2018		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Primary</b>								
Agriculture, Hunting & Forestry	928	9.09	928	8.80	51,427	11.01	53,673	11.11
Fishing	227	2.22	227	2.15	4,874	1.04	4,874	1.01
Quarrying	26	0.25	28	0.27	314	0.08	322	0.07
<b>Primary Sub-Total</b>	<b>1,181</b>	<b>12</b>	<b>1,183</b>	<b>11</b>	<b>56,615</b>	<b>12.12</b>	<b>58,869</b>	<b>12.18</b>
<b>Secondary</b>								
Construction	23	0.23	23	0.22	2,066	0.44	2,081	0.43
Electricity, Gas & Water Supply	39	0.38	39	0.37	837	0.18	859	0.18
Manufacturing	444	4.35	462	4.38	14,659	3.14	14,999	3.11
<b>Secondary Sub-Total</b>	<b>506</b>	<b>5</b>	<b>524</b>	<b>5</b>	<b>17,562</b>	<b>3.76</b>	<b>17,939</b>	<b>3.72</b>
<b>Tertiary</b>								
Education	136	1.33	136	1.29	6,445	1.38	6,662	1.38
Financial Intermediation	641	6.28	641	6.08	15,838	3.39	16,021	3.32
Hotels/Restaurants	321	3.14	332	3.15	22,136	4.74	22,865	4.73
Health & Social Work	64	0.63	64	0.61	4,270	0.91	4,323	0.90
Other Community, Social & Personal Service Activities	859	8.41	865	8.20	41,604	8.91	43,119	8.93
Public Administration and Defense	46	0.45	46	0.44	951	0.20	1,011	0.21
Real Estate, Renting & Business Activities	677	6.63	709	6.72	66,506	14.24	67,994	14.08
Transport, Storage & Communication	348	3.41	362	3.43	37,602	8.05	40,431	8.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	5,429	53.18	5,687	53.91	197,697	42.33	204,002	42.24
<b>Tertiary Sub-Total</b>	<b>8,521</b>	<b>83</b>	<b>8,842</b>	<b>84</b>	<b>393,049</b>	<b>84.23</b>	<b>406,428</b>	<b>84.21</b>
<b>Total</b>	<b>10,208</b>	<b>100</b>	<b>10,549</b>	<b>100</b>	<b>467,226</b>	<b>100.00</b>	<b>483,236</b>	<b>100.00</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## Tax Collections Per Administrative District

Poblacion District reigns in terms of payment of tax collections (e.g, real property tax and business), which contributes 31.50% to the total collections of the City Government in 2018. Talomo District comes in second at 19.03% followed by Buhangin District at 16.75%. The least is Paquibato District, which covers a percentage share of 0.04%, as 90% of the district is covered under certificate of ancestral domain title (CADT) where payment of taxes are exempted.

**Table EC – 65. Tax Collections, By Administrative District, Davao City, 2017-2018**

District	Tax Collection (in Pesos)											
	Real Property Tax				Business Tax				Total			
	2017	%	2018	%	2017	%	2018	%	2017	%	2018	%
<b>First Congressional District</b>												
Poblacion	170,546,711.93	25.65	182,576,000.15	22.33	567,738,683.53	36.12	697,157,060.92	35.29	738,285,395.46	33.01	879,733,061.07	31.50
Talomo	155,608,529.66	23.40	158,960,333.81	19.44	306,781,458.34	19.52	372,620,493.31	18.86	462,389,988.00	20.67	531,580,827.12	19.03
<b>Second Congressional District</b>												
Agdao	50,020,679.01	7.52	53,749,691.71	6.57	189,672,088.44	12.07	248,274,892.55	12.57	239,692,767.45	10.72	302,024,584.26	10.81
Buhangin	114,216,426.75	17.18	115,928,407.90	14.18	266,709,268.60	16.97	351,877,511.18	17.81	380,925,695.35	17.03	467,805,919.08	16.75
Bunawan	80,491,626.32	12.10	85,026,891.95	10.40	128,526,031.93	8.18	166,716,588.91	8.44	209,017,658.25	9.35	251,743,480.86	9.01
Paquibato	566,922.69	0.09	638,595.97	0.08	308,786.49	0.02	356,684.60	0.02	875,709.18	0.04	995,280.57	0.04
<b>Third Congressional District</b>												
Baguio	3,084,705.58	0.46	10,492,603.41	1.28	2,378,400.17	0.15	2,630,206.33	0.13	5,463,105.75	0.24	13,122,809.74	0.47
Calinan	10,114,167.12	1.52	11,325,424.19	1.39	23,245,289.47	1.48	28,261,760.41	1.43	33,359,456.59	1.49	39,587,184.60	1.42
Marilog	1,468,414.29	0.22	1,987,796.51	0.24	1,286,826.31	0.08	1,953,268.62	0.10	2,755,240.60	0.12	3,941,065.13	0.14
Toril	60,467,918.53	9.09	178,321,421.17	21.81	66,551,853.61	4.23	83,276,598.40	4.22	127,019,772.14	5.68	261,598,019.57	9.37
Tugbok	18,382,452.47	2.76	18,548,261.72	2.77	18,497,469.80	1.18	22,115,166.88	1.12	36,879,922.27	1.65	40,663,428.60	1.46
<b>Davao City</b>	<b>664,968,554.35</b>	<b>100</b>	<b>817,555,428.49</b>	<b>100</b>	<b>1,571,696,156.69</b>	<b>100</b>	<b>1,975,240,232.11</b>	<b>100</b>	<b>2,236,664,711.04</b>	<b>100</b>	<b>2,792,795,660.60</b>	<b>100</b>

Source: City Treasurer's Office, Davao City

## Level of Urbanization

The level of urbanization<sup>\*</sup> determines whether a certain area remains predominantly rural or already deemed as urban. Assessing Table EC – 66 below, Davao City is categorized as highly urbanized with urbanization level of 87.93%. This means that the city's industry engagements are tertiary sector concentrated.

Paquibato, Baguio, Calinan and Marilog District exhibit below 50% which bares that the district still remains predominantly rural site. as the figure below only captures the from City Agriculturist Office and Business bureau.

**Table EC – 66. Level of Urbanization, By Administrative District, Davao City, 2017-2018**

District	Level of Urbanization	
	2017	2018
<b>First Congressional District</b>		
Poblacion	100	100
Talomo	96.77	96.91
<b>Second Congressional District</b>		
Agdao	100	100
Buhangin	97.34	97.43
Bunawan	93.53	93.66
Paquibato	2.44	2.23
<b>Third Congressional District</b>		
Baguio	27.39	27.81
Calinan	48.71	48.81
Marilog	3.68	3.67
Toril	84.25	82.39
Tugbok	88.43	88.79
<b>Davao City</b>	<b>87.99</b>	<b>87.93</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

<sup>\*</sup> Level of Urbanization (LU) = % employment in secondary sector + % employment in tertiary sector  
Or LU = 100% - (% share of employment in primary sector)

## Economic Activities by Employment

### A. Primary Economic Activities by Employment

The primary sector is comprised by agriculture, fishing, and quarrying activities. This sector registered 448 business establishments with combined capitalization of ₱2,365,861,605.65 and employment of 7,493 workers. The primary sector contributed the least percentage share of 0.65% out of the total number of establishments, which operated with multiple business lines in the city. This also mirrored the share of agriculture, hunting, forestry and fishing sector to the gross regional domestic product, which only contributed 2.9% to the overall economic growth of Davao Region in 2018. Among the 11 administrative districts, Tugbok has the highest number of primary business establishments with 117 followed by Toril (75 establishments) and Calinan (66 establishments). Only Agdao and Poblacion have two (2) establishments under primary sector.

**Table EC – 67. List of Primary Economic Activities by Employment, Per Administrative District, Davao City, 2018**

District	Type of Activity	No. of Establishments	Capitalization	No. of Employees
<b>First Congressional District</b>				
Poblacion	Agriculture	-	-	-
	Fishing	-	-	-
	Quarrying	2	180,000.00	1
<b>Sub-Total</b>		<b>2</b>	<b>180,000.00</b>	<b>1</b>
Talomo	Agriculture	27	70,242,775.00	153
	Fishing	1	500,001.00	16
	Quarrying	8	4,576,000.00	29
<b>Sub-Total</b>		<b>36</b>	<b>75,318,776.00</b>	<b>198</b>
<b>Second Congressional District</b>				
Agdao	Agriculture	1	30,000.00	-
	Fishing	1	5,000,000.00	11
	Quarrying	-	-	-
<b>Sub-Total</b>		<b>2</b>	<b>5,030,000.00</b>	<b>11</b>
Buhangin	Agriculture	11	54,540,000.00	584
	Fishing	-	-	-
	Quarrying	35	7,580,005.00	139
<b>Sub-Total</b>		<b>46</b>	<b>62,120,005.00</b>	<b>723</b>
Bunawan	Agriculture	11	55,310,101.00	186
	Fishing	-	-	-
	Quarrying	6	38,786,521.00	21
<b>Sub-Total</b>		<b>17</b>	<b>94,096,622.00</b>	<b>207</b>
Paquibato	Agriculture	3	900,000.00	7
	Fishing	-	-	-
	Quarrying	14	2,640,000.00	31
<b>Sub-Total</b>		<b>17</b>	<b>3,540,000.00</b>	<b>38</b>

Source: Business Bureau, Davao City

**Table EC – 67. List of Primary Economic Activities by Employment, Per Administrative District, Davao City, 2018, cont.**

District	Type of Activity	No. of Establishments	Capitalization	No. of Employees
<b>Third Congressional District</b>				
Baguio	Agriculture	34	257,772,158.00	960
	Fishing	-	-	-
	Quarrying	2	200,000.00	2
<b>Sub-Total</b>		<b>36</b>	<b>257,972,158.00</b>	<b>962</b>
Calinan	Agriculture	59	718,702,287.81	1,889
	Fishing	-	-	-
	Quarrying	7	1,920,001.00	9
<b>Sub-Total</b>		<b>66</b>	<b>720,622,288.81</b>	<b>1,898</b>
Marilog	Agriculture	18	32,775,000.00	663
	Fishing	-	-	-
	Quarrying	16	10,145,000.00	33
<b>Sub-Total</b>		<b>34</b>	<b>257,772,158.00</b>	<b>960</b>
Toril	Agriculture	59	417,055,900.00	1,994
	Fishing	3	14,750,000.00	44
	Quarrying	13	3,100,000.00	28
<b>Sub-Total</b>		<b>75</b>	<b>434,905,900.00</b>	<b>2,066</b>
Tugbok	Agriculture	91	663,706,937.24	650
	Fishing	8	1,930,000.00	15
	Quarrying	18	3,518,918.60	28
<b>Sub-Total</b>		<b>117</b>	<b>669,155,855.84</b>	<b>693</b>
<b>Total</b>		<b>448</b>	<b>2,365,861,605.65</b>	<b>7,493</b>

Source: Business Bureau, Davao City

## B. Secondary Economic Activities

Secondary sector covers economic activities such as construction, manufacturing, electricity, gas, and water supply. As of 2018, the sector recorded 1,183 businesses lines with combined capitalization of ₱24,658,054,937.61 and employment of 17,939 workers (Table EC – 68, see next page). Of the total number of registered businesses in Davao City, secondary sector shares a slight contribution of 1.72%.

Most or 26.46% of the businesses lines are located in Talomo District with a total number of 313 industrial establishments. Buhangin comes in second with 256 industrial establishments and Bunawan with 165 industrial establishments. The least is Paquibato District with three (3) industrial establishments.

Another point in the table is the industry classification. About two-thirds, or 66.95% of the establishments are into medium industries, which are either pollutive/non-hazardous or pollutive/hazardous industries. Only 13.69% are comprised by light industries or non-pollutant industries. This shows that the city government needs to further attract more investors into light industries as well as impose stricter pollution control system among pollutive industries to curb the spread of greenhouse gas emissions.

**Table EC – 68. Summary of Secondary Economic Activities by Employment, Per Administrative District, Davao City, 2018**

District	Type of Activity	No. of Establishments Per Industry Classification									Capitalization	No. of Employees
		Light		Medium		Heavy						
		Non-Poll/ NH	Non-Poll/ H	Poll/NH	Poll/H	High Poll/NH	High Poll/H	High Poll/EH	Poll/EH	Non-Poll/EH		
<b>First Congressional District</b>												
Poblacion	Construction	-	-	-	34	-	-	-	-	-	205,774,568.00	678
	Electricity, Gas, & Water Supply	13	-	-		-	-	-	-	2	357,425,000.00	315
	Manufacturing	2	-	4	21	3	-	-	-	-	123,141,412.17	510
<b>Sub-Total</b>		<b>15</b>	<b>-</b>	<b>4</b>	<b>55</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>686,340,980.17</b>	<b>1,503</b>
Talomo	Construction	-	-	3	46	-	-	-	2	-	102,410,007.00	610
	Electricity, Gas, & Water Supply	32	-	-	-	-	-	-	-	2	29,150,001.00	128
	Manufacturing	15	5	21	143	31	3	6	4		872,877,476.00	3,323
<b>Sub-Total</b>		<b>47</b>	<b>5</b>	<b>24</b>	<b>189</b>	<b>31</b>	<b>3</b>	<b>6</b>	<b>6</b>	<b>2</b>	<b>1,004,437,484.00</b>	<b>4,061</b>
<b>Second Congressional District</b>												
Agdao	Construction	-	-	-	8	-	-	-	-	-	40,650,000.00	186
	Electricity, Gas, & Water Supply	5	-	-	-	-	-	-	-	-	10,520,001.00	44
	Manufacturing	9	3	14	57	14	6	8	5	-	198,817,240.31	1,047
<b>Sub-Total</b>		<b>14</b>	<b>3</b>	<b>14</b>	<b>65</b>	<b>14</b>	<b>6</b>	<b>8</b>	<b>5</b>	<b>-</b>	<b>249,987,241.31</b>	<b>1,277</b>
Buhangin	Construction	-	-	2	24	-	-	-	-	-	28,237,502.00	256
	Electricity, Gas, & Water Supply	31	-	-	-	-	-	-	-	-	16,037,536.14	109
	Manufacturing	15	2	12	113	21	21	12	3	-	1,108,848,046	3,510
<b>Sub-Total</b>		<b>46</b>	<b>2</b>	<b>14</b>	<b>137</b>	<b>21</b>	<b>21</b>	<b>12</b>	<b>3</b>	<b>-</b>	<b>1,153,123,083.84</b>	<b>3,875</b>

Source: Business Bureau, Davao City



**Table EC – 68. Summary of Secondary Economic Activities by Employment, Per Administrative District, Davao City, 2018, cont.**

District	Type of Activity	No. of Establishments Per Industry Classification									Capitalization	No. of Employees
		Light		Medium		Heavy						
		Non-Poll/ NH	Non-Poll/ H	Poll/NH	Poll/H	High Poll/NH	High Poll/H	High Poll/EH	Poll/EH	Non-Poll/EH		
Bunawan	Construction	-	-	2	8	-	-	-	-	-	36,927,400.00	313
	Electricity, Gas, & Water Supply	6	-	-	1	-	-	-	-	-	13,650,001.00	63
	Manufacturing	4	2	17	84	8	9	22	2	-	11,380,652,891.32	3,684
<b>Sub-Total</b>		<b>10</b>	<b>2</b>	<b>19</b>	<b>93</b>	<b>8</b>	<b>9</b>	<b>22</b>	<b>2</b>	<b>-</b>	<b>11,431,230,292.32</b>	<b>4,060</b>
Paquibato	Construction	-	-	-	-	-	-	-	-	-	-	-
	Electricity, Gas, & Water Supply	1	-	-	-	-	-	-	-	-	100,000.00	0
	Manufacturing	-	-	-	2	-	-	-	-	-	250,000.00	7
<b>Sub-Total</b>		<b>1</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>350,000.00</b>	<b>7</b>
<b>Third Congressional District</b>												
Baguio	Construction	-	-	-	-	-	-	-	-	-	-	-
	Electricity, Gas, & Water Supply	-	-	-	-	-	-	-	-	1	4,000,000.00	2
	Manufacturing	-	-	4	1	2	-	-	-	-	4,876,000.24	103
<b>Sub-Total</b>		<b>-</b>	<b>-</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>8,876,000.24</b>	<b>105</b>
Calinan	Construction	-	-	-	3	-	-	-	-	-	1,100,000.00	2
	Electricity, Gas, & Water Supply	1	-	-	-	-	-	-	-	-	100,000.00	3
	Manufacturing	-	-	5	23	4	1	1	-	-	72,875,002.00	229
<b>Sub-Total</b>		<b>1</b>	<b>-</b>	<b>5</b>	<b>26</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>74,075,002.00</b>	<b>234</b>
Marilog	Construction	-	-	-	-	-	-	-	-	-	-	-
	Electricity, Gas, & Water Supply	-	-	-	-	-	-	-	-	-	-	-
	Manufacturing	-	-	-	11	-	-	-	-	-	958,000.00	15
<b>Sub-Total</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>958,000.00</b>	<b>15</b>

Source: Business Bureau, Davao City

**Table EC – 68. Summary of Secondary Economic Activities by Employment, Per Administrative District, Davao City, 2018, cont.**

District	Type of Activity	No. of Establishments Per Industry Classification									Capitalization	No. of Employees
		Light		Medium		Heavy						
		Non-Poll/ NH	Non-Poll/ H	Poll/NH	Poll/H	High Poll/NH	High Poll/H	High Poll/EH	Poll/EH	Non-Poll/EH		
Toril	Construction	-	-	-	6	-	-	-	-	-	4,869,500.00	13
	Electricity, Gas, & Water Supply	6	-	-	-	-	-	-	-	1	8,997,800,032.00	156
	Manufacturing	6		11	65	14	4	3	-	-	943,098,368.58	2,109
<b>Sub-Total</b>		<b>12</b>	<b>-</b>	<b>11</b>	<b>71</b>	<b>14</b>	<b>4</b>	<b>3</b>	<b>-</b>	<b>1</b>	<b>9,945,767,900.58</b>	<b>2,278</b>
Tugbok	Construction	-	-	-	6	-	-	-	-	-	6,225,001.00	23
	Electricity, Gas, & Water Supply	4	-	-	-	-	-	-	-	3	12,350,000.00	39
	Manufacturing	-	-	9	32	7	3		1	-	84,333,952.15	462
<b>Sub-Total</b>		<b>4</b>	<b>0</b>	<b>9</b>	<b>38</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>102,908,953.15</b>	<b>524</b>
<b>Total</b>		<b>150</b>	<b>12</b>	<b>104</b>	<b>688</b>	<b>104</b>	<b>47</b>	<b>52</b>	<b>17</b>	<b>9</b>	<b>24,658,054,937.61</b>	<b>17,939</b>

Source: Business Bureau, Davao City

### C. Tertiary Economic Activities

Tertiary sector includes economic activities such as wholesale and retail trade/repair of motor vehicles, motorcycles, personal and household goods; hotels and restaurants; transport, storage and communication; financial intermediation; real estate, renting, and business activities; public administration and defense/compulsory social security; other community, social and personal service activities; private households with employed persons; and extra-territorial organizations and bodies.

In Davao City, tertiary sector, which is mainly a service sector, helps the city's economy with its target to spur further commercial development along this line. As of 2018, tertiary sector dominated with 97.63% out of the total number of registered business lines in the city. These registered business lines have combined capitalization of ₱369,297,745,057.15 and employment of 406,428 workers. Most of the establishments in this sector are in the wholesale and retail trade sub-sector, which totals to 41,253 establishments. This sub-sector employs a workforce 204,002 and infuses a capital amounting to ₱83,253,210,820. Across districts, Poblacion District contributes the highest share to the tertiary sector with 21,028 business lines. Talomo District ranks second with 16,233 businesses followed by Buhangin with 11,562 businesses. The least is Paquibato District with 484 business lines.

**Table EC – 69. Summary of Tertiary Economic Activities by Employment, Per Administrative District, Davao City, 2018**

District	Type of Activity	No. of Establishments	Capitalization	No. of Employees
<b>First District</b>				
Poblacion	Education	231	385,401,085.54	2,678
	Financial Intermediation	805	60,304,364,400.58	6,595
	Hotel & Restaurants	1,408	3,074,880,068.20	10,668
	Health & Social Work	315	644,916,094.45	2,563
	Other Community, Social & Personal Service Activities	1,566	6,130,376,236.62	19,027
	Public Administration & Defense	77	42,116,588.00	338
	Real Estate, Renting and Business Activities	3,895	61,532,190,837.04	28,355
	Transport, Storage & Communication	736	26,347,331,406.70	7,431
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	11,985	32,027,970,221.87	69,237
<b>Sub-Total</b>		<b>21,018</b>	<b>190,489,546,939.00</b>	<b>146,892</b>
Talomo	Education	222	416,555,732.60	1,794
	Financial Intermediation	351	1,080,163,486.60	2,241
	Hotel & Restaurants	860	1,038,268,125.16	5,305
	Health & Social Work	151	187,436,926.93	568

Source: Business Bureau, Davao City

**Table EC – 69. Summary of Tertiary Economic Activities by Employment, Per Administrative District, Davao City, 2018, cont.**

District	Type of Activity	No. of Establishments	Capitalization	No. of Employees
	Other Community, Social & Personal Service Activities	1,011	1,861,192,126.71	9,737
	Public Administration & Defense	63	30,434,244.00	267
	Real Estate, Renting and Business Activities	2,938	8,553,371,299.70	14,499
	Transport, Storage & Communication	874	3,543,881,709.92	12,967
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	9,763	15,309,867,347.35	40,808
<b>Sub-Total</b>		<b>16,233</b>	<b>32,021,170,998.97</b>	<b>88,186</b>
<b>Second Congressional District</b>				
Agdao	Education	51	169,208,103.00	530
	Financial Intermediation	147	1,474,225,358.48	1,318
	Hotel & Restaurants	243	380,148,282.69	1,520
	Health & Social Work	53	124,900,258.00	256
	Other Community, Social & Personal Service Activities	250	292,323,287.60	2,106
	Public Administration & Defense	12	9,485,001.00	64
	Real Estate, Renting and Business Activities	864	3,884,545,608.75	6,493
	Transport, Storage & Communication	363	936,825,764.73	2,862
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	3,486	4,890,362,636.57	18,840
<b>Sub-Total</b>		<b>5,469</b>	<b>12,162,024,300.82</b>	<b>33,989</b>
Buhangin	Education	108	199,916,694.48	948
	Financial Intermediation	266	2,729,446,891.78	2,038
	Hotel & Restaurants	469	975,032,985.30	3,403
	Health & Social Work	86	85,904,315.00	370
	Other Community, Social & Personal Service Activities	607	2,262,229,749.32	5,608
	Public Administration & Defense	40	17,166,780.67	172
	Real Estate, Renting and Business Activities	2,203	57,693,240,704.52	11,494
	Transport, Storage & Communication	931	25,165,569,464.86	9,405
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	6,852	7,794,762,989.80	32,760
<b>Sub-Total</b>		<b>11,562</b>	<b>96,923,270,575.73</b>	<b>66,198</b>

Source: Business Bureau, Davao City

**Table EC – 69. Summary of Tertiary Economic Activities by Employment, Per Administrative District, Davao City, 2018, cont.**

District	Type of Activity	No. of Establishments	Capitalization	No. of Employees
Bunawan	Education	21	18,530,002.00	183
	Financial Intermediation	61	235,124,227.02	221
	Hotel & Restaurants	71	11,007,000.00	176
	Health & Social Work	12	9,680,034.96	45
	Other Community, Social & Personal Service Activities	127	65,572,562.00	1,936
	Public Administration & Defense	10	2,454,500.00	31
	Real Estate, Renting and Business Activities	338	3,167,607,572.55	2,958
	Transport, Storage & Communication	332	1,919,821,946.11	4,638
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	1,895	12,545,050,222.47	9,644
<b>Sub-Total</b>		<b>2,867</b>	<b>17,974,848,067.11</b>	<b>19,832</b>
Paquibato	Education	1	250,000.00	1
	Financial Intermediation	4	907,100.00	6
	Hotel & Restaurants	2	50,000.00	2
	Health & Social Work			
	Other Community, Social & Personal Service Activities	7	1,020,000.00	9
	Public Administration & Defense			
	Real Estate, Renting and Business Activities	4	401,328.00	3
	Transport, Storage & Communication	4	3,600,000.00	6
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	462	22,637,700.00	208
<b>Sub-Total</b>		<b>484</b>	<b>28,866,128.00</b>	<b>235</b>
<b>Third Congressional District</b>				
Baguio	Education	1	320,000.00	4
	Financial Intermediation	5	890,655.88	17
	Hotel & Restaurants	7	8,910,000.00	145
	Health & Social Work			
	Other Community, Social & Personal Service Activities	8	9,440,000.00	116
	Public Administration & Defense	2	200,000.00	44
	Real Estate, Renting and Business Activities	10	15,093,720.00	68
	Transport, Storage & Communication	47	34,765,000.00	146
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	418	64,295,501.00	606
<b>Sub-Total</b>		<b>498</b>	<b>133,914,876.88</b>	<b>1,146</b>

Source: Business Bureau, Davao City

**Table EC – 69. Summary of Tertiary Economic Activities by Employment,  
Per Administrative District, Davao City, 2018, cont.**

District	Type of Activity	No. of Establishments	Capitalization	No. of Employees
Calinan	Education	11	18,953,880.74	127
	Financial Intermediation	62	161,832,613.66	1,018
	Hotel & Restaurants	75	15,126,369.30	295
	Health & Social Work	30	8,374,502.00	128
	Other Community, Social & Personal Service Activities	93	48,366,229.26	754
	Public Administration & Defense	5	38,995,415.00	21
	Real Estate, Renting and Business Activities	230	454,132,066.14	613
	Transport, Storage & Communication	117	159,488,494.00	741
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	1,544	1,924,231,908.77	8,554
	<b>Sub-Total</b>		<b>2,167</b>	<b>2,829,501,478.87</b>
Marilog	Education	2	304,000.00	4
	Financial Intermediation	4	2,600,000.00	14
	Hotel & Restaurants	15	3,515,000.00	29
	Health & Social Work	1	40,000.00	18
	Other Community, Social & Personal Service Activities	22	4,666,000.00	27
	Public Administration & Defense	2	200,000.00	7
	Real Estate, Renting and Business Activities	6	4,840,000.00	19
	Transport, Storage & Communication	17	50,485,000.00	217
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	424	48,480,017.00	332
	<b>Sub-Total</b>		<b>493</b>	<b>115,130,017.00</b>
Toril	Education	28	39,505,684.78	257
	Financial Intermediation	108	1,333,227,653.46	1,912
	Hotel & Restaurants	137	1,769,469,728.61	990
	Health & Social Work	43	79,705,792.23	311
	Other Community, Social & Personal Service Activities	225	1,281,543,138.38	2,934
	Public Administration & Defense	6	2,230,000.00	21
	Real Estate, Renting and Business Activities	503	2,183,621,057.84	2,783
	Transport, Storage & Communication	206	531,101,140.00	1,656
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	2,533	8,040,093,934.88	17,326
	<b>Sub-Total</b>		<b>3,789</b>	<b>15,260,498,130.18</b>

Source: Business Bureau, Davao City



**Table EC – 69. Summary of Tertiary Economic Activities by Employment, Per Administrative District, Davao City, 2018, cont.**

District	Type of Activity	No. of Establishments	Capitalization	No. of Employees
Tugbok	Education	20	59,774,843.75	136
	Financial Intermediation	48	78,454,118.91	641
	Hotel & Restaurants	111	39,034,002.00	332
	Health & Social Work	26	24,702,002.00	64
	Other Community, Social & Personal Service Activities	111	72,510,651.00	865
	Public Administration & Defense	9	3,325,100.00	46
	Real Estate, Renting and Business Activities	291	340,729,085.76	709
	Transport, Storage & Communication	84	154,985,400.50	362
	Wholesale & Retail Trade/ Repair of Motor Vehicles, Motorcycles	1,891	585,458,340.67	5,687
	<b>Sub-Total</b>		<b>2,591</b>	<b>1,358,973,544.59</b>
<b>Total</b>		<b>67,171</b>	<b>369,297,745,057.15</b>	<b>406,428</b>

Source: Business Bureau, Davao City

## Location Quotient

Location quotient (LQ)<sup>\*</sup> is the index of concentration of economic activities, which determines the area specialization of the locality. If the LQ is lesser than one (1), it means that the district has lesser concentration to a certain economic activity rather than in the city. The result that would equal to one (1) shows that the district has similar concentration with the city. The figures that reach more than one (1) will mean that the district has higher concentration to a certain economic activity compared to the city.

### A. Poblacion District

In 2018, Poblacion District, which is in the Central Business District, has the highest concentration of health and social work with LQ of 1.72 followed by hotels/restaurants with 1.36 and financial intermediation with 1.20 (Table EC – 70). Also, Poblacion is aligned with the entire city on focusing the wholesale and retail trade sub-sector. The least is observed in quarrying and fishing with LQ of 0.02 and 0.04 respectively, which means less concentration in the activity.

<sup>\*</sup> Location Quotient =  $\frac{\text{Employment in an economic activity in the district} / \text{total employment in the district}}{\text{Employment in an economic activity in the city} / \text{total employment in the city}}$

**Table EC – 70. Location Quotient, Poblacion District, Davao City, 2017-2018**

Economic Activity	Poblacion District			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture	-	-	-	-
Fishing	79	0.05	79	0.05
Mining Quarrying	2	0.02	2	0.02
<b>Primary Sub-Total</b>	<b>2</b>	<b>0.07</b>	<b>2</b>	<b>0.06</b>
<b>Secondary</b>				
Construction	674	1.06	678	0.95
Electricity, Gas, & Water Supply	315	1.22	315	1.07
Manufacturing	501	0.11	510	0.10
<b>Secondary Sub-Total</b>	<b>1,490</b>	<b>2.39</b>	<b>1,503</b>	<b>2.11</b>
<b>Tertiary</b>				
Education	2,522	1.27	2,678	1.17
Financial Intermediation	6,532	1.34	6,595	1.20
Hotel & Restaurant	10,270	1.50	10,668	1.36
Health & Social Work	2,514	1.90	2,563	1.73
Other Community, Social	18,716	1.45	19,027	1.28
Public Administration & Defence	308	1.05	338	0.97
Real Estate, Renting And Business Activities	27,729	1.35	28,355	1.21
Transport, Storage & Communication	7,285	0.63	7,431	0.53
Wholesale & Retail Trade	66,999	1.10	69,237	0.99
<b>Tertiary Sub-Total</b>	<b>142,875</b>	<b>11.57</b>	<b>146,892</b>	<b>10.44</b>
<b>Total</b>	<b>144,446</b>	<b>1402</b>	<b>148,476</b>	<b>12.62</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## B. Talomo District

Talomo District primarily specializes in fish farming with LQ of 2.33 with 2,195 fisherfolk and 29 operators particularly in Punta Dumalag and Matina Aplaya. followed by transport, storage, and communication with LQ 1.46 where there is vast potential to serve as an expansion area for trading and services (Table EC- 71) The district is likewise similar with the entire city in conducting real estate, renting and business activities with LQ of 0.97. This shows Talomo is at pace with the city in flourishing the real estate development, especially in terms on increasing residential units, condominiums and low-cost housing. The economic activity with lowest result in the district is agriculture with LQ of 0.06 as it has less lands available for crop propagation and other agricultural activities.

**Table EC – 71. Location Quotient, Talomo District, Davao City, 2017-2018**

Economic Activity	Talomo District			
	2017		2018	
	No. of Emp	LQ	No. of Emp	LQ
<b>Primary</b>				
Agriculture	715	0.07	715	0.06
Fishing	2,195	2.13	2,195	1.87
Mining Quarrying	29	0.47	29	0.41
<b>Primary Sub-Total</b>	<b>2,939</b>	<b>3.18</b>	<b>2,939</b>	<b>2.80</b>
<b>Secondary</b>				
Construction	601	1.50	610	1.33
Electricity, Gas, & Water Supply	121	0.74	128	0.68
Manufacturing	3,279	1.15	3,323	1.01
<b>Secondary Sub-Total</b>	<b>4,001</b>	<b>3.39</b>	<b>4,061</b>	<b>3.01</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

**Table EC – 71. Location Quotient, Talomo District, Davao City, 2017-2018, cont.**

Economic Activity	Talomo			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Tertiary</b>				
Education	1,774	1.42	1,794	1.22
Financial Intermediation	2,200	0.71	2,241	0.63
Hotels/Restaurants	5,155	1.20	5,305	1.05
Health & Social Work	568	0.68	568	0.60
Other Community, Social & Personal Service Activities	8,684	1.07	9,737	1.02
Public Administration and Defense	267	1.45	267	1.20
Real Estate, Renting & Business Activities	14,171	1.10	14,499	0.97
Transport, Storage & Communication	11,656	1.60	12,967	1.46
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	39,448	1.03	40,808	0.91
<b>Tertiary Sub-Total</b>	<b>83,923</b>	<b>10.25</b>	<b>88,186</b>	<b>3.33</b>
<b>Total</b>	<b>90,863</b>	<b>16.32</b>	<b>95,186</b>	<b>8.68</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

### C. Agdao District

Agdao has the highest concentration of real estate, renting and business activities with LQ of 1.16 this because the number of employees absorbed in businesses in terms of low-cost residential units. Wholesale and retail trade sector come in second with LQ of 1.12 due to the large presence of commercial establishments while construction ranks third with LQ of 1.09 with the location of several construction companies. The district is also at par with the city in hosting economic activities such as education and financial intermediation with the presence of schools and banks throughout the area. The least is fishing with LQ of 0.56. This shows that Agdao District has less concentration in this type of economic activity.

**Table EC – 72. Location Quotient, Agdao District, Davao City, 2017-2018**

Economic Activity	Agdao			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture, Hunting & Forestry	-	-	-	-
Fishing	216	0.63	246	0.56
Quarrying	-	-	-	-
<b>Primary Sub-Total</b>	<b>246</b>	<b>0.63</b>	<b>246</b>	<b>0.56</b>
<b>Secondary</b>				
Construction	186	1.23	186	1.09
Electricity, Gas & Water Supply	38	0.62	44	0.62
Manufacturing	934	0.87	1,047	0.85
<b>Secondary Sub-Total</b>	<b>1,158</b>	<b>2.73</b>	<b>1,277</b>	<b>2.56</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

**Table EC – 72. Location Quotient, Agdao District, Davao City, 2017-2018, cont.**

Economic Activity	Agdao			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Tertiary</b>				
Education	528	1.12	530	0.97
Financial Intermediation	1,287	1.11	1,318	1.00
Hotels/Restaurants	1,442	0.89	1,520	0.81
Health & Social Work	256	0.82	256	0.72
Other Community, Social & Personal Service Activities	2,006	0.66	2,106	0.59
Public Administration and Defense	45	0.65	64	0.77
Real Estate, Renting & Business Activities	6,377	1.32	6,493	1.16
Transport, Storage & Communication	2,402	0.88	2,862	0.86
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	18,349	1.27	18,840	1.12
<b>Tertiary Sub-Total</b>	<b>32,692</b>	<b>8.79</b>	<b>33,989</b>	<b>8.01</b>
<b>Total</b>	<b>33,850</b>	<b>12.10</b>	<b>35,266</b>	<b>11.13</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

#### D. Buhangin District

Buhangin District has a high concentration of quarrying activities with an LQ of 2.59 as of 2018 (Table EC – 73). This shows that sand and gravel businesses flourish in the district. It is followed by manufacturing with LQ of 1.41, and transport, storage, and communication with LQ of 1.40, where there are various industries and establishments like warehouses in the district. It is also in this district where both the airport and seaport are located. These are the vital infrastructure facilities for transport of goods for local or international markets. The district is on equal footing with the city in terms of hosting the wholesale and retail trade sub-sector as can be seen by the presence of malls and other commercial establishments. The economic activity with the lowest LQ result is agriculture with 0.14.

**Table EC – 73. Location Quotient, Buhangin District, Davao City, 2017-2018**

Economic Activity	Buhangin			
	2017		2018	
	No. of Emp.	LQ	No.	%
<b>Primary</b>				
Agriculture, Hunting & Forestry	1,278	0.17	1,278	0.14
Fishing	434	0.55	434	0.49
Quarrying	137	2.94	139	2.59
<b>Primary Sub-Total</b>	<b>1,849</b>	<b>3.66</b>	<b>1,851</b>	<b>3.23</b>
<b>Secondary</b>				
Construction	256	0.83	256	0.74
Electricity, Gas & Water Supply	105	0.84	109	0.76
Manufacturing	3,457	1.59	3,510	1.41
<b>Secondary Sub-Total</b>	<b>3,818</b>	<b>3.27</b>	<b>3,875</b>	<b>2.91</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

**Table EC – 73. Location Quotient, Buhangin District, Davao City, 2017-2018, cont.**

Economic Activity	Buhangin			
	2017		2018	
	No. of Emp.	LQ	No.	%
<b>Tertiary</b>				
Education	925	0.97	948	0.85
Financial Intermediation	2,005	0.85	2,038	0.76
Hotels/Restaurants	3,336	1.01	3,403	0.89
Health & Social Work	367	0.58	370	0.51
Other Community, Social & Personal Service Activities	5,588	0.90	5,608	0.78
Public Administration and Defense	161	1.14	172	1.02
Real Estate, Renting & Business Activities	11,246	1.14	11,494	1.02
Transport, Storage & Communication	8,598	1.54	9,405	1.40
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	31,553	1.07	32,760	0.96
<b>Tertiary Sub-Total</b>	<b>63,779</b>	<b>9.19</b>	<b>66,198</b>	<b>3.38</b>
<b>Total</b>	<b>69,446</b>	<b>16.13</b>	<b>71,924</b>	<b>9.51</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

### E. Bunawan District

Bunawan District has the highest concentration of manufacturing establishments and activities with an LQ of 4.16 as of 2018, noting that the district is the main site allotted by the city government for industrial activities with its proximity to the seaport and airport (Table EC – 74). The district also exhibited high concentration on construction with an LQ of 2.55 and transport, storage, and communication with an LQ of 1.94, which both support the need of the industries. The least is agriculture with an LQ of 0.27 as large tracts of lands are zoned for industrial activities instead of pursuing agricultural production. Fishing activities in Bunawan District has an LQ of 2.89. This shows that Bunawan District has high concentration in this type of economic activity. Additional banks and financial institutions, as well as infirmaries and hospitals are needed to provide more services to this industrial area.

**Table EC – 74. Location Quotient, Bunawan District, Davao City, 2017-2018**

Economic Activity	Bunawan			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture, Hunting & Forestry	867	0.32	867	0.27
Fishing	730	2.57	730	2.32
Quarrying	21	1.25	21	1.10
<b>Primary Sub-Total</b>	<b>1,618</b>	<b>4.13</b>	<b>1,618</b>	<b>3.70</b>
<b>Secondary</b>				
Construction	313	2.83	313	2.55
Electricity, Gas & Water Supply	63	1.41	63	1.24
Manufacturing	3,651	4.65	3,684	4.16
<b>Secondary Sub-Total</b>	<b>4,027</b>	<b>8.89</b>	<b>4,060</b>	<b>7.95</b>
<b>Tertiary</b>				
Education	183	0.53	183	0.47
Financial Intermediation	221	0.26	221	0.23
Hotels/Restaurants	174	0.15	176	0.13
Health & Social Work	45	0.20	45	0.18

Source: Business Bureau, Davao City  
City Agriculturist Office

**Table EC – 74. Location Quotient, Bunawan District, Davao City, 2017-2018, cont.**

Economic Activity	Bunawan			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
Other Community, Social & Personal Service Activities	1,934	0.87	1,936	0.76
Public Administration and Defense	31	0.61	31	0.52
Real Estate, Renting & Business Activities	2,843	0.80	2,958	0.74
Transport, Storage & Communication	4,604	2.29	4,638	1.94
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	9,347	0.88	9,644	0.80
<b>Tertiary Sub-Total</b>	<b>19,382</b>	<b>7</b>	<b>19,832</b>	<b>6</b>
<b>Total</b>	<b>25,027</b>	<b>20.18</b>	<b>25,510</b>	<b>17.97</b>

Source: Business Bureau, Davao City

City Agriculturist Office

## F. Paquibato District

Paquibato District primarily specializes in agriculture with a high LQ of 7.73, noting the district has total agricultural land of 17,473.93 has which is the biggest land area in terms of farming in all rural districts with 10,433 employees. on the other hand, the district records zero LQ in construction, electricity, gas, and water supply, health and social work, and public administration and defence. The result show that the district is still far from having concentration of other economic activities aside from quarrying. To provide ease for the residents in the district, there is a need to set up additional schools, at least for basic education, health and social work centers, police and military outpost, and other community centers. There is also a need to extend electricity and water supply to these areas to support the additional centers and facilities.

**Table EC – 75. Location Quotient, Paquibato District, Davao City, 2017-2018**

Economic Activity	Paquibato			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture, Hunting & Forestry	9,474	8.70	10,433	7.73
Fishing	158	1.40	158	1.18
Quarrying	31	4.66	31	3.83
<b>Primary Sub-Total</b>	<b>9,663</b>	<b>14.76</b>	<b>10,622</b>	<b>12.74</b>
<b>Secondary</b>				
Construction		-		-
Electricity, Gas & Water Supply	-	-		-
Manufacturing	7	0.02	7	0.02
<b>Secondary Sub-Total</b>	<b>7</b>	<b>0.02</b>	<b>7</b>	<b>0.02</b>
<b>Tertiary</b>				
Education	1	0.01	1	0.01
Financial Intermediation	6	0.02	6	0.01
Hotels/Restaurants	2	0.00	2	0.00
Health & Social Work		-		-
Other Community, Social & Personal Service Activities	9	0.01	9	0.01
Public Administration and Defense		-		-
Real Estate, Renting & Business Activities	3	0.00	3	0.00

Source: Business Bureau, Davao City

City Agriculturist Office

**Table EC – 75. Location Quotient, Paquibato District, Davao City, 2017-2018, cont.**

Economic Activity	Paquibato			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
Transport, Storage & Communication	6	0.01	6	0.01
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	208	0.05	208	0.04
<b>Tertiary Sub-Total</b>	<b>235</b>	<b>0</b>	<b>235</b>	<b>0</b>
<b>Total</b>	<b>9,905</b>	<b>14.88</b>	<b>10,864</b>	<b>12.83</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

### G. Baguio District

Baguio District has the highest concentration in agriculture with an LQ of 5.88 as of 2018, where there are vast fertile lands and large agricultural plantations like Sumifru and Dole Philippines (Table EC – 76). The LQ of public administration and defence is also high at 4.34. Fishing in Baguio District has a LQ of 1.86 which is high concentration in this activity this because of the inland fishpond production. On the other hand, the economic activities such as construction, health and social work have zero LQs. This shows that there is a need to diversify in these economic activities. Health and social work facilities as well as educational institutions and other community, social, and personal service activities shall be established in Baguio District. Additional banking facilities, such as automated teller machines, and other financial institutions shall also be made available in the barangay center. Electricity and potable water supply shall also be extended to these areas.

**Table EC – 76. Location Quotient, Baguio District, Davao City, 2017-2018**

Economic Activity	Baguio			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture, Hunting & Forestry	3,165	6.44	3,165	5.88
Fishing	80	1.57	80	1.50
Quarrying	2	0.67	2	0.62
<b>Primary Sub-Total</b>	<b>3,247</b>	<b>8.68</b>	<b>3,247</b>	<b>8.00</b>
<b>Secondary</b>				
Construction		-		-
Electricity, Gas & Water Supply	2	0.25	2	0.23
Manufacturing	103	0.73	103	0.68
<b>Secondary Sub-Total</b>	<b>105</b>	<b>0.98</b>	<b>105</b>	<b>0.92</b>
<b>Tertiary</b>				
Education	4	0.06	4	0.06
Financial Intermediation	17	0.11	17	0.11
Hotels/Restaurants	145	0.68	145	0.63
Health & Social Work		-		-
Other Community, Social & Personal Service Activities	116	0.29	116	0.27
Public Administration and Defense	44	4.84	44	4.34
Real Estate, Renting & Business Activities	65	0.10	68	0.10
Transport, Storage & Communication	146	0.41	146	0.36
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	583	0.31	606	0.30
<b>Tertiary Sub-Total</b>	<b>1,120</b>	<b>6.81</b>	<b>980</b>	<b>6.16</b>
<b>Total</b>	<b>4,472</b>	<b>16.47</b>	<b>4,332</b>	<b>15.08</b>

Source: Business Bureau, Davao City  
City Agriculturist Office



## H. Calinan District

Calinan District primarily specializes in agriculture with an LQ of 4.05, where there are lands fit for agricultural activities (Table EC – 77). The district also has an LQ of 0.64 for fishing activities, which means that there is less concentration on said activities in the area. Financial intermediation and wholesale and retail trade also have high LQs with 1.07 and 0.71, respectively. However, the district needs more projects in electricity, gas, and water supply to complement its agri-industrial sector. Education must also be given due importance. There shall be also additional establishments into agriculture processing to generate jobs for the populace in the district.

**Table EC – 77. Location Quotient, Calinan District, Davao City, 2017-2018**

Economic Activity	Calinan			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture, Hunting & Forestry	12,692	4.59	12,887	4.05
Fishing	200	0.70	200	0.64
Quarrying	9	0.53	9	0.47
<b>Primary Sub-Total</b>	<b>12,901</b>	<b>5.82</b>	<b>13,096</b>	<b>5.16</b>
<b>Secondary</b>				
Construction	2	0.02	2	0.02
Electricity, Gas & Water Supply	3	0.07	3	0.06
Manufacturing	229	0.29	229	0.26
<b>Secondary Sub-Total</b>	<b>234</b>	<b>0.25</b>	<b>234</b>	<b>0.22</b>
<b>Tertiary</b>				
Education	112	0.32	127	0.32
Financial Intermediation	1,018	1.19	1,018	1.07
Hotels/Restaurants	294	0.25	295	0.22
Health & Social Work	128	0.56	128	0.50
Other Community, Social & Personal Service Activities	753	0.34	754	0.30
Public Administration and Defense	21	0.41	21	0.35
Real Estate, Renting & Business Activities	609	0.17	613	0.15
Transport, Storage & Communication	728	0.36	741	0.31
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	8,353	0.78	8,554	0.71
<b>Tertiary Sub-Total</b>	<b>12,016</b>	<b>4.39</b>	<b>12,251</b>	<b>3.93</b>
<b>Total</b>	<b>25,151</b>	<b>10.46</b>	<b>25,581</b>	<b>9.31</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## I. Marilog District

Marilog has the highest concentration of agriculture with an LQ of 7.65 as of 2018 where there large tracts of land s occupied by different plantations. Quarrying come in second with an LQ of 2.38 where its natural resources are fit for quarrying. Economic activities such as construction, and electricity, gas, and water supply registered zero LQs. Similar to Paquibato, the area is mostly under certificate of ancestral domain title (CADT) and zoned as agro-forestry area. The district needs to be energized and to be covered by water supply to make these basic services available for the entire populace in the district. Marilog District

shall also have additional educational facilities, financial institutions, and other community, social, and personal service activities.

**Table EC – 78. Location Quotient, Marilog District, Davao City, 2017-2018**

Economic Activity	Marilog			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture, Hunting & Forestry	17,490	8.65	17,694	7.65
Fishing	190	0.91	190	0.83
Quarrying	33	2.67	33	2.38
<b>Primary Sub-Total</b>	<b>17,713</b>	<b>12.42</b>	<b>17,917</b>	<b>11.07</b>
<b>Secondary</b>				
Construction		-		-
Electricity, Gas & Water Supply		-		-
Manufacturing	15	0.03	15	0.02
<b>Secondary Sub-Total</b>	<b>15</b>	<b>0.03</b>	<b>15</b>	<b>0.02</b>
<b>Tertiary</b>				
Education	4	0.02	4	0.01
Financial Intermediation	14	0.02	14	0.02
Hotels/Restaurants	29	0.03	29	0.03
Health & Social Work	18	0.11	18	0.10
Other Community, Social & Personal Service Activities	27	0.02	27	0.01
Public Administration and Defense	7	0.19	7	0.16
Real Estate, Renting & Business Activities	19	0.01	19	0.01
Transport, Storage & Communication	217	0.15	217	0.12
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	326	0.04	332	0.04
<b>Tertiary Sub-Total</b>	<b>661</b>	<b>0.58</b>	<b>667</b>	<b>0.50</b>
<b>Total</b>	<b>18,389</b>	<b>12.84</b>	<b>18,599</b>	<b>11.39</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## J. Toril District

Toril District specialize in electricity, gas, and water supply with and LQ of 2.12. The District has a high concentration in fishing with an LQ of 1.71 as of 2018, having several barangays situated near Davao Gulf, and where many of its residents rely on the fish and aquatic resources. The District is also almost equal to the city in terms of specializing on health and social work, which has an LQ of 0.8. the least, however, is construction with an LQ of 0.07. this shows that the district has less concentration on these types of economic activities

**Table EC – 79. Location Quotient, Toril District, Davao City, 2017-2018**

Economic Activity	Toril			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture, Hunting & Forestry	4,818	1.23	5,706	1.24
Fishing	777	2.38	777	2.12
Quarrying	24	1.00	28	1.02
<b>Primary Sub-Total</b>	<b>5,619</b>	<b>4.60</b>	<b>6,511</b>	<b>4.38</b>
<b>Secondary</b>				
Construction	11	0.07	13	0.07
Electricity, Gas & Water Supply	151	2.37	156	2.12
Manufacturing	2,039	1.82	2,109	1.64
<b>Secondary Sub-Total</b>	<b>2,201</b>	<b>4.25</b>	<b>2,278</b>	<b>3.84</b>
<b>Tertiary</b>				
Education	256	0.52	257	0.45
Financial Intermediation	1,897	1.57	1,912	1.39
Hotels/Restaurants	968	0.57	990	0.51
Health & Social Work	310	0.95	311	0.84
Other Community, Social & Personal Service Activities	2,912	0.92	2,934	0.79
Public Administration and Defense	21	0.29	21	0.24
Real Estate, Renting & Business Activities	2,767	0.54	2,783	0.48
Transport, Storage & Communication	1,612	0.56	1,656	0.48
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	17,102	1.13	17,326	0.99
<b>Tertiary Sub-Total</b>	<b>27,845</b>	<b>7.07</b>	<b>28,190</b>	<b>6.18</b>
<b>Total</b>	<b>35,665</b>	<b>15.47</b>	<b>36,979</b>	<b>13.98</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

### K. Tugbok District

Tugbok has the concentration of quarrying with a LQ of 3.56 as of 2018. This shows quarrying activity flourish in the district 's and rich for resources fit for quarrying. Followed by Electricity, gas and water supply and public administration and Defence at 1.86. Another economic activity with a high LQ is fishing with LQ of 1.75. Though away from coastal areas. Fishing activities manage to flourish especially in Barangay Los Amigos, where there is ample inland production of *hito* or catfish within the barangay's ponds.

**Table EC – 80. Location Quotient, Tugbok District, Davao City, 2017-2018**

Economic Activity	Tugbok			
	2017		2018	
	No. of Emp.	LQ	No. of Emp.	LQ
<b>Primary</b>				
Agriculture, Hunting & Forestry	928	0.82	928	0.71
Fishing	227	1.96	227	1.75
Quarrying	26	3.79	28	3.56
<b>Primary Sub-Total</b>	<b>1,181</b>	<b>7.03</b>	<b>1,183</b>	<b>6.44</b>
<b>Secondary</b>				
Construction	23	0.51	23	0.45
Electricity, Gas & Water Supply	39	2.13	39	1.86
Manufacturing	444	1.39	462	1.26
<b>Secondary Sub-Total</b>	<b>506</b>	<b>4.02</b>	<b>524</b>	<b>3.57</b>
<b>Tertiary</b>				
Education	136	0.97	136	0.84
Financial Intermediation	641	1.85	641	1.64
Hotels/Restaurants	321	0.66	332	0.59
Health & Social Work	64	0.69	64	0.61
Other Community, Social & Personal Service Activities	859	0.94	865	0.82
Public Administration and Defense	46	2.21	46	1.86
Real Estate, Renting & Business Activities	677	0.47	709	0.43
Transport, Storage & Communication	348	0.42	362	0.37
Wholesale & Retail Trade/Repair of Motor Vehicles, Motorcycles	5,429	1.26	5,687	1.14
<b>Tertiary Sub-Total</b>	<b>8,521</b>	<b>9.48</b>	<b>8,842</b>	<b>8.29</b>
<b>Total</b>	<b>10,208</b>	<b>20.52</b>	<b>10,549</b>	<b>17.88</b>

Source: Business Bureau, Davao City  
City Agriculturist Office

## Economic Base Multiplier

The economic base multiplier (EBM)\* provides an estimate of how changes in basic sector will affect the total employment in each political district. This is based on the concept that the local economy is divided into two (2) sectors: the basic sector and the non-basic sector. The basic sector includes the economic activities of the primary and secondary sectors, which results in the export of goods/products and services. The basic sector also generates income that fuels non-basic sector, which is the tertiary or those into the production of goods and services for consumption within the certain area. The EBM value would imply that for every job in the basic sector, more jobs are likewise generated in the non-basic or service sector.

Of the 11 political districts in Davao City, Poblacion has the highest multiplier value as the addition of one job in the basic sector generates 99 more jobs in the non-basic sector or a total of 100 jobs in both sectors in 2018 (Table EC – 81). While it translates to a high EBM value, the multiplier effect will cause saturation of employment in the non-basic or service sector in Poblacion District. To prevent further saturation, there is a need to strengthen the multi-nodal concentric urban strategy as a way to spread the development and augment employment in other parts of the city. On the other hand, the districts with the least EBM values are Paquibato, Baguio and Marilog Districts with ratio of 1:2 each. This means that for every job in the basic sector, two (2) more jobs are generated in the non-basic sector or a total of three jobs for both basic and non-basic sectors. The figures show that both districts still have a large headroom for expansion especially for non-basic sector.

**Table EC – 81. Economic Base Multiplier, Per Administrative District, Davao City, 2018**

District	Economic Base Multiplier Value
<b>First Congressional District</b>	
Poblacion	94
Talomo	14
<b>Second Congressional District</b>	
Agdao	23
Buhangin	13
Bunawan	4
Paquibato	1
<b>Third Congressional District</b>	
Baguio	1
Calinan	2
Marilog	1
Toril	4
Tugbok	6
<b>Davao City</b>	<b>6</b>

Source: Business Bureau, Davao City

$$*Economic\ Base\ Multiplier = \frac{Total\ employment\ in\ the\ city}{Employment\ in\ basic\ sector\ (Primary\ Sector + Employment\ in\ Secondary\ Sector)}$$

## Summary

Overall results show that the city is into service sector, comprising the bulk, or 97.63%, of the total number of registered businesses in the city. The sector is pulled up by the wholesale and retail trade sub-sector, with 41,253 establishments having a combined capitalization of ₱83,253,210,820 and workforce of 204,002 employees.

Commercial development, thus, have more presence than industrialization that shares only 1.72% out of the total number of businesses. Primary sector, which includes agriculture, forestry, fishing, and quarrying, also corners a low percentage share of 0.65%, thereby, making the city import goods/commodities to the other areas.

Poblacion District, which is essentially the Central Business District, is saturated with large presence of different businesses and sources of employment. Other districts have ample headspaces for basic sector (e.g., primary and secondary) expansion. The districts of Bunawan, Calinan, Toril, Baguio, and Tugbok are fitting for primary and secondary sectors. Talomo District has the potential for secondary and primary sectors, with available lands that are suitable for agricultural expansion like in Magtuod and Langub. Other districts such as Buhangin and Agdao are also good for secondary sector expansion. The remaining two (2) districts, Paquibato and Marilog, which are both forest-rich areas, shall be retained as hubs for primary sector to support food security and maintain the city's biodiversity.

However, amid the rise of urban development, the results show that eight (8) out of 11 administrative political districts are still specializing in economic activities under primary sector compared to the overall figures in the city. Three (3) districts, particularly Agdao, Toril, and Tugbok, are highly concentrating in fishing activities. Other districts such as Buhangin, Paquibato, and Marilog are dominated by quarrying activities. Baguio and Calinan Districts are also highly concentrating in agriculture, hunting, and forestry activities. Other districts, meanwhile, differ in concentration. The districts such as Poblacion, Talomo, and Bunawan highly specialize in health and social work, transport, storage and communication, and manufacturing, respectively.

## Integrated Economic Analysis Matrix

Economic sector stirs growth in the City. Below is the table that bares the top issues and concerns, which shall be given prime focus to spur economic development in Davao City.

**Table EC – 82. Integrated Economic Sector Analysis Matrix**

Priority Issues/Problems	Policy Interventions	Responsibility Center
<ul style="list-style-type: none"> <li>inadequate agricultural infrastructure support (e.g., farm-to-market road, irrigation, cold storage for livestock/poultry/fishery, community fish landing centers)</li> </ul>	<ul style="list-style-type: none"> <li>implement more FMRs</li> <li>LGU to provide shared services/facility</li> </ul>	<ul style="list-style-type: none"> <li>Local Government Unit (LGU)-City Agriculturist's Office (CAgrO)</li> <li>National-Department of Agriculture (DA)</li> </ul>
<ul style="list-style-type: none"> <li>depletion/degradation/ destruction of fishery resources including illegal fishing where there is encroachment of illegal fisherfolk in marine protected areas</li> </ul>	<ul style="list-style-type: none"> <li>Provision of alternative livelihood project micro-enterprises</li> <li>Strict implementation of MPA Ordinance and Comprehensive Fisheries Ordinance of Davao City and Strengthening of Bantay Dagat/Fishery law enforcement team</li> <li>Establishment of Marine Protected Area Network (MPAN) within Davao Gulf from Davao Occidental to Mati</li> <li>Establishment of mariculture park, which shall have proper management to prevent water pollution</li> </ul>	<ul style="list-style-type: none"> <li>LGU-CAgrO</li> <li>National – DA</li> </ul>



**Table EC – 82. Integrated Economic Sector Analysis Matrix, cont.**

Priority Issues/Problems	Policy Interventions	Responsibility Center
<ul style="list-style-type: none"> <li>presence of hazards/risks in agricultural, forest production, industrial, commercial and tourism areas</li> </ul>	<ul style="list-style-type: none"> <li>observe easements from the waterways and fault lines</li> <li>commercial and industrial establishments shall implement mitigating measures</li> <li>tourist establishments shall have mandatory retrofitting or redesigning of structures and limiting of tourism-related activities</li> <li>pursue planting of high value fruit trees and flood protection trees along riverbanks</li> <li>improve forest cover in watersheds</li> <li>improve extension of services with emphasis on climate and hazard resilient production techniques</li> <li>pursue establishment of irrigation and/or rainwater harvesting facilities</li> <li>pursue crop diversification</li> <li>establish warning system for agricultural crop production</li> </ul>	<ul style="list-style-type: none"> <li>LGU – Office of the City Building Official (OCBO), City Disaster Risk Reduction and Management Office (CDRRMO), CAgrO, and City ENRO</li> <li>National – DENR, DA, DTI, Office of Civil Defense (OCD)</li> </ul>
<ul style="list-style-type: none"> <li>encroachment of tourist establishments in non-tourism development areas</li> </ul>	<ul style="list-style-type: none"> <li>expand the areas for tourism-related establishments by designating ecotourism an allowable use in conservation zone and integrating agri-tourism as among the allowable activities in agricultural non-tillage zone and CADT areas</li> </ul>	<ul style="list-style-type: none"> <li>LGU – Business Bureau, CTOO, Sangguniang Panlungsod, Office of the City Planning and Development Coordinator (Zoning Division)</li> </ul>

**Table EC – 82. Integrated Economic Sector Analysis Matrix, cont.**

Priority Issues/Problems	Policy Interventions	Responsibility Center
	<ul style="list-style-type: none"> <li>• pursue crackdown against tourism sites, which operate without licenses and permits</li> <li>• require tourism sites in landslide-prone areas to pursue disaster-risk mitigating measures</li> </ul>	
<ul style="list-style-type: none"> <li>• land conversion of agricultural lands into commercial, residential, industrial and other uses</li> </ul>	<ul style="list-style-type: none"> <li>• Sangguniang Panlungsod (SP) to pass an ordinance prohibiting prime agricultural areas from land reclassification to other uses and strict implementation of Zoning Ordinance on the issuance of permits</li> <li>• prohibit spot zoning</li> <li>• identify and establish area for shared service facility for animal waste fertilizer plant for proper animal waste disposal</li> </ul>	<ul style="list-style-type: none"> <li>• LGU- Sangguniang Panlungsod, Office of the City Planning and Development Coordinator (OCPDC - Zoning Enforcement Division), CAgro</li> </ul>
<ul style="list-style-type: none"> <li>• presence of unregulated tourism sites/tour operators/tourist transportation vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• implement crackdown against tourism sites, which operate without licenses and permits</li> </ul>	<ul style="list-style-type: none"> <li>• LGU – Business Bureau, CTOO, Sangguniang Panlungsod</li> </ul>

**Table EC – 82. Integrated Economic Sector Analysis Matrix, cont.**

Priority Issues/Problems	Policy Interventions	Responsibility Center
	<ul style="list-style-type: none"> <li>• pursue amendment of Tourism Code to include the need to have tourism standards compliance and require all tourism sites advertising in social media platforms to prominently display their business permit QR codes as way to protect the consumers against scammers and unregistered tourism sites</li> </ul>	
<ul style="list-style-type: none"> <li>• congested sidewalks due to presence of street vendors, thereby discouraging the public including tourists to walk in sidewalks</li> </ul>	<ul style="list-style-type: none"> <li>• identify strategic areas for vendors</li> <li>• prohibit vendors in near cross walks with high density populated area</li> <li>• pursue a walkable city concept</li> </ul>	<ul style="list-style-type: none"> <li>• LGU – Ancillary Services Unit – Demolition Team, City Transport and Traffic Management Office (CTTMO)</li> </ul>
<ul style="list-style-type: none"> <li>• need to develop the city’s tourism potential</li> </ul>	<ul style="list-style-type: none"> <li>• establish historical landmarks that will attract tourists</li> <li>• entice investors to venture in developing tourist attractions/ destinations</li> <li>• accommodation facilities</li> </ul>	<ul style="list-style-type: none"> <li>• LGU – CTOO, Museo Dabawenyo</li> <li>• Davao Historical Society</li> <li>• National – National Historical Commission of the Philippines (NHCP), Department of Tourism (DOT)</li> </ul>

**Table EC – 82. Integrated Economic Sector Analysis Matrix, cont.**

Priority Issues/Problems	Policy Interventions	Responsibility Center
<ul style="list-style-type: none"> <li>commercialization of the cultural heritage of the indigenous peoples (IPs)</li> </ul>	<ul style="list-style-type: none"> <li>establish community-based village museum for traditions and culture in Brgy. Datu Salumay, Marilog District</li> <li>establish Cultural and IP Knowledge Center</li> </ul>	<ul style="list-style-type: none"> <li>LGU – CTOO, City Mayor’s Office</li> <li>National – NCIP, Ancestral Domain Management Office (ADMO), DOT, Mindanao Development Authority (MinDA)</li> </ul>
<ul style="list-style-type: none"> <li>polluted waters along beach resorts</li> </ul>	<ul style="list-style-type: none"> <li>impose closure of the establishments that lack untreated waste water discharge</li> <li>require Waste Water Treatment Facilities (WWTF) in every beach resort</li> <li>observe easement along waterways</li> </ul>	<ul style="list-style-type: none"> <li>LGU – CTOO, CENRO</li> <li>National - DENR</li> </ul>
<ul style="list-style-type: none"> <li>presence of livestock farms within watershed areas</li> </ul>	<ul style="list-style-type: none"> <li>pursue proper delineation of watershed areas</li> <li>delineate areas fit for livestock/poultry</li> </ul>	<ul style="list-style-type: none"> <li>LGU – CENRO, City Veterinarian’s Office, OCPDC</li> </ul>
<ul style="list-style-type: none"> <li>need to update the crop suitability data/map of Davao City</li> </ul>	<ul style="list-style-type: none"> <li>update the crop suitability lands data, which shall be identified by the Bureau of Soils and Water Management</li> <li>implement soil quality test assessment as basis for decision of Local Zoning Review Committee and SP</li> </ul>	<ul style="list-style-type: none"> <li>LGU – CagRO, SP, LZRC</li> <li>National – Bureau of Soils and Water Management (BSWM)</li> </ul>
<ul style="list-style-type: none"> <li>need to establish/upgrade infrastructure to support tourism development</li> </ul>	<ul style="list-style-type: none"> <li>implement Tourism Infrastructure Enhancement Program of DOT and City Government</li> <li>install signages in different international languages</li> </ul>	<ul style="list-style-type: none"> <li>LGU – CTOO, City Engineer’s Office (CEO)</li> <li>National – Department of Public Works and Highways (DPWH)</li> </ul>

**Table EC – 82. Integrated Economic Sector Analysis Matrix, cont.**

Priority Issues/Problems	Policy Interventions	Responsibility Center
<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• establish additional information centers</li> <li>• develop on-site and off-site facilities for tourism destination</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<ul style="list-style-type: none"> <li>• the city's income lacked real property tax shares from forest concessionaires and other businesses in CADT areas</li> </ul>	<ul style="list-style-type: none"> <li>• pursue amendment of the memorandum of agreement between forest concessionaires and DENR to require the forest concessionaires to secure business permits</li> <li>• SP to pass an ordinance to have real property assessment and impose real property tax to forest concessionaires/ investors/businesses in CADT areas</li> </ul>	<ul style="list-style-type: none"> <li>• LGU – City Mayor's Office, SP, CENRO</li> <li>• National – NCIP, Ancestral Domain Management Office, DENR</li> </ul>
<ul style="list-style-type: none"> <li>• presence of informal settlers / homeowners' association application for relocation in agricultural areas</li> </ul>	<ul style="list-style-type: none"> <li>• LGU to look for appropriate relocation site for housing development</li> <li>• observe restrictions like buffer zone/ proper waste disposal</li> <li>• establish tenement building for informal settlers to avoid utilization of prime agricultural lands</li> </ul>	<ul style="list-style-type: none"> <li>• LGU- Sangguniang Panlungsod, Office of the City Planning and Development Coordinator (OCPDC – Housing and Homesite Division), CAgrO, City Housing and Land Use Regulatory Unit (CHLURU)</li> <li>• National – Key Shelter Agencies</li> </ul>

# SOCIAL SECTOR

## SOCIAL SECTOR

### Social Development

The paramount responsibility of ensuring that services are accessible to the people rests in the government, and laws have been issued to safeguard this commitment to provide a productive and healthy life.

Social development is a priority concern government service. It deals with the growth of the people through its commitment to provide corresponding needs in every stage of development.

The vision of the City Government of Davao is translated into plans, programs and activities that will continuously improve the quality of life of every Dabawenyo. The city government actively partners with national line agencies and the private sector to establish assistance mechanisms that will ensure basic needs are being met.

The social sector of the Comprehensive Land Use Plan extensively discussed the services and engagements of its sub-sectors, namely, Education, Health and Sanitation, Social Welfare, Housing, Protective Services, and Sports and Recreation.

The development needs in an entire life cycle became the guiding principle in addressing the social sector issues.

The city government prioritizes the establishment and maintenance of peace and order in the city, especially in areas where insurgency poses threats to the lives of the people. The security and protection of the people, the women, children, elderly and those who are vulnerable will comprise the population where protective services are aimed at.

This section will also include the concerns of indigenous people and their accessibility to the services of the government in the light of creating equal opportunities to all people in Davao.

### Health and Sanitation

#### Existing Situation

Health, as defined by the World Health Organization (WHO) is *“a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity.”*

In 2015, the highest Crude Birth Rate (CBR) was recorded at 27.91 although it declined steadily to 2017, at its lowest CBR at 21.9. In 2018, there was an increase of 1.96 points from 2017 to the present CBR of 23.86. It is noted that the CBR posted in the last five years have been above the latest National CBR of 16.2.



The Crude Birth Rate (CBR) is the number of live births occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of the given geographical area during the same year.

Total fertility rate in Davao City continued to decline from 2014 to 2016, with 2016 having the lowest rate at 2%. However, it has slightly increased in 2017 at 2.3 and declined in 2018 at 2.1. On an average, total fertility rate posted at 2.12%. This is below the projected total fertility rate in five-year interval (2010-2015) in the Philippines, which registered at 2.96%. Total fertility rate is interpreted as the number of births a woman would have, on average, at the end of her reproductive years (NSO, 2008).

While fertility declined, morbidity increased over the period 2014 to 2017, with 1.28% more people getting downed by different illnesses. From 669,828 who were downed by diseases in 2014, some more 678,424 suffered with illnesses in 2017. The year 2017 registered the highest consultation rate at 14.07%. These are the people who visit the health facilities (private and public) for medical consultation. The low consultation rate indicates poor health-seeking behaviour among constituents as most prefer to consult medical professionals only when their conditions have worsened.

Crude death rate was within the five-point level in the years 2013 to 2016. This changed in the past two (2) years, when it started to increase in 2017 by 6.05 to 7.46 in 2018. Though data shows slight increases, the CBR is considered low as it is below 10 per 1,000 population. The crude death rate (CDR) is the number of deaths occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of the given geographical area during the same year.

Proportional Mortality Rate (PMR) refers to the number of deaths within a population due to a specific disease or cause divided by the total number of deaths in the population during a year. As of 2015, proportional mortality rate stood at 5.70, which declined from 5.89 in 2014. The highest PMR recorded was in 2018 at 7.46.

The Under Five Mortality Rate (U5MR) has decreased the rate from 18.09 in 2017 to 16.11/1,000 population in 2018. The Infant Mortality Rate (IMR) lessened from 13.78 to 12.78/1,000 population. It has been noted that both U5MR and IMR has been increasing from 2014-2017 and decreased in 2018. These changes show the challenges on deaths of children and infants are being addressed through the effective implementation of the programs that focuses on these young populace.

The Maternal Mortality Rate (MMR) has gradually decreased over the past five years. The highest rate of MMR was recorded in 2014 with 85/100,000 livebirths to its lowest in 2017 with 35/100,000 livebirths. Given the data below, the city has been achieving the Sustainable Development Goal of lessening maternal mortality or having less than 70/100,000 livebirths since 2015. These accomplishments were brought about by the intensified efforts of the CHO providing maternal care to all pregnant women by giving access to pre-natal to post-natal care.

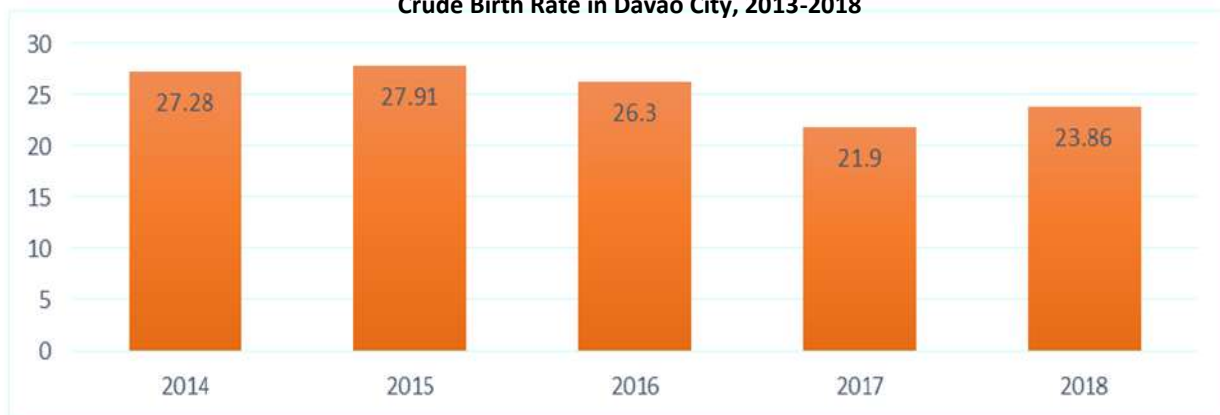
More people were hospitalized in 2017, and it declined however, by 0.98 point in 2018. Consultation rate reflected an increasing trend in the last five (5) years, with 2017 as the year with the highest rate of 14.07. In 2018, the record slightly declined to 11.69.

**Table SO-1. General Health Situation for the Past Five Years, 2014-2018**

Health Indicator	Davao City				
	2014	2015	2016	2017	2018
	No.	No.	No.	No.	No.
<b>Fertility</b>					
Crude Birth Rate	27.28	27.91	26.30	21.90	23.86
Total Fertility Rate	2.18	2.03	2	2.3	2.1
<b>Morbidity</b>					
General Medical	669,828	668,953	684,375	678,424	608,387
Consultation Rate	7.48	8.22	9.81	14.07	11.69
Hospitalization Rate	6.19	5.99	6.18	8.06	7.08
<b>Mortality</b>					
Crude Death Rate	5.90	5.81	5.80	6.05	7.46
Proportional Mortality Rate	5.89	5.70	5.88	6.05	7.46
Infant Mortality Rate	8.9	9.51	10.47	13.78	12.63
Under Five Mortality Rate	12.71	12.45	14.54	18.09	16.11
Maternal Mortality Rate	85	55	49.9	35	36.17

Source: City Health Office

**Graph SO-1a. General Health Situation for the Past Five Years:  
Crude Birth Rate in Davao City, 2013-2018**



Source: City Health Office

**Graph SO-1b. General Health Situation for the Past Five Years:  
Crude Death Rate in Davao City, 2013-2018**



Source: City Health Office

## Medical health facilities and personnel

The provision of a safe, accessible, high quality, people-centered, and integral health service delivery system is a priority of the city government. These service delivery systems are placed to take action in providing health services for patients, persons, families, communities and populations in general through the whole spectrum of care from promotion and prevention to diagnostic, rehabilitation and palliative care.

Most of the existing 22 hospitals are situated in the urbanized areas. Of these facilities, four (4) are tertiary hospitals, seven (7) classified as secondary hospitals, and 10 are still primary hospitals. The Southern Philippines Medical Center (SPMC), the sole government-run hospital with a Level IV retained-hospital category, has been the end-referral medical facility for Mindanao.

The city has two (2) birthing homes (Tibungco Lying-In and Malabog Lying-In) and one (1) district hospital (Paquibato District Hospital), which are all PhilHealth-accredited for maternity care package. Other health facilities are Dispensary, Animal Bite Center, Medico-Legal, Chest Center-PPMD, Reproductive Health and Wellness Center, Laboratory and the Dental Unit.

As of 2018, the city was delivering its health services to the community through 197 barangay health stations, 17 rural health units (RHU) and three (3) urban health centers (UHC). The City Health Office also extends the different health programs to its Dispensary, Animal Bite and Treatment Center, Chest Center, Reproductive Health and Wellness Center and the Medico Legal.

There are 189 medical personnel (19 doctors, 28 nurses, 19 dentists, 69 midwives, 30 sanitary inspectors and 24 medical technologists) deployed in the RHUs/BHS, Paquibato District Hospital, and birthing facilities in the City. The First District, which includes Talomo and Poblacion Areas, has the most number of medical personnel by 38.7%, followed by the Third District (31.2%) and Second District (30.1), respectively.

The City Government mobilizes its health workers to ensure better quality health services for Davaoeños. The number of health workers, however, remained below the ideal ratio. Shortages are also observed following the standard ratio set by the DOH. To augment the number of health workers, the City employed additional human resources and volunteer health workers. Currently, there are 370 barangay nutrition scholars (BNS) and 1,125 barangay health workers (BHWs) who deliver basic services to their respective communities.

The Covid-19 pandemic provides us with a critical look at the city government's response to a disease outbreak of global scale, or a pandemic. With a novel pandemic as the corona virus, the city government relies much on the national government for health guidelines and protocols to observe and implement, and even on financial and amelioration assistance. The city has created its own Covid-19 Task Force on March 13, 2020, on the same month that the Philippines implemented a national lockdown on travel and movement of people. This task force in the city “formulate, recommend and implement actions that will address all concerns relating to necessary preparations and response to the pandemic”, according

to the Davao City Annual Report 2020. The report further said that Davao City Task Force on Covid-19 has issued 56 executive orders in 2020 alone, including the suspension of international and domestic flights, liquor ban, curfew, temporary closure of businesses and establishments, and guidelines on essential travels arriving and departing the city.

On the issue of health and medical facilities, the city has designated the Southern Philippines Medical Center as the main receiving hospital for Covid-19 cases. According to Mayor Sara Duterte-Carpio in many of her pronouncements, this was intended to minimize the exposure of all medical professionals, many of whom are working in private hospitals, and to have a ready reserve number of medical personnel in case of an upsurge in the cases.

The city established five Covid-19 laboratory testing facilities: the Los Amigos Testing Laboratory, Davao One World Covid-19 Laboratory, Davao International Airport Laboratory, Davao Doctors' Hospital Covid-19 Laboratory and the SPMC Covid-19 Laboratory. Twenty-three Temporary Treatment and Monitoring facilities (TTMF) were also established (one (1) facility for probable cases, four (4) quarantine facilities for those required to be quarantined for 14 days, 14 isolation facilities for Covid-19 positive patients and four (4) holding facilities for returning residents). On September 24, 2020, the Unilab Foundation Inc, donated one containerized Reversed Transcription-Polymerase Chain Reaction (RT-PCR) testing laboratory for the use at the Davao International Airport.

## Services Available

**Rural Health Units (RHUs)** – Package of activities is provided at the RHU level. There is a mix of preventive and curative services complementary to other levels of care such as those provided in the hospital. The package includes the following:

- Ante Natal Care
- Post Partum Care
- Immunization
- Family Planning
- Vitamin A Supplementation
- Growth Monitoring
- Minor Surgery
- Dental Services
- Laboratory Services
- Referral of cases
- Health Education
- Training Consultation & Treatment (Acute Respiratory Infection, Control of Diarrheal Diseases, TB, Cardiovascular Diseases)
- Surveillance
- Sanitation Services

**Barangay Health Stations (BHSs)** –BHSs also offer the same services with that of the RHU, except for dental, laboratory, consultation, and minor surgery due to the limited number of health workers.

**District Hospital** - The Paquibato District Hospital is a 10 bed-capacity primary hospital,

which gives free services, free medicines and hospitalization to the people of Paquibato District. It has consultation, admission, minor surgery, emergency room services, wound dressing, referral, ambulance services, an attendant to deliveries, laboratory, and pharmacy services.

**Lying-In/Birthing Home** – Both Lying-in facilities at Tibungco and Malabog are open round-the-clock and equipped with necessary medical equipment, instruments with trained and capable health staff who are able to handle normal and uncomplicated deliveries. Services include ante natal care, post-partum care, normal deliveries, essential newborn care, laboratory services, and family planning.

### **Reproductive Health and Wellness Center**

The RHWC is the country's pilot area for the Rapid Human Immunodeficiency Virus (HIV) Algorithm. The center is a testing site for the detection of sexually-transmitted diseases (STD) and serves as a treatment hub for those who have been affected by the disease. Furthermore, it provides health education and promotion to the people in order to prevent the spread of STDs.

### **Animal Bite Treatment Center**

Davao City has four (4) Animal Bite Centers located at the City Hall Annex, and in Toril, Tugbok and Paquibato Districts. The center caters patients that have been exposed to animal bites and give Post-Exposure Treatments.

### **Chest Center**

The Davao City Chest Center is a diagnostic and therapeutic clinic that caters patients diagnosed with tuberculosis (TB) or suspected with having TB. It is also the city's center for TB-Directly Observed Treatment, Short-course which is the most effective approach in the diagnosis, treatment, and control of TB. Moreover, the center also caters patients for evaluation and treatment for leprosy.

The facilities were also assessed in terms of the hazard susceptibility such as flooding, landslide, liquefaction and storm surges.

For hospitals, there are 28 facilities which are considered having low susceptibility and two (2) with medium susceptibility to hazards. For flooding, there are three (3) hospitals that were identified as high to very high flooding hazards. There are 11 hospitals that have high risks for liquefaction and these are located at the Poblacion and Agdao Districts.

On the other hand 22 health centers are within moderate to high flooding hazards. These health centers are mostly identified to be located near a river system. Also, there are nine (9) health centers that are classified as highly landslide-prone, five (5) of which are found in Paquibato District. For Liquefaction hazards, there are 70 health centers that are listed and most of these are found in the Poblacion and Talomo areas. Out of the total number of health centers, there are 77 that were categorized to be vulnerable to storm surges.

**Table SO-2 Medical Health Facilities and Personnel, 2018**

Name of Health Facility	Barangay	Ownership	Capacity (No. of Beds)	Number of Personnel						Physical Condition	Hazard Susceptibility			
				Doctor	Nurse	Midwife	Sanitary Inspector	Other	Total		Flood	Landslide	Storm Surge	Liquefaction
<b>Level 3 Health Facilities</b>														
Brokenshire Integrated Health Ministries Inc.	Brgy. 8-A	Private	200	44	210	22	0	0	276	Operational	LF	L		
Davao Doctors Hospital	Brgy. 6-A	Private	250	647	332	4	0	0	983	Operational	LF	L	4m	High
San Pedro Hospital	Brgy. 14-B	Private	295	71	262	1	0	0	334	Operational	LF	L	3m	High
Southern Philippines Medical Center	Buhangin	Public	1,200	696	1,326	95	0	0	2117	Operational		L		
<b>Total</b>				<b>1,458</b>	<b>2,130</b>	<b>122</b>	<b>0</b>	<b>0</b>	<b>3,710</b>					
<b>Level 2 Health Facilities</b>														
Anda Riverview Medical Center, Inc.	Brgy. 2-A	Private	56	27	48	2	0	0	77	Operational	VHF	L	3m	High
Davao Adventist Hospital	Talomo	Private	75	79	67	6	0	0	152	Operational	MF	L		Low
Davao Medical School Foundation Hospital	Brgy. 19-B	Private	154	32	102	2	0	0	136	Operational	LF	L		
Gig Oca Robles Seamen's Hospital-Davao	R. Castillo	Private	50	26	43	4	0	0	73	Operational	HF	L	2m	High
Medical Mission Group Hospital and Health Services Co-operative of Davao City	Leon Garcia	Private	80	24	47	0	0	0	71	Operational	LF	L	2m	High
Metro Davao Medical and Research Center, Inc.	Buhangin	Private	135	103	117	3	0	0	223	Operational	LF	L		
Ricardo Limso Medical Center, Inc.	Brgy. 3-A	Private	85	311	58	2	0	0	371	Operational	LF	L	4m	High
<b>Total</b>				<b>602</b>	<b>482</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>1103</b>					

Table SO-2 Medical Health Facilities and Personnel, 2018

Name of Health Facility	Barangay	Ownership	Capacity (No. of Beds)	Number of Personnel						Physical Condition	Hazard Susceptibility			
				Doctor	Nurse	Midwife	Sanitary Inspector	Other	Total		Flood	Landslide	Storm Surge	Liquefaction
Davao Mediquest Hospital	Toril	Private	46	13	35	4	0	5	57	Operational	LF	L		Moderate
Holy Spirit Community Hospital of Davao	Mintal	Private	30	12	20	1	0	0	33	Operational	MF	L		
Isaac T. Robillo Memorial Hospital	Calinan	Private	25	37	31	3	0	0	71	Operational	MF	L		Low
Malta Medical Center	Toril	Private	24	106	27	1	0	0	134	Operational		L		
St. John Hospital of the Cross Hospital	Toril	Private	30	36	54	1	0	0	91	Operational	LF	L		Moderate
Tebow Cure Hospital	Wilfredo Aquino	Private	17	3	25	0	0	2	30	Operational		L	5m	Moderate
Alterado General Hospital	R. Castillo	Private	160	24	53	2	0	0	79	Operational	MF	L	2m	High
Principe Baguio Community Medical Hospital	Baguio	Private	30	4	10	2	0	0	16	Operational	LF	L		
<b>Total</b>				<b>235</b>	<b>255</b>	<b>14</b>	<b>0</b>	<b>7</b>	<b>511</b>					
<b>Grand Total</b>				<b>2,897</b>	<b>3,349</b>	<b>174</b>	<b>0</b>	<b>7</b>	<b>6,427</b>					
Talomo Central		Public	1 RHU 5 BHS	1	2	3	2	37	45	All are operational	VH- 3 M- 1 L- 2	L-6	2m- 1	H- 3 M- 1 L- 1
Talomo North		Public	1 RHU 10 BHS 1 Teen Center	1	2	3	2	50	58	Operational- 10 Ongoing Construction- 2	H- 2 M- 2 L- 5	H- 1 M- 2 L- 9	3m- 2 2m- 6	H- 8
Talomo South		Public	RHU- 1 BHS- 12	1	2	6	2	55	66	Operational- 7 Ongoing Construction- 5 For Turnover- 1	H- 3 M- 4 L- 6	L- 12	4m- 1 3m- 1 2m- 3	H- 4 M- 2 L- 1
Poblacion District A		Public	RHU- 1 BHS- 7	1	1	3	2	35	42	All are operational	VH- 1 H- 1 L- 7	L- 9	4m- 2 3m- 4	H- 6



**Table SO-2 Medical Health Facilities and Personnel, 2018**

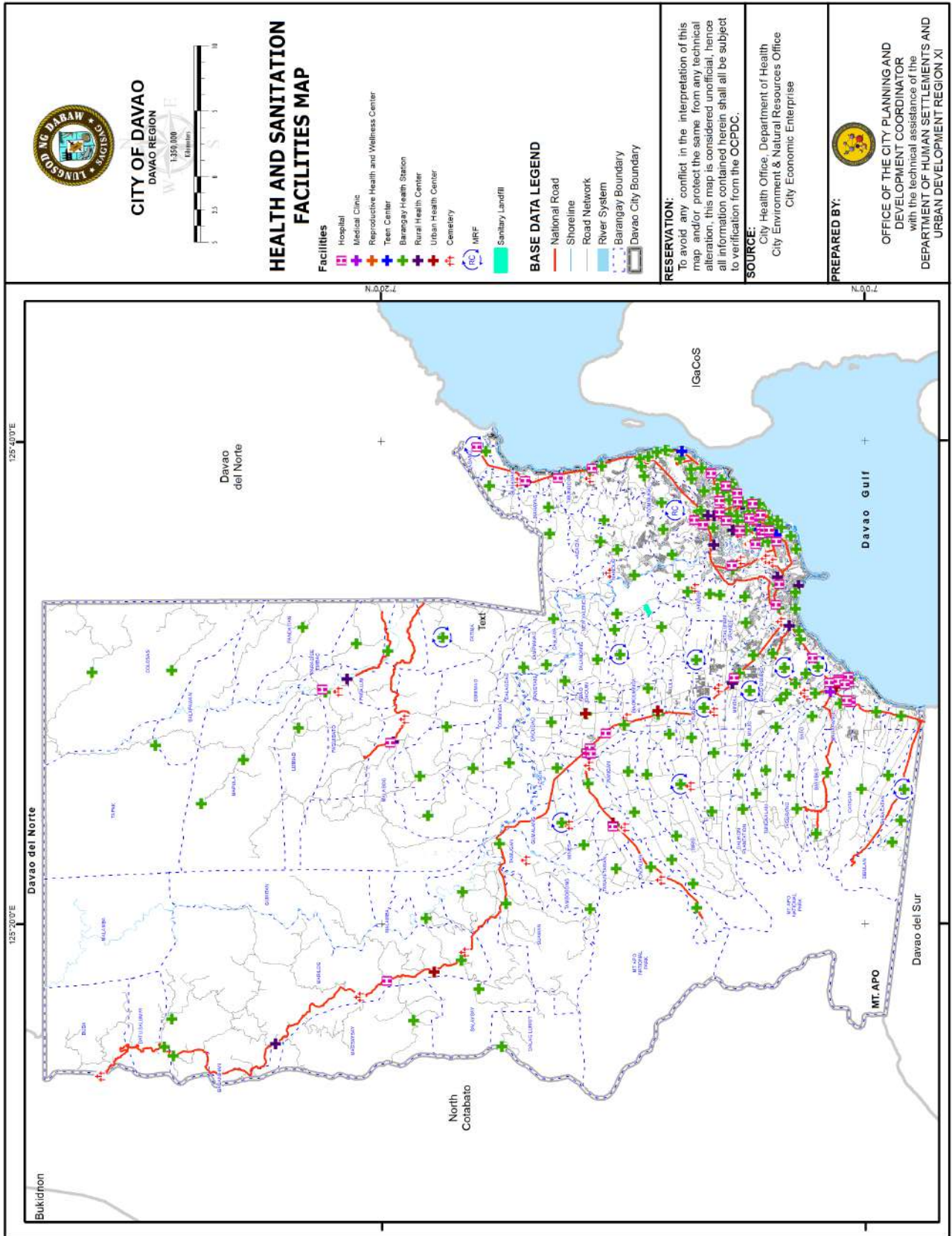
Name of Health Facility	Barangay	Ownership	Capacity (No. of Beds)	Number of Personnel						Physical Condition	Hazard Susceptibility			
				Doctor	Nurse	Midwife	Sanitary Inspector	Other	Total		Flood	Landslide	Storm Surge	Liquefaction
Poblacion District B			RHU- 1 BHS- 8	1	2	3	2	18	26	Operational- 8 Ongoing Construction- 2	VH- 1 L- 9	L- 10	5m- 1 4m- 2 3m- 2 2m- 2	5m- 1 4m- 2 3m- 2 2m- 2
Poblacion District C		Public	RHU- 1 BHS- 10 UHC- 1	1	1	4	3	35	44	Operational- 11 Ongoing Construction- 1	H- 3 L- 9	L- 10	2m- 12	2m- 12
Poblacion District D		Public	RHU- 1 BHS- 4 RHWC- 1	1	1	3	2	40	47	All are Operational	L- 6	L- 6	2m- 6	2m- 6
Agdao District		Public	RHU- 1 BHS- 12	2	2	4	2	68	78	Operational- 11 Ongoing Construction -1	M- 5 L- 6	L- 13	4m- 1 2m- 11	4m- 1 2m- 11
Buhangin District		Public	RHU- 2 BHS- 12	1	4	8	2	54	69	Operational- 11 Ongoing Renovation / Construction- 3 For Renovation- 1	L- 1	M- 1 L- 13		L- 1
Bunawan District		Public	RHU- 1 BHS- 11	1	0	4	1	86	92	Operational- 11 Ongoing Construction - 1	L- 1	H- 2 M- 1 L- 9	4m- 1 3m- 1 2m- 2	H- 3 M- 3
Paquibato District		Public	Hospital- 1 RHU- 2 BHS- 12	1	1	4	0	94	100	Operational- 12 Ongoing Construction/ Renovation- 2		H- 4 M- 8 L- 3		
Sasa District		Public	RHU- 1 BHS- 9	1	0	4	1	34	40	Operational- 6 Ongoing Construction/ Renovation- 4	M- 1	L- 10	3m- 1 2m- 5	H- 6
Baguio District		Public	RHU- 1 BHS- 9	1	1	3	1	77	83	All are Operational	M- 1 L- 1	M- 1 L- 9		
Calinan District		Public	RHU- 1 BHS- 20 UHC- 1	1	3	6	2	139	151	All are Operational	VH- 1 H- 2 M- 6 L- 1	H- 1 M- 3 L- 17		L- 3
Marilog District		Public	RHU- 1 BHS- 20 UHC- 1	1	1	2	1	85	90	Operational- 13 Ongoing Construction- 1	M- 1	M- 10 L- 2		

**Table SO-2 Medical Health Facilities and Personnel, 2018**

Name of Health Facility	Barangay	Ownership	Capacity (No. of Beds)	Number of Personnel						Physical Condition	Hazard Susceptibility			
				Doctor	Nurse	Midwife	Sanitary Inspector	Other	Total		Flood	Landslide	Storm Surge	Liquefaction
Toril District		Public	BHS-24 RHU-1 UHC-1 MC-1	2	4	5	4	134	149	Operational-17 Operational, Needs Repair/ Renovation-10	HF-2 LF-6 MF-1	H-1 M-5 L-21	3m-1	H-1 M-2 L-6
Tugbok		PUBLIC	BHS-18 RHU-1 UHV-1	1	1	4	1	127	134	Operational-18 Operational, Needs Repair-2	MF-9	M-1 L-19		L-2
<b>Total</b>				<b>19</b>	<b>28</b>	<b>69</b>	<b>30</b>	<b>1168</b>	<b>1314</b>					

tes: *\*Hazard Susceptibility - Flood (Fl), Landslide (Ln), Storm Surge (Su), Liquefaction*  
*\*\*Indicators for the level of susceptibility –Low (L), Moderate (M), High (H), Very High (VH)*  
*\*\*\*Figures after level of hazard susceptibility are the number of facilities affected*  
*\*\*\*\* Deatiled Table is available at the Annex*

Health Facility Map



**Table SO-3 Total Healthcare Workforce of the City Health Office, 2018**

District/ Standards	Type of Healthcare Professional						
	Doctor	Nurse	Midwife	Dentist	Medical Technologist	Sanitary Inspector	Barangay Health Workers
Total First District	7	11	25	7	8	15	255
Total Second District	6	7	24	6	8	6	322
Total Third District	6	10	20	6	8	9	548
<b>Total</b>	<b>19</b>	<b>28</b>	<b>69</b>	<b>19</b>	<b>24</b>	<b>30</b>	<b>1125</b>
Actual Ratio	1:91,486	1:62,080	1:25,192	1:91,486	1:72,427	1:57,942	No specific standards for BHWs
Standard Ratio	1:20,000	1:20,000	1:5,000	1:20,000	1:20,000	1:20,000	
Deficiency on DOH Standards	68	59	279	68	63	57	

Source: City Health Office

## Morbidity

The top three leading causes of morbidity in 2018 were Acute Respiratory Infection (ARI) with a rate of 1,374.95 followed by Urinary Tract Infection (UTI) with 1,074.76 and pneumonia with 995.08. Pneumonia has been the leading cause of disease during the past five years. Also, in 2014 to 2016 gastroenteritis has been causing sickness to the general public and further replaced by urinary tract infection in 2017 and 2018.

The illnesses that are listed below are linked to lifestyle, hygiene and sanitation. These diseases can be prevented by lifestyle modification, proper hygiene and keeping the surrounding clean and free from vector-borne diseases. Also, these can be managed effectively if these diseases can be detected early and will be given appropriate interventions. The CHO has been actively promoting their programs to effectively address these sicknesses with their campaign in cardiovascular diseases prevention, healthy lifestyle promotion, and environmental sanitation programs.

Table SO-4 Ten Leading Causes of Morbidity for the Past Five Years, 2014-2018

No.	2014			2015			2016			2017			2018		
	Causes	Total	Rate	Causes	Total	Rate	Causes	Total	Rate	Causes	Total	Rate	Causes	Total	Rate
1	Acute Respiratory Infection (ARI)	22,233	1,394.07	Acute Respiratory Infection (ARI)	15,805	968.68	Acute Respiratory Infection (ARI)	19,002	1,138.38	Urinary Tract Infection	20,638	1,216.82	Acute Respiratory Infection (ARI)	23,900	1,374.95
2	Pneumonia	18,611	1,166.96	Pneumonia	14,966	917.26	Pneumonia	16,317	975.73	Pneumonia	20,415	1,203.67	Urinary Tract Infection	18,682	1,074.76
3	Diarrhea & Gastroenteritis	7,952	498.61	Diarrhea & Gastroenteritis	6,332	388.09	Diarrhea & Gastroenteritis	8,191	490.71	Acute Respiratory Infection (ARI)	20,396	1,202.55	Pneumonia	17,297	995.08
4	Dengue Fever	7,506	470.65	Dengue Fever	4,845	296.95	Urinary Tract Infection	5,774	345.91	Diarrhea and Gastroenteritis	9,946	586.59	Diarrhea and Gastroenteritis	10,488	603.37
5	Urinary Tract Infection	6,534	409.7	Urinary Tract Infection	3,302	202.38	Essential Hypertension	4,628	277.26	Essential Hypertension	8,124	478.99	Essential Hypertension	10,382	597.27
6	Essential Hypertension	3,997	250.62	Essential Hypertension	2,853	174.86	Dengue Fever	4,417	264.62	Dengue Fever	4,772	281.36	Dengue Fever	4,599	264.58
7	Asthma	2,264	141.96	Asthma	2,085	127.79	Asthma	2,584	154.8	Respiratory Tuberculosis	3,273	192.98	Gastritis	3,779	217.40
8	Diseases of the Heart	1,998	125.28	Diseases of the Heart	1,698	104.07	Diseases of the Heart	2,198	131.68	Gastritis	2,733	161.14	Other Viral Disease	2,770	159.36
9	Respiratory Tuberculosis	1,987	124.59	Gastritis	1,662	101.86	Gastritis	2,100	125.81	Diabetes Mellitus	2,626	154.83	Diseases of the heart	2,607	149.98
10	Animal Bites	1,785	111.92	Respiratory Tuberculosis	1,430	87.64	Respiratory Tuberculosis	2,010	120.42	Asthma	2,537	149.58	Diabetes Mellitus	2,580	148.43

## Mortality

There were 10,076 deaths recorded in 2018. Among this number, 7,737 were attributed to the ten leading causes of mortality in 2018. This was higher by 6.64% compared to the 7,255 deaths in 2017.

Pneumonia has been the leading cause of death over the past five years. In 2018, this accounted for the deaths of 18.3% of all deaths and more than half of the number affected were males. There has been a slight increase by 4% compared to the 1,777 cases in 2017. Pneumonia has been a major complication to several diseases which can be both acquired in the community and hospital settings.

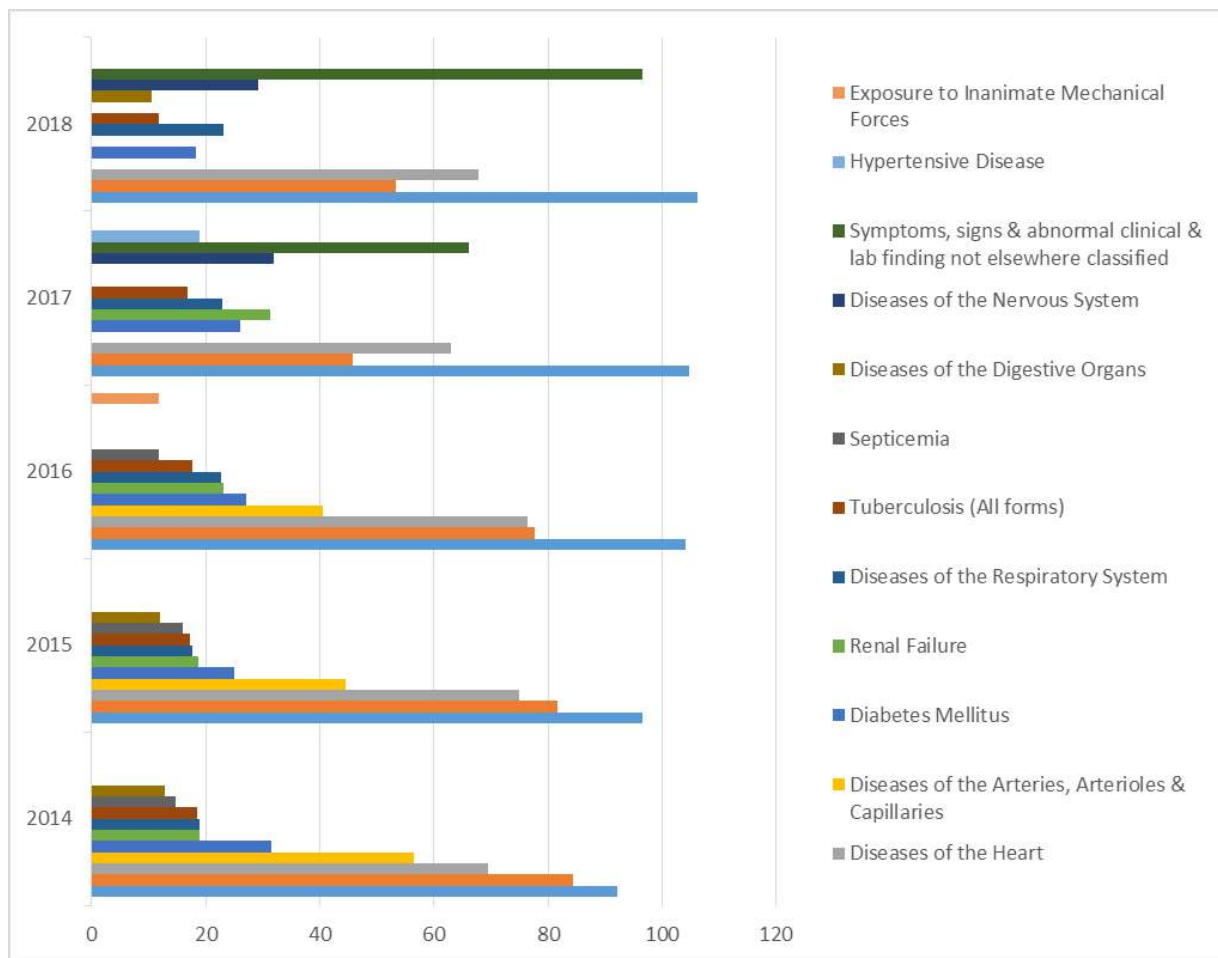
It can be noted that most of the listed leading causes of deaths correlate to the causes of morbidity. The data indicate a great challenge to healthcare providers to strengthen the awareness among individuals and to encourage the public to practice their early health seeking behaviours in order to address these illnesses. These strategies will promote health and extend the lives of the public.

**Table SO-5 Ten Leading Causes of Mortality for the Past Five Years, 2014-2018**

No.	2014			2015			2016				2017				2018				
	Causes	Total	Rate	Causes	Total	Rate	Causes	Male	Female	Total	Rate	Causes	Male	Female	Total	Rate	Causes	Total	Rate
1	Pneumonia	1,471	92.24	Pneumonia	1,577	96.65	Pneumonia	977	762	1,739	104.18	Pneumonia	1,040	737	1,777	104.77	Pneumonia	1,845	106.14
2	Cerebrovascular Disease	1,345	84.34	Diseases of the Heart	1,331	81.58	Cerebrovascular Disease	743	553	1,296	77.64	Symptoms, signs & abnormal clinical & lab finding not elsewhere classified	562	561	1,123	66.21	Symptoms, Signs & Abnormal Clinical & Lab Finding not elsewhere classified	1,679	96.59
3	Diseases of the Heart	1,109	69.54	Cerebrovascular Disease	1,224	75.02	Diseases of the Heart	730	546	1,276	76.44	Diseases of the Heart	675	393	1,068	62.97	Diseases of the Heart	1,180	67.88
4	Diseases of the Arteries, Arterioles & Capillaries	901	56.5	Diseases of the Arteries, Arterioles & Capillaries	727	44.56	Diseases of the Arteries, Arterioles & Capillaries	258	418	676	40.5	Cerebro Vascular Disease	461	317	778	45.87	Cerebrovascular Disease	926	53.27
5	Diabetes Mellitus	503	31.54	Diabetes Mellitus	409	25.07	Diabetes Mellitus	230	22	452	27.08	Diseases of the Nervous System	333	207	540	31.84	Diseases of the Nervous System	507	29.17
6	Renal Failure	303	19	Renal Failure	305	18.69	Renal Failure	209	178	387	23.18	Renal Failure	322	208	530	31.25	Renal Failure	474	27.27
7	Diseases of the Respiratory System	301	18.87	Diseases of the Respiratory System	288	17.65	Diseases of the Respiratory System	220	158	378	22.65	Diabetes Mellitus	224	219	443	26.12	Disease of the Respiratory System	400	23.01
8	Tuberculosis (All forms)	295	18.5	Tuberculosis (All forms)	282	17.28	Tuberculosis (All forms)	203	90	293	17.55	Diseases of the Respiratory System	252	137	389	22.94	Diabetes Mellitus	319	18.35
9	Septicemia	234	14.67	Septicemia	260	15.94	Exposure to Inanimate Mechanical Forces	185	12	197	11.8	Hypertensive Diseases	192	129	321	18.93	Tuberculosis All Forms	204	11.74
10	Diseases of the Digestive Organs	205	12.85	Diseases of the Digestive Organs	195	11.95	Septicemia	106	89	195	11.68	Tuberculosis all forms	213	73	286	16.86	Digestive Organs	184	10.59

Source: City Health Office





Source: City Health Office

## Nutrition Status

The data below are gathered from the Operation Timbang (OPT) Plus. This is an annual weighing and height measurement of all preschoolers 0-71 months old or below six years old in a community to identify and locate malnourished children which is administered by the City Health Office through its Nutrition Division.

The OPT Plus results show that there are more normal pre-schoolers in terms of nutrition based on their weight, height and age. It is also noted that the trend of malnourished children in the city is declining from 2014-2018. The City Health Office (CHO) has been aggressively pursuing their nutrition programs like feeding activities to the day care center students, and the implementation of the Integrated Management of Acute Malnutrition.

In 2018, there are 6,291 pre-schoolers who are underweight and 959 pre-schoolers who are severely underweight. These data show that there is a 0.05% decrease from the number of underweight children compared to 2017. Also, a decline is noted by 0.22% for severely underweight compared to 2017.

Stunting as defined by the World Health Organization (WHO) is the impaired growth and development that children experience from poor nutrition, repeated infection, and

inadequate psychosocial stimulation. In 2018, 4.16% are stunted pre-schoolers and 0.92% are severely stunted as recorded. However, these data are lower by 0.85% for stunted and 0.7% for severely stunted compared to 2017.

Wasting occurs when a child rapidly loses body weight as a result of moderate or severe malnutrition, putting a child at increased risk of illness or death. In 2018, 0.61% of wasted are pre-schoolers. Moreover, severely wasted children are, on average, 11 times more likely to die than their healthy counterparts, as wasting is shown to increase the risk of death from infectious diseases such as diarrhea, pneumonia and measles. Even higher mortality has been reported when children are both wasted and stunted. The data in severely wasted pre-schoolers show a remarkable drop of 0.62% points. This means that there is a consistent decline in the number of severely wasted pre-schoolers from 0.67% in 2014 to 0.05% in 2018.

The prevalence of overweight and obese children between 0-59-months old, has been declining over the past five years from 1.75% in 2014 to less than 1% in 2018.

**Table SO-6. Malnourished Children for the Past Five Years, 2014-2018**

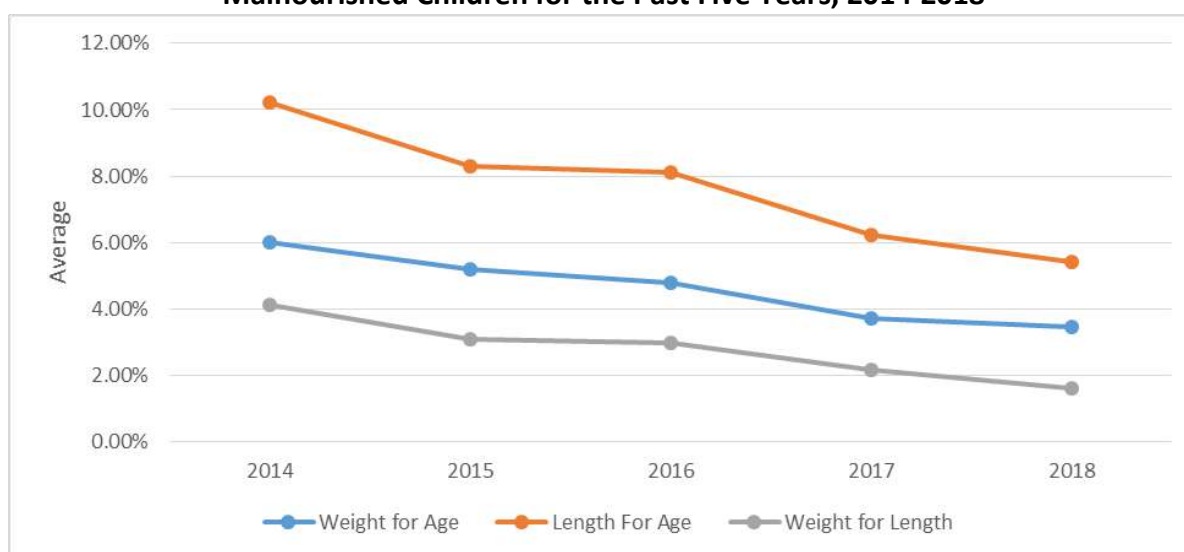
Degree of Malnutrition	Davao City									
	2014		2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Weight for Age</b>										
Normal	176,169	93.98%	186,172	94.81%	187,391	95.23%	197,439	96.28%	202,613	96.55%
Underweight	7,404	3.95%	6,555	3.34%	6,393	3.25%	5,065	2.47%	5,230	2.49%
Severely Underweight	1,885	1.00%	1,554	0.79%	1,355	0.69%	1,212	0.59%	830	0.40%
Overweight	2,005	1.07%	2,092	1.07%	1,634	0.83%	1,353	0.66%	1,183	0.56%
Total Number of Children (0-71 months old)	187,463		196,373		196,773		205,069		209,856	
<b>Length for Age</b>										
Normal	165,081	88.06%	177,669	90.40%	178,568	90.75%	190,784	93.03%	196,953	93.85%
Stunted	14,026	7.48%	12,188	6.20%	12,213	6.21%	10,276	5.01%	9,230	4.40%
Severely Stunted	5,105	2.72%	4,142	2.11%	3,740	1.90%	2,500	1.22%	2,129	1.01%
Tall	3,251	1.73%	2,546	1.30%	2,252	1.14%	1,509	0.74%	1,544	0.74%
Total Number of Children (0-71 months old)	187,463		196,545		196,773		205,069		209,856	

Table SO-6. Malnourished Children for the Past Five Years, 2014-2018, cont.

Degree of Malnutrition	Davao City									
	2014		2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Weight for Length</b>										
Normal	182,164	95.90%	190,571	96.91%	190,937	97.03%	200,620	97.83%	206,447	98.38%
Wasted	3,216	1.69%	2,486	1.26%	2,224	1.13%	1,807	0.88%	1,271	0.61%
Severely Wasted	1,256	0.66%	611	0.31%	512	0.26%	166	0.08%	112	0.05%
Overweight	2,093	1.10%	1,982	1.01%	1,978	1.01%	1,649	0.80%	1,342	0.64%
Obese	1,228	0.65%	1,001	0.51%	1,122	0.57%	827	0.40%	684	0.33%
Total Number of Children (0-71 months old)	189,957		196,651		196,773		205,069		209,856	

Source: City Health Office

Malnourished Children for the Past Five Years, 2014-2018



Source: City Health Office

## Cemeteries and Memorial Parks

Cemeteries are a necessary social element in providing the society's needs for the memorialization and accommodation of the deceased. Thus, the presence of cemeteries and memorial parks are integral components of the fabric of the city.

At present, the city has a total of 35 cemeteries located in the different districts. There are 10 public cemeteries that are owned and managed by the city through the City Economic Enterprise and another 10 public cemeteries that are under the jurisdiction of the barangays where they are situated. Furthermore, there are 15 privately-owned memorial parks who offer their lots commercially.

The main issues in the public cemeteries are congestion and non-availability of lots or graves. Also, it is noted that the public cemeteries have not been managed well in terms of the arrangement and designation of the graves. Redevelopment of these cemeteries to accommodate move in a more organized system should be given priority, given the difficulty of finding new sites for the purpose.

The Wireless Public Cemetery has undergone a redevelopment last 2014 with a budget of 23 million pesos. Currently, the cemetery has compartmentalized niches and provides adequate spaces for burial rites and for families to visit.

**Table SO-7. Cemeteries and Memorial Parks, 2018**

Name of Cemetery/ Memorial Park	Barangay	Owner- ship	Area (Hectare s)	Capacity (No. of Plots)	Remarks
Wireless Public Cemetery	8-A	City	1.1	2000 - Niches 8,300- Ossuary	Compartmentalized niches. Ossuaries are the mode of burial. Presence of Chinese and Japanese Shrines
Ma-a and Muslim cemetery	Ma-a	City	4.9	10385	Mixed type of cemetery, includes Muslim burial. Main Road is occupied by Informal Settlers.
Panacan Public Cemetery	Panacan	City	0.9	1100	Has vacant lots. Some areas are flooded. Vertical Construction of Burial Structure is allowed.
Tibungco Public Cemetery	Tibungco	City	2.7	1350	Has compartmentalized niches. Vertical Construction of Burial Structure burial is allowed. Few grave lots are available. Mixed with Muslim Cemetery
Bunawan Public Cemetery	Bunawan	City	0.9	1800	No available grave lots. Vertical Construction of Burial Structure burial is allowed.

Table SO-7. Cemeteries and Memorial Parks, 2018, cont.

Name of Cemetery/ Memorial Park	Barangay	Owner- ship	Area (Hectare s)	Capacity (No. of Plots)	Remarks
Mintal Public Cemetery	Mintal	City	3.4	6100	No available grave lots. 1 ha. Is occupied by the Mandalunes family since 1948. Vertical Construction of Burial Structure burial is allowed. Presence of Japanese Shrines. Mixed with Muslim Cemetery
Tugbok Public Cemetery	Tugbok	City	1	3340	No available grave lots. Vertical Construction of Burial Structure burial is allowed.
Calinan Public Cemetery	Calinan	City	0.6	1500	No available grave lots. Vertical Construction of Burial Structure burial is allowed.
Toril Public Cemetery	Lubogan	City	1.6	15000	Few available grave lots. Vertical Construction of Burial Structure burial is allowed.
Tagakpan Public Cemetery	Tagakpan	City	2.3	2000	Operated by the Council of Tagakpan
Buhangin Memorial Park	Buhangin	Private	8.1578	15200	Privately Owned and Operated
Forest Lake Memorial Park Panacan	Panacan	Private	9.0183	19822	Privately Owned and Operated
Manila Memorial Park	Magtuod	Private	52.8	124000	Privately Owned and Operated
Forest Lake Memorial Park Ma-a	Ma-a	Private	8.65	21104	Privately Owned and Operated
Toril Memorial Park	Lubogan	Private	3.2	10000	Privately Owned and Operated
San Pedro Memorial Park	9-A	Private	4.6	10000	Privately Owned and Operated
Forest Lake Memorial Park	9-A	Private	8.16	13646	Privately Owned and Operated
Roman Catholic Cemetery	8-A	Private	4.5	10000	Operated by the Bishop's Palace
Orchard Garden Memorial Park	8-A	Private	2.9178	9864	Privately Owned and Operated
Davao Masonic Cemetery	8-A	Private	4	3,000	Privately Owned and Operated
Chinese Cemetery	9-A	Private	6	12000	Privately Owned and Operated
Davao Memorial Park	Matina Crossing	Private	18	30000	Privately Owned and Operated. With Crematorium
Calinan Memorial Park	Calinan	Private	5	20000	Privately Owned and Operated
Mt. Apo Garden Memorial Park	Riverside Clainan	Private	18	27903	Privately Owned and Operated
Mandug Cemetery	Mandug	Barangay	2	1400	Muslim Cemetery
Ulas Public Cemetery	Talomo	Barangay	1	1500	Operation is under the Barangay
Baguio Public Cemetery	Baguio	Barangay	1	1200	Operation is under the Barangay

**Table SO-7. Cemeteries and Memorial Parks, 2018, cont.**

Name of Cemetery/ Memorial Park	Barangay	Owner- ship	Area (Hectare s)	Capacity (No. of Plots)	Remarks
Gumalang Public Cemetery	Gumalang	Barangay	1.5	1300	Operation is under the Barangay
Malabog Public Cemetery	Malabog	Barangay	1	1100	Operation is under the Barangay
Tamugan Public Cemetery	Tamugan	Barangay	0.5	600	Operation is under the Barangay
Lumundao Catholic Cemetery	Marilog Proper	Private	5	2,000	Privately owned.
Upper Kibalang Public Cemetery	Marilog Proper	Barangay	5	2,500	Operation is under the Barangay. 1 ha. Is used for school
Buda Public Cemetery	Buda	Barangay	0.5	500	Operation is under the Barangay
Paquibato Public Cemetery	Paquibato Proper	Barangay	2	2,000	Operation is under the Barangay
Pictan Public Cemetery	Calinan	Barangay	1	1,000	Operation is under the Barangay

Source: City Economic Enterprise and Public and Private Operators

## Toilet Facilities

Basic toilet facilities shall be available in every household because sanitation is essential for the total human development. In Davao City, 93.39 percent of households have hygienic toilet facilities, while there are 6.61 percent of the total number of households that do not have or lack toilet facilities and are using unsanitary practices.

The influx of informal settler families living along waterways and coastal areas contributes to the number of households that do not have available sanitary toilet facilities. Meanwhile, those who are living in the rural areas still do not have access to these toilet amenities due to limited resources and are still practicing open defecation practices.

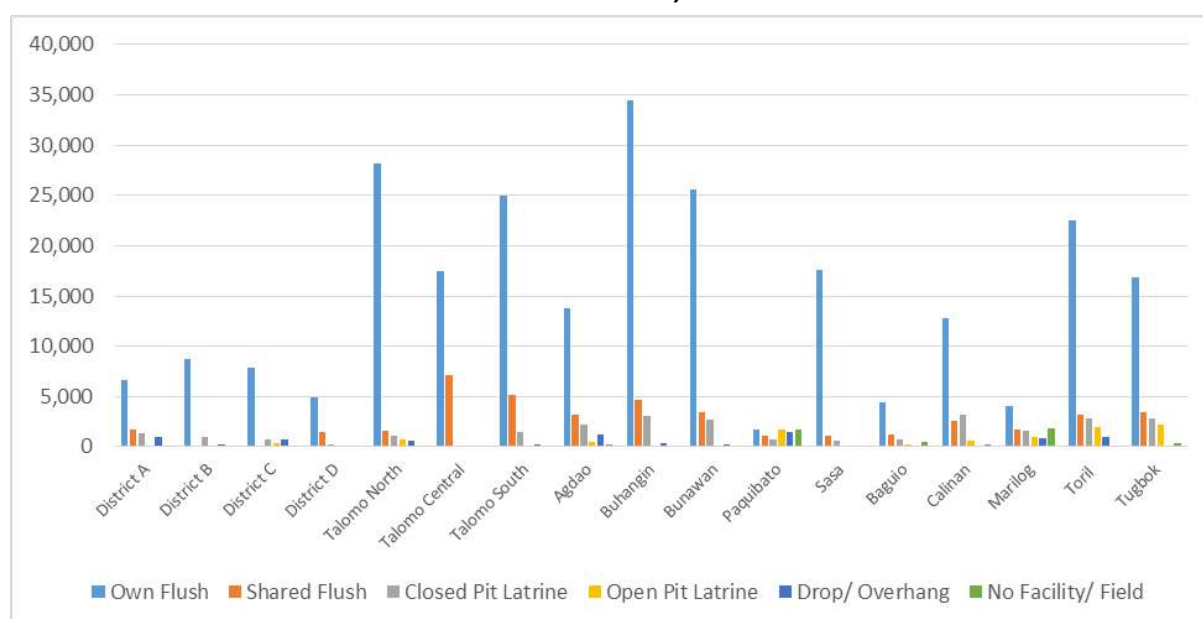
Given the data in Table SO - 8 (see next page), there are still a number of households that are using Open Pits, Drop/Overhang or having no toilet facilities at all. These unsanitary toilet practices will promote and exacerbate the proliferation of bacteria and pathogens that may pose health hazards and cause severe illnesses and disease outbreak such as polio and cholera. Gastritis, gastroenteritis, and diarrhea, which are leading causes of morbidity in the past five (5) years, are also among of the diseases that can be a result of these pathological microorganisms.

**Table SO-8. Number of Households in Occupied Housing Units  
by Type of Toilet Facilities, 2018**

District	Type of Toilet Facility							
	Sanitary				Unsanitary			
	Own Flush	Shared Flush	Closed Pit Latrine	TOTAL	Open Pit Latrine	Drop/Overhang	No Facility/Field	TOTAL
District A	6,587	1,756	1,285	9,628	-	910	-	910
District B	8,723	-	985	9,708	58	196	-	254
District C	7,840	-	698	8,538	362	682	-	1,044
District D	4,939	1,481	260	6,680	68	26	-	94
Talomo North	28,183	1,601	1,080	30,864	680	568	-	1,248
Talomo Central	17,411	7,121	98	24,630	-	-	-	-
Talomo South	24,949	5,182	1,460	31,591	56	186	32	274
Agdao	13,825	3,140	2,180	19,145	476	1,260	265	2,001
Buhangin	34,442	4,716	3,008	42,166	61	380	54	495
Bunawan	25,552	3,481	2,671	31,704	140	260	121	521
Paquibato	1,768	1,071	780	3,619	1,686	1,490	1,680	4,856
Sasa	17,561	1,090	612	19,263	120	-	-	120
Baguio	4,427	1,256	672	6,355	286	68	460	814
Calinan	12,776	2,628	3,190	18,594	581	46	268	895
Marilog	4,028	1,760	1,601	7,389	987	798	1,875	3,660
Toril	22,459	3,180	2,860	28,499	1,907	946	86	2,939
Tugbok	16,819	3,460	2,780	23,059	2,161	167	296	2,624
<b>Total</b>	<b>252,289</b>	<b>42,923</b>	<b>26,220</b>	<b>321,432</b>	<b>9,629</b>	<b>7,983</b>	<b>5,137</b>	<b>22,749</b>

Source: City Health Office

**Number of Households in Occupied Housing Units by Type of  
Toilet Facilities, 2018**



Source: City Health Office



## Solid Waste Management

Davao City's waste generation continues to rise with the increase in population, improvement of living standards and economic growth especially within the urban areas. The City Environment and Natural Resources Office (CENRO) has calculated waste generated per day and resulted to 990.703 tons in 2017 has increased by 2.2% in 2018 or having 1012.486 tons on a daily basis.

Solid wastes are generated from different sources and these are categorized into Domestic, Commercial, Industrial, Hospital, and others. Residential wastes account for the bulk of the total solid waste by 80.10% (e.g. kitchen scraps, yard waste, paper and cardboards, glass bottles, etc.) Wastes from commercial sources which include food establishments, general stores, public markets and recreational centers and memorial parks total to 12.8%. Wastes from industries, farms and service centers add up to 3.2%. On the other hand, hospital wastes generate 1.70% while those belonging to others, specifically from institutions (e.g. government offices, academic institutions) produce 1.60% thus, Slaughterhouses & Dressing Plants yield 0.60% of the total waste.

The city's solid wastes typically contain more organic components than other materials. According to CENRO, disposed waste is dominated by biodegradable waste with 50 percent, followed by residuals which accounts for 29 percent, recyclable at 19 percent and special waste at 2 percent. Biodegradable wastes come mostly from food and yard garbage. Residual wastes are those rubbish that cannot be reused, recycled or composted. Recycling and waste segregation continue to be a challenge despite the environmental campaigns of the CENRO and the rules and regulations as mandated in the Davao City Ecological Solid Wastes Management Ordinance of 2009.

The proposed Ten-Year Solid Waste Management Plan aims at conserving and protecting the environment through proper solid waste management and disposal; ensuring public health among constituents and protect them from environmental hazards, pests, and diseases; and improving efficiency and effectiveness of the local government in delivering SWM services.

There are three identified key strategies in the abovementioned plan. These are waste diversion, collection and transport, and disposal management. These shall lead to the attainment of the following objectives by the end year of its plan, to wit:

- 90% of the city residents are proactively engaged and practicing segregation and waste reduction at source;
- Divert at least 92% of waste generated to composting and recycling facilities by end 2027 and increase the diversion rate every year thereafter;
- To improve the efficiency and expand coverage of waste collection, transport, and disposal services;
- Promote the establishment of private recycling and composting facilities;
- Rehabilitation and enhance the operation of a category four Sanitary Landfill (SLF) in

New Carmen in 2018 to serve 182 barangays and extend the life of the landfill beyond the target life of 2019;

- Strengthen the existing capacity of the Solid Waste Management organization through additional resources and expanded network to implement the City's SWM program;
- To continuously train and strengthen Barangay Solid Waste Management Committees in all barangays;
- Establish a new Davao City Sanitary Landfill in response to the urgent need of a new one; and
- Enhance the Solid Waste Management of the city through an appropriate Waste to Energy (WTE) Facility along with the new Sanitary Landfill facility.

It is the responsibility of the Local Government Unit to collect, transport and dispose solid wastes as stated in the Republic Act 9003 or also known as Solid Waste Management Act. At present, the city owns a few number collecting trucks and these are augmented by outsourcing the collection to private contractors. The scope of the collection only covers 112 barangays and according to CENRO only residual and special wastes are regularly collected by garbage trucks.

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The city is expecting the final phase of establishing the waste-to-energy facility, a grant from the government of Japan, with Davao City as the beneficiary local government unit. A sewerage treatment plant is also part of the plan to be constructed within the CLUP period to form part of the solid waste disposal program of the city.

This is expected to further support the practice among city residents of segregating their waste at the household level.

**Table SO-9 Methods of Solid Waste Disposal/Treatment, 2018**

Methods	Quantity (Total City Solid Waste Generated)	No. of Households Served	Agency Responsible
Collected and disposed to:			
Sanitary Landfill	313,871 Kilograms	359,813	CENRO
Composting	506,244 Kilograms	359,813	Barangay
Recycling	192,372 Kilograms	359,813	Barangay

Source: City Environment and Natural Resources Office

**Table SO-10. Wastewater Generation by Source and Treatment/Disposal Methods, 2017**

Source	Volume of Wastewater generated (tons/day)	Disposal Methods/ Treatment Facilities	Disposal Site
Domestic	807.9995	Septage Treatment Plant, Septic Tank	Canals / Drainage
Commercial	188.227	Septage Treatment Plant	Canals / Drainage
Industrial	437814.287	Wastewater Treatment Facility	Nearest Receiving Water Body
Hospital	100.646	Septage Treatment Plant, Septic Tank	Collected by Accredited DOH Treatment Facility

Source: Department of Environment and Natural Resources, Environmental Management Bureau

## Current and Future needs

**Health facilities** - The projected population of Davao City will increase by 28.2% from 1,748,279 in 2018 to 2,245,136 in 2027. It is implied that as the population increases, the demand for health services will also go up. More Barangay Health Stations are needed for the five (5) districts, from Talomo, Poblacion, Agdao, Buhangin and Bunawan as these areas have high population density. However, the availability of land to establish health stations is a challenge in these said areas. This scenario does not remain true in the rest of the districts, wherein only a few number of health centers are required. But the dilemma falls on the strategic placement and distance of the barangay health stations in order to reach far-flung barangays. The challenge is not on land availability but on how to strategically place the health facilities to serve more clients given the sparse distribution of population in the rural areas.

The ideal number of barangay health stations for 2018 is 350 and will continue to increase up to 424 over a 10-year period. Furthermore, to cover the population of 2,166,317 in 2018, the needed number of Rural Health Stations or Urban Health Centers should be 82 in order to achieve the standard ratio set by DOH which is 1RHU/UHC per 20,000 population. The City Health Office has been very active in constructing and renovating Barangay Health Stations and Rural Health Units through their Health Facilities Enhancement Program which is directed to enhance the healthcare delivery system of the City. This will also increase the reach in the number of clientele to receive basic healthcare and services.

Currently the City has 215 Health Centers which includes 1 District Hospital, 17 Rural Health Units, 3 Urban Health Clinics, 2 Teen Centers and an Ambulatory Surgery Clinic which provide access to all the health services that the city is offering.

**SO-11. Projected Requirements for Barangay Health Facilities, 2019-2028**

Districts	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Talomo District	87	90	91	93	96	96	101	102	103	104
Poblacion District	50	50	50	50	52	52	53	54	54	54
Agdao District	16	17	20	20	20	20	20	22	22	23
Buhangin District	56	59	62	62	63	64	66	68	69	71
Bunawan District	30	31	31	31	32	33	33	35	35	35
Paquibato District	13	13	13	12	13	13	13	13	13	14
Baguio District	9	9	9	9	9	9	9	9	9	9
Calinan District	25	24	25	25	25	25	25	25	25	25
Marilog District	14	14	14	14	15	16	16	16	16	16
Toril District	36	35	35	35	36	37	39	40	42	41
Tugbok District	27	27	28	27	30	30	31	32	32	32
<b>Total</b>	<b>363</b>	<b>369</b>	<b>378</b>	<b>378</b>	<b>391</b>	<b>395</b>	<b>406</b>	<b>416</b>	<b>420</b>	<b>424</b>
<b>Total Difference on Current Number of Facilities</b>	<b>148</b>	<b>154</b>	<b>163</b>	<b>163</b>	<b>176</b>	<b>180</b>	<b>191</b>	<b>201</b>	<b>205</b>	<b>209</b>

\*Population is based on CPDO's computation

\*\*Computed based on ratio of 1 Barangay Health Stations per 5,000 population

**SO-12 Projected Requirements for Rural Health Units/Urban Health Centers, 2019-2028**

District	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Talomo	458,477	469,022	479,809	490,845	502,134	513,683	525,498	537,585	549,949	562,598
	22	23	23	24	25	25	26	26	27	28
	3	3	3	3	3	3	3	3	3	3
	19	20	20	21	22	22	23	23	24	25
Poblacion	190,701	195,087	199,574	204,165	208,860	213,664	218,579	223,606	228,749	234,010
	9	9	9	10	10	10	10	11	11	11
	4	4	4	4	4	4	4	4	4	4
	5	5	5	6	6	6	6	7	7	7
Agdao District	112,005	114,581	117,217	119,913	122,671	125,492	128,378	131,331	134,352	137,442
	5	5	5	5	6	6	6	6	6	6
	1	1	1	1	1	1	1	1	1	1
	4	4	4	4	5	5	5	5	5	5
Buhangin District	321,030	328,413	335,967	343,694	351,599	359,686	367,958	376,422	385,079	385,079
	16	16	16	16	17	17	17	17	19	19
	3	3	3	3	3	3	3	3	3	3
	13	13	13	13	14	14	14	14	16	16

## SO-12 Projected Requirements for Rural Health Units/Urban Health Centers, 2019-2028

District	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Bunawan District	166,586	170,417	174,337	178,346	182,448	186,645	190,938	195,329	199,822	199,822
	8	8	8	8	9	9	9	9	9	9
	1	1	1	1	1	1	1	1	1	1
	7	7	7	7	8	8	8	8	8	8
Paquibato District	49,025	50,153	51,307	52,487	53,694	54,929	56,192	57,485	58,807	58,807
	2	2	2	2	2	2	2	2	2	2
	2	2	2	2	2	2	2	2	2	2
	0	0	0	0	0	0	0	0	0	0
Baguio District	37,098	37,952	38,825	39,718	40,631	41,566	42,522	43,500	44,500	44,500
	1	1	1	1	2	2	2	2	2	2
	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	1	1	1	1	1	1
Calinan District	100,843	103,162	105,535	107,962	110,445	112,985	115,584	118,243	120,962	120,962
	5	5	5	5	5	5	5	5	6	6
	1	1	1	1	1	1	1	1	1	1
	4	4	4	4	4	4	4	4	5	5
Marilog District	57,172	58,487	59,832	61,208	62,616	64,056	65,529	67,036	68,578	68,578
	2	2	2	3	3	3	3	3	3	3
	2	2	2	2	2	2	2	2	2	2
	0	0	0	1	1	1	1	1	1	1
Toril District	162,665	166,406	170,233	174,149	178,154	182,252	186,443	190,732	195,118	195,118
	8	8	8	8	8	9	9	9	9	9
	2	2	2	2	2	2	2	2	2	2
	8	8	8	8	8	9	9	9	9	9
Tugbok District	132,888	135,944	139,071	142,270	145,542	148,889	152,314	155,817	159,401	159,401
	6	6	6	7	7	7	7	7	7	7
	2	2	2	2	2	2	2	2	2	2
	4	4	4	5	5	5	5	5	5	5
TOTAL	1,788,489	1,829,624	1,871,706	1,914,756	1,958,794	2,003,847	2,049,936	2,097,085	2,145,318	2,166,317
	84	85	85	89	94	95	96	97	101	102
	22	22	22	22	22	22	22	22	22	22
	64	65	65	69	74	75	76	77	81	82

Legend:	Population	Standard Number	Existing	Current Need
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\*Population is based on CPDO's computation

\*\*Computed based on ratio of 1 Urban Health Center per 20,000 population per DOH Standard

**Cemeteries/Memorial Parks** - The current projected area need for burial grounds is 229 hectares. There are three (3) private cemeteries that have started their application process and these will provide an additional area of 12 hectares for cemeteries and memorial parks.

**Table SO-13. Projected Area Requirements for Burial Ground, 2019-2028**

Year	Projected Number of Deaths	Projected Population	Projected Area Requirements for Burial Ground (Ha)
2019	11,096	1,788,489	191.68
2020	11,351	1,829,624	196.09
2021	11,612	1,871,706	200.6
2022	11,879	1,914,755	205.21
2023	12,152	1,958,794	209.93
2024	12,432	2,003,847	214.76
2025	12,718	2,049,935	219.7
2026	13,010	2,097,084	224.76
2027	13,310	2,145,317	229.93
2028	13,616	2,194,659	235.21

*\*Based on CPDO Computation based on HLURB Guidelines*

*\*Crude Birth Rate used is the average from 2014-2018*

*\*Participation Rate used is at 70.8%*

*\*Plot Size: 1m x 2.44m*

**Sanitary Landfill** – The present Sanitary Landfill of Davao City is located at New Carmen which is approximately 16 kilometers away from the city center with a land area of 3.8 Hectares. In 2028, the city needed a total of 9.99 hectares to accommodate waste generation of 2,194,659 population of 399 tons of waste generated per year.

The city shall add more garbage trucks in order to extend the scope of collection residual wastes to all barangays in the city and a dedicated collection truck for special and medical wastes to proper disposal channels.

The city is planning to open a waste to energy facility in order to overcome the challenges that the city is currently facing through the establishment of a sustainable integrated waste management facility. With this, the city should intensify the promotion and implementation of reducing garbage, reusing and recycling.

**Table SO 14 – Projected Area Requirement for Sanitary Landfill, Davao City, 2019-2028**

Year	Projected Population	Waste Generated in Tons	Land Area Requirement in square meters	Total Land Area Requirement in Hectares
2019	1,788,489	325,504,998	81,376	8.14
2020	1,829,624	332,991,568	83,248	8.32
2021	1,871,706	340,650,492	85,163	8.52
2022	1,914,755	348,485,410	87,121	8.71
2023	1,958,794	356,500,508	89,125	8.91
2024	2,003,847	364,700,154	91,175	9.12
2025	2,049,935	373,088,170	93,272	9.33
2026	2,097,084	381,669,288	95,417	9.54
2027	2,145,317	390,447,694	97,612	9.76
2028	2,194,659	399,427,938	99,857	9.99

*\*Based on CPDO Computation based on HLURB Guidelines*

**Waste water-** Davao City's urbanization and industrialization, along with low sanitation coverage and poor wastewater management, contribute to the pollution in the Davao River and Davao Gulf. With this, the city through its Infrastructure Modernization for Davao or IM4 Davao will cover wastewater management as one of its priority urban infrastructure development plan.

The IM4Davao project proposes that the future urban area of the city should have at least six (6) main sewage treatment plants. First, Davao City is to prepare a detailed plan for the sewer system. After that, the city starts the construction of the sewer system until the completion of the whole system in 2045.

The first sewerage plant is proposed to serve and cover the areas of Poblacion and Agdao. The proposed site is partly on Magsaysay Park and the rest on the reclamation structure between Magsaysay Park and the causeway, which is to be constructed to accommodate the Davao City Coastal Road. The first plant project includes a double-layered type of structure with half-underground type sewage treatment plant and interceptor sewer line (7.3 km in total). When the rooftop of the sewage treatment plant will be made higher than the coastal road and will be open to the public as part of the Magsaysay Park, the plant can ensure that the citizens will have a view of the sea from the park regardless of the causeway offshore.

Wastewater management continues to become a challenge and the city should be able to:

1. Establish the right enabling environment with plans and programs that will be proved through a strong commitment from the Local Government Unit (LGU) and other stakeholders,
2. Local policies promoting wastewater reuse and river cleaning master plans, and legal framework for the LGU action and funding, and,
3. Raising and promoting awareness to engage the public regarding the wastewater advocacy.

**Toilets-** Households using unsanitary practices should be prepared and educated if they will be shifting from open defecation system to having their own or shared toilet facilities. Also, they should be guided throughout the shift in approaches from collective behavior change accompanied by health education on hygiene. Moreover, infrastructure support and health governance and services through the Zero Open Defecation Program should be prioritized in order to realize the goal wherein all households in Davao City will be using sanitary type of toilet facilities.



## Sectoral Analysis Matrix

### Health and Sanitation

TECHNICAL FINDINGS/OBSERVATION	IMPLICATION (EFFECTS)	POLICY OPTION/INTERVENTIONS
<p><b>Inadequate Number of Healthcare Facilities</b></p> <p>12 Barangays do not have Health Stations. 15 BHS are attached to the Barangay Halls. Only one Government-owned hospital located in the city that provide health services to the whole Mindanao Region.</p> <ul style="list-style-type: none"> <li>•13 BHS were identified to be flood prone; 10 BHS are categorized as moderate risk and 3 BHS as high risk.</li> <li>•13 BHS were classified to landslide prone having 10 BHS as moderate risk and 3 as high risk.</li> </ul>	<p>Low coverage and reach of basic health services delivery to the public.</p>	<p>Establishment of Health Stations in every Barangay.</p> <p>Establishment of Urban Health Centers in highly populated districts.</p> <p>Rehabilitation and Improvement of Barangay Health Stations. Establishment of a City Hospital to be located at the 3<sup>rd</sup> Congressional District.</p>
<p><b>High Incidence of Lifestyle Related Diseases.</b></p> <p>Cardiovascular diseases account to 43.28% of mortality in 2017.</p> <p>Diseases of the heart and Diabetes are included in the Top 10 Causes of Morbidity in 2017.</p> <p>Low health seeking behavior of the public</p>	<p>High Incidence of lifestyle related diseases.</p> <p>Contributes to the increasing number of morbidity and mortality related to diseases.</p>	<p>Establishment of Community Wellness Centers in the Barangays with outdoor fitness parks.</p> <p>Develop more parks and greening of center islands to encourage walking.</p> <p>Revisit the Bicycle Lane Ordinance of Davao City Intensify IEC</p>
<p><b>Partial Compliance of the Ecological Solid Waste Management Ordinance</b></p> <p>Partial Compliance of waste segregation at source.</p> <p>Sanitary Landfill is almost full. 217,922.4 Tons of Solid Waste collected in 2018.</p> <p>Only 112 Barangays are served by CENRO in terms of garbage collection.</p>	<p>Increasing Solid Wastes in the City that are dumped at the Sanitary Landfill. Mix up of wastes bio recyclables to residuals Shortened lifespan of Sanitary Landfill.</p> <p>Environmental, Health and Sanitation Hazards. High Risk of Land, Water and Air Pollution.</p> <p>Shortage of Land Area for Dumping and other Solid Waste Management Facilities.</p>	<p>Identification of Waste Management Zones for:</p> <p>Junkshops &amp; other areas for Recyclers Establishment of Material Recovery Facilities in every Barangay.</p> <p>Creation of Residual Containment Areas to serve the other 70 Barangays.</p> <p>Establishment of Communal Composting Areas at the Barangay/Community level.</p>

## Sectoral Analysis Matrix

### Health and Sanitation

TECHNICAL FINDINGS/OBSERVATION	IMPLICATION (EFFECTS)	POLICY OPTION/INTERVENTIONS																		
.		<p>Establishment of a Waste to Energy Facility.</p> <p>Installation of a City-owned Facility to handle special wastes from healthcare facilities.</p> <p>Establishment of 2 additional new Sanitary Landfill with the following:</p> <p>Gas vent for capturing methane gas emitted from previous controlled dump facility.</p> <p>Monitoring wells for the underground water monitoring during operation.</p> <p>Waste water treatment facility (WWTF) for the leachate during operation.</p>																		
<p><b>Partial Compliance of the Septage and Sewerage Management Ordinance</b></p> <p>According to DENR-EMB, Domestic wastewater is a major source of pollution.</p> <p>Total Coliform found at the Davao River was estimated at 4,900 to 1,887,000 most probable number (mpn) per 100ml vs. standard 1,000mpn per 100ml. (2014 Water Quality Assessment of DENR-EMB)</p>	<p>Increased Risk for Water Pollution</p>	<p>Identification of Waste Management Zones for the installation of Water Treatment Facilities.</p>																		
<p><b>Congestion of Public Cemeteries</b></p> <table border="1"> <thead> <tr> <th>Cemetery</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Ma-a Cemetery</td> <td>Few Vacant Lots</td> </tr> <tr> <td>Panacan Public Cemetery</td> <td>Few Vacant Lots</td> </tr> <tr> <td>Tibungco Public Cemetery</td> <td>Few Vacant Lots</td> </tr> <tr> <td>Bunawan Public Cemetery</td> <td>No Available Lots</td> </tr> <tr> <td>Mintal Public Cemetery</td> <td>No Available Lots</td> </tr> <tr> <td>Tugbok Public Cemetery</td> <td>No Available Lots</td> </tr> <tr> <td>Calinan Public Cemetery</td> <td>No Available Lots</td> </tr> <tr> <td>Toril Public Cemetery</td> <td>Few Vacant Lots</td> </tr> </tbody> </table>	Cemetery	Remarks	Ma-a Cemetery	Few Vacant Lots	Panacan Public Cemetery	Few Vacant Lots	Tibungco Public Cemetery	Few Vacant Lots	Bunawan Public Cemetery	No Available Lots	Mintal Public Cemetery	No Available Lots	Tugbok Public Cemetery	No Available Lots	Calinan Public Cemetery	No Available Lots	Toril Public Cemetery	Few Vacant Lots	<p>Health and sanitation hazards due to deteriorating cemetery conditions.</p> <p>Layout of graves is not properly arranged and organized which contributes to the increasing space constraints.</p>	<p>Redevelopment of existing public cemeteries that would include the following facilities:</p> <p>Spacious Walkways Funeral Chapels Apartment Niches Crematorium Columbarium</p>
Cemetery	Remarks																			
Ma-a Cemetery	Few Vacant Lots																			
Panacan Public Cemetery	Few Vacant Lots																			
Tibungco Public Cemetery	Few Vacant Lots																			
Bunawan Public Cemetery	No Available Lots																			
Mintal Public Cemetery	No Available Lots																			
Tugbok Public Cemetery	No Available Lots																			
Calinan Public Cemetery	No Available Lots																			
Toril Public Cemetery	Few Vacant Lots																			

### Health Sub-sector Program/ Projects Approved/ Funded for Implementation

Name/ Type of Project	Location	Proponent	Project Cost	Estimated Start Date	Estimated Date of Completion
Completion Works of TB-DOTS Area	Talomo South Health Center	Government DOH-HFEP	2,000,000	22-Feb-18	11-Nov-18
Completion/ Extension of RHU Building and TB-DOTS Clinic	Jacinto Health Center	Government DOH-HFEP	1,500,000	23-Apr-18	14-May-18
Completion of TB-DOTS Area and Extension of RHU Building	Bunawan Health Center	Government DOH-HFEP	1,500,000	25-Feb-18	06-May-18
Completion Works of RHU Building	Toril Health Center	Government DOH-HFEP	2,000,000	01-Mar-18	20-Jul-18
Completion Works of TB-DOTS Area	Crossing Bayabas RHU Family Planning Ambulatory Surgical Center	Government DOH-HFEP	2,500,000	05-Feb-18	04-May-18
Construction of BHS	Bago Aplaya BHS	Government DOH-HFEP	1,200,000	8-Feb-18	16-Aug-18
Construction of BHS	Baliok Barangay Health Station, Makar	Government DOH-HFEP	1,200,000	18-Feb-18	11-Mar-19
Construction of BHS	Baliok Barangay Health Station, Purok 6	Government DOH-HFEP	1,200,000	8-Feb-18	24-Apr-18
Construction of BHS	Langub Barangay Health Station	Government DOH-HFEP	2,200,000	26-Mar-18	23-Jul-18
Completion of BHS	Ma-a Barangay Health Station	Government DOH-HFEP	1,200,000	23-Apr-18	12-Jul-18
Completion of BHS	Matina Pangi Barangay Health Station	Government DOH-HFEP	1,200,000	8-Feb-18	29-Oct-18
Repair/Renovation of BHS	Brgy. 5-A BHS	Government DOH-HFEP	1,200,000	25-Feb-18	22-May-18
Construction of BHS	Brgy. 19-B BHS	Government DOH-HFEP	1,200,000	12-Mar-18	8-Jul-18
Repair/Renovation of BHS	Brgy. 21-C BHS	Government DOH-HFEP	1,200,000	23-Feb-18	24-May-18
Repair/Renovation of BHS	Brgy. 37-D BHS	Government DOH-HFEP	1,200,000	23-Feb-18	8-May-18
Construction of BHS	Brgy. 76-A BHS, Kabacan	Government DOH-HFEP	1,200,000	26-Feb-18	12-May-18
Construction of BHS	Brgy. 76-A BHS, SIR	Government DOH-HFEP	1,200,000	12-Oct-18	26-Dec-18
Construction of Teen Center	Teen Center at People's Park	Government DOH-HFEP	2,800,000	21-Dec-18	30-May-18
Completion of BHS	Kasilak BHS	Government DOH-HFEP	800,000	14-Feb-18	13-Apr-18

**Health Sub-sector Program/ Projects Approved/ Funded for Implementation, cont.**

<b>Name/ Type of Project</b>	<b>Location</b>	<b>Proponent</b>	<b>Project Cost</b>	<b>Estimated Start Date</b>	<b>Estimated Date of Completion</b>
Completion of BHS	Talomo Cemento BHS	Government DOH-HFEP	400,000	19-Mar-18	1-Jun-18
Construction of BHS	Talomo NHA Re-location BHS	Government DOH-HFEP	1,200,000	8-Feb-18	4-May-18
Construction of BHS	Talomo Royal Valley BHS	Government DOH-HFEP	2,200,000	26-Feb-18	2-Jul-18
Construction of Teen Center	Centro Health Center	Government DOH-HFEP	2,500,000	7-May-18	3-Sep-18
Construction of Health Center	Angliongto Health Center	Government DOH-HFEP	1,500,000	12-Jan-18	12-Apr-18
Completion of Health Center	Callawa Health Center	Government DOH-HFEP	1,000,000	23-Feb-18	23-Aug-18
Upgrading Works of Health Center	Mandug Health Center	Government DOH-HFEP	3,000,000	26-Feb-18	20-Dec-18
Repair/Renovation of Health Center	Mahayag Health Center	Government DOH-HFEP	500,000	29-Mar-18	8-May-18
Repair/Renovation of Health Center	Sasa Health Center, Brgy. Sasa	Government DOH-HFEP	1,000,000	26-Mar-18	4-Jun-18
Construction of Health Center	Sasa District Health Center	Government DOH-HFEP	10,000,000	28-Jan-18	27-Jul-18
Repair/Renovation of Health Center	Tibungco Lying-in Clinic	Government DOH-HFEP	1,000,000	1-Feb-18	2-Apr-18
Construction of BHS	Purok 6 Tamayong BHS	Government DOH-HFEP	2,000,000	5-Feb-18	29-Nov-18
Completion/ Finishing Works of Health Center	Bago Gallera Health Center	Government DOH-HFEP	1,200,000	8-Feb-18	8-Jun-18
Construction of New Health Center	Sta. Ana Health Center	Government DOH-HFEP	10,000,000	19-Feb-18	10-Dec-18
Upgrading of Hospital Power system, Rehab of Maintenance Section and Staff House	Paquibato District Hospital	Government DOH-HFEP	4,000,000	26-Apr-18	28-Nov-18
Rehabilitation of DCDRTC	DCTRCD	Government DOH-HFEP	5,000,000	11-Dec-17	10-Sep-18
Construction of UHC Building	Indangan UHC Indangan Proper, Brgy Indangan (beside Brgy. Hall)	Government DOH-HFEP	10,800,000	For Implementation	
Construction of UHC Building	Tibungco UHC Cal Village 1, Brgy Tibungco (beside Tibungco Lying-in)	Government DOH-HFEP	10,800,000	For Implementation	
Construction of BHS with birthing facility	Sasa BHS with Birthing Facility	Government DOH-HFEP	4,800,000	For Site Evaluation	

**Health Sub-sector Program/ Projects Approved/ Funded for Implementation, cont.**

Name/ Type of Project	Location	Proponent	Project Cost	Estimated Start Date	Estimated Date of Completion
Completion of BHS	Talomo Cemento BHS	Government DOH-HFEP	500,000	21-Feb-19	11-Jun-19
Completion of BHS	Panaga BHS	Government DOH-HFEP	1,000,000	29-Oct-18	12-Jan-19
Improvement of BHS	Fatima BHS	Government DOH-HFEP	500,000	5-Jun-18	5-Mar-19
Completion of BHS	Mapula BHS	Government DOH-HFEP	1,000,000	17-Aug-18	5-Mar-19
Completion of BHS	Salapawan BHS	Government DOH-HFEP	1,000,000	20-Aug-18	28-Nov-18
Construction of BHS	Sitio Kinse-Kinse BHS	Government DOH-HFEP	2,500,000	20-Aug-18	18-Dec-18
Improving/ Upgrading of Paquibato District Hospital	Paquibato District Hospital	Government DOH-HFEP	4,000,000	4-Feb-19	3-Jul-19
Construction of BHS	Pampang BHS	Government DOH-HFEP	2,000,000	8-Dec-18	17-Apr-19
Completion of RHU	Buhangin HC	Government DOH-HFEP	5,000,000	3-Feb-19	22-Aug-19
Construction of BHS	Panacan BHS	Government DOH-HFEP	1,200,000	2-Aug-18	30-Jan-19
Improvement of Community Rehabilitation Center for Stroke Patients	Community Rehabilitation Center for Stroke Patients	Government DOH-HFEP	1,000,000	26-Jul-18	25-Oct-18
Construction of BHS	Doña Salud BHS	Government DOH-HFEP	2,000,000	No Suitable Site, Not implementable	
Completion of BHS	Binugao BHS	Government DOH-HFEP	500,000	19-Nov-18	6-Feb-19
Repair/Renovation of BHS	Datu Atan-awe BHS	Government DOH-HFEP	800,000	4-Jun-18	9-Oct-18
Construction of BHS	Sibulan BHS	Government DOH-HFEP	1,500,000	4-Jun-18	21-Sep-18
Completion of Toril Health Center	Toril HC	Government DOH-HFEP	2,000,000	11-mar-19	28-Jul-19
Construction of New City Health Building	City Hall Annex	Government DOH-HFEP	45,000,000	For Implementation	

Source: City Health Office

**Solid Waste Management Program/ Projects Approved/ Funded for Implementation**

<b>Name/ Type of Project</b>	<b>Location</b>	<b>Proponent</b>	<b>Project Cost</b>	<b>Estimated Start Date</b>	<b>Estimated Date of Completion</b>
Material Recovery Facility	Bago Oshiro	Government SGLG PCF	5,000,000	May 2018	December 2018
Material Recovery Facility	Baracatan	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Cabantian	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Dumoy	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Fatima	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Lasang	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Tacunan	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Bago Gallera	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Tagakpan	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Tugbok Proper	Government SGLG PCF		May 2018	December 2018
Material Recovery Facility	Gumalang	Government SGLG PCF		May 2018	December 2018
Waste to Energy Facility	Biao Escuela	Government Grant		2 Billion	For Implementation
Acquisition of 2 Sanitary Landfill	To Be Identified	Government-City	100 Million	For Landbanking	

## Housing

### Existing Situation

At the turn of the Millenia (2000), households grew by almost 100,000 to 240,057. A decade later in 2010, number of households already reached 334,473 or about 40% increase. The household population grew by 33.69% in a 10-year period (1990-2000). By 2010, the consolidated growth reached 1,443,890 or a 26.10% increase. The housing units (HU) also increased by 43.36% in 2000 and by 42.85% in 2010. The occupied housing units in year 1990 totaled 156,540. In year 2000, it went up to 234,149, an increase 49.58%, and to 326,577 HU, or by 39.47%.

In 1990, vacant housing units recorded a total of 6,789 which increased to 7,896 HU by 2010. The ratio of households against occupied housing units from 1990 up to 2010 is equal to or greater than one. This means that there remains a gap between supply and demand for housing units in the city. The occupancy rate in 2010 is 97.63%, higher than the national average of 92%. The ratio of population to occupied housing units is on a downward trend from 5.4 to 4.4 in 2010. This means that the average number of persons per households is decreasing.

In the case of the indigenous peoples, the city has embarked on a program to resettle and relocate them to safer areas as they are currently living in hazard prone areas, while some are affected by government infrastructure projects, living in dilapidated houses, and are homeless.

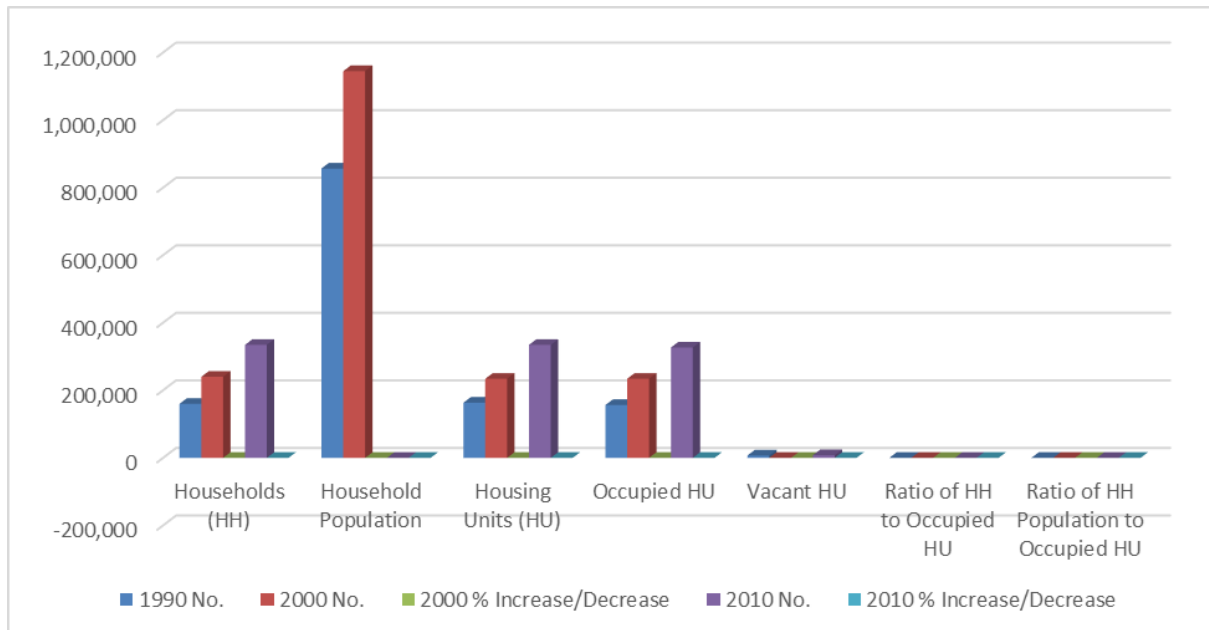
**Table SO-15. Housing situation for the Past Three Censal Years, Davao City 1990-2010**

	1990	2000		2010	
	No.	No.	% Increase/ Decrease	No.	% Increase/ Decrease
Households (HH)	159,976	240,057	50.06%	334,473	39.33%
Population	856,472	1,145,033	33.69%	1,443,890	26.10%
Housing Units (HU)	163,329	234,149	43.36%	334,473	42.85%
Occupied HU	156,540	234,149	49.58%	326,577	39.47%
Vacant HU	6,789	-	-	7,896	-
Ratio of HH to Occupied HU	1.022	1.025	0.008	1.0	-0.03
Ratio of HH Population to Occupied HU	5.407	4.89	-0.517	4.4	-0.49

Source: Philippine Statistics Authority



### Housing situation for the Past Three Censal Years, Davao City, 1990-2010



Source: Philippine Statistics Authority

### Housing Backlog

The total backlog is the sum of doubled-up households, unacceptable housing units and makeshift/salvaged/improvised housing units. It is interesting to note that unacceptable housing units decreased by over 500 to just around 350 in 2010. Backlog ballooned to 8,903 in 2000 and then returned to the 2000 levels by 2010 which can be interpreted that the period saw the capacity of households to secure housing units.

#### Computation:

*Doubled-up households = No. of Households - No. of Housing Units*

*Unacceptable HU = 5% of HU made of mixed materials*

*Mixed Materials = HU with walls and roof made of wood, cogon/nipa/anahaw/asbestos and others (PSA data)*

**Table So-16. Housing Backlog, Davao City, 1990-2010**

Backlog	1990		2000		2010	
	No.	%	No.	%	No.	%
Doubled-Up Households	-	-	5908	66.36%	0	0
Unacceptable Housing Units	555.65	20.49%	529.25	5.94%	351	17.19%
Makeshift/Salvage/ Improvised HU	2,156	79.51%	2466	27.70%	1,693	82.81%
<b>Total Backlog</b>	<b>2,711.65</b>	<b>100.00%</b>	<b>8903.25</b>	<b>100.00%</b>	<b>2,044</b>	<b>100.00%</b>

Source: Philippine Statistics Authority

It is interesting to note that unacceptable housing units decreased by over 500 to just around 350 in 2010. Backlog ballooned to 8,903 in 2000 and then returned to the 2000 levels by 2010 which can be interpreted that the period saw the capacity of households to secure housing units.

## Resettlement Areas

The resettlement areas are not only located in the urban areas but also in the rural areas of the city. The city government has been keen on ensuring that functional efficiency is done on the delivery of basic services, not only of public health but in the welfare of all segments of the community.

These sites and other proposed areas will resettle a total of 59,417 informal settlers, based on the 2018 housing data. Many of these settlers have no access to basic services and are vulnerable to disaster events like flooding, landslide, storm surge, liquefaction and faultline. As to table SO-26 Informal Settlement Areas, (column of Hazard susceptibility), it is shown that Talomo, Bunawan, and Tugbok Districts have high risk of flooding. Meanwhile, Poblacion, Talomo, Agdao, Buhangin, Bunawan, Paquibato, Toril and Tugbok Districts shown have low risk to landslide. On other hand, Poblacion, Talomo, Agdao, Buhangin, Bunawan, Baguio, and Toril Districts are susceptible to a 2-meter storm surge. While, Poblacion, Talomo, Agdao, Buhangin, Bunawan, and Toril Districts have high risks to liquefaction.

These sites will ensure that settlers have accessibility to community centers such as market, school, health facilities, livelihood or employment opportunities and police outposts. Moreover, the city will also ensure in these sites the compliance on the provision for open spaces, green spaces, amenities, and access roads. These measures ensure that living condition of the settlers are as humane as can be that the beneficiaries will choose to remain in the area for good. Access roads, as well as city and national government transportation plans and projects will ensure accessibility of settlers to the rest of the city.

Coordination among local and national agencies and private sector will continuously be promoted. The Gulayan sa Barangay Program, being implemented by the City Agriculturist Office and which is now present in the Los Amigos Relocation Area, has proved to help improve the livelihood of settlers. The City Social Welfare and Development Office will always be tapped to improve the capacity and skills of the housing beneficiaries in order to sustain its economic needs.

Table SO-17 Informal Settlement Areas, Davao City, 2018

District	Area (ha)	Land Ownership	Zoning Classification	Program/s	Agency	No. of Informal Settlers per District	Total Projected Population per District, 2018	Utilities Present (Y/N)					Hazard Susceptibility (H/M/L)					
								W	P	S	T	C	FI	Ln	Su	Lq		
<u>1st Congressional District</u>																		
Poblacion	979,108.75	Public/private	Residential	Housing, Land acquisition	Government, NGO	11,843	186,414	Y	Y	Y	Y	Y	L	L	2m	H		
Talomo	951,839.91	Public/private	Residential	Housing, Land acquisition	Government, NGO	21,720	448,169	Y	Y	Y	Y	Y	VH	L	2m	H		
<u>2nd Congressional District</u>																		
Agdao	509,331.37	Public/private	Residential	Housing, Land acquisition	Government, NGO	6,734	109,487	Y	Y	Y	Y	Y	M	L	2m	H		
Buhangin	237,049.87	Public/private	Residential, Industrial, Commercial	Housing, Land acquisition	Government, NGO	4,288	313,812	Y	Y	Y	Y	Y	M	L	2m	H		
Bunawan	414,251.61	Public/private	Industrial, Commercial	Housing, Land acquisition	Government, NGO	5,262	162,840	Y	Y	Y	Y	Y	H	L	2m	H		
Paquibato	-	Public/private	Agricultural	Housing, Land acquisition	Government, NGO	505	47,923	Y	Y	Y	Y	Y	-	-	-	-		

Source: Office of the City Planning and Development Coordinator, Davao City

**Table SO-17 Informal Settlement Areas, Davao City, 2018**

District	Area (ha)	Land Ownership	Zoning Classification	Program/s	Agency	No. of Informal Settlers per District	Total Projected Population per District, 2018	Utilities Present (Y/N)					Hazard Susceptibility (H/M/L)					
								W	P	S	T	C	FI	Ln	Su	Lq		
<u>3rd Congressional District</u>																		
Baguio	-	Public/private	Agricultural	Housing, Land acquisition	Government, NGO	901	36,264	Y	Y	Y	Y	Y	L	L	2m	H		
Calinan	-	Public/private	Agricultural	Housing, Land acquisition	Government, NGO	1,531	98,575	Y	Y	Y	Y	Y	-	-	-	-		
Marilog	-	Public/private	Agricultural	Housing, Land acquisition	Government, NGO	318	55,886	Y	Y	Y	Y	Y	-	-	-	-		
Toril	152,149.15	Public/private	Agricultural	Housing, Land acquisition	Government, NGO	4,198	159,008	Y	Y	Y	Y	Y	M	L	2m	H		
Tugbok	261.51	Public/private	Agricultural	Housing, Land acquisition	Government, NGO	2,117	129,900	Y	Y	Y	Y	Y	VH	L	-	M		
<b>Total</b>	<b>3,243,992.17</b>					<b>59,417 ISFs/ 14,854 Households</b>	<b>1,748,279</b>											

Source: Office of the City Planning and Development Coordinator, Davao City

## Inventory of Residential Subdivisions and Condominium Projects

As per statement of Mayor Sara Duterte, “Davao City is known as the melting pot of various cultures and peoples, and is also the investment hub of Mindanao. The wealth of business opportunities here is as diverse and eclectic as the various peoples and cultures that call Davao City home. In Davao, laws are in place to create a livable, peaceful city conducive to sustainable growth and development, with numerous pieces of legislation in place to safeguard the environment, and to uphold the safety and health of its residents, tourists, and investors.”

In line with the livable and peaceful standard of this city, a lot of business opportunities on real estate investments have poured in. Knowing land development is essential for a community’s success, it’s advantages include generating more jobs, uniting community members, and maintaining or increasing values in homes. Whether the development is residential or commercial, construction brings economic growth.

As seen below, there are five (5) different tables of approved residential subdivisions and condominiums here in Davao City from years 2014-2018. 88.56 hectares (ha) for 2014, 175.379 ha for year 2015, 97.27 ha for year 2016, 208.2 ha for year 2017 and 57.19 ha for year 2018. The total of approved area for residential subdivisions and condominiums from year 2014-2018 is 627.01 hectares. As for the hazard susceptibility, residential subdivisions located in Barangay Tacunan are vulnerable to very high and low risk of flooding and landslide. Alongside, Barangay Tacunan is vulnerable to Dacudao Faultline.

**Table SO – 18. Inventory of Residential Subdivisions and Condominium Projects, Davao City, 2018**

**Approved 2014**

Name of Subdivision/Condominium	Type	Brgy.	Area (sqm)	No. of Lots/ Units	Hazard Susceptibility				
					Fl	Ln	Fa	Su	Lq
Granville	Economic Housing	Brgy. Catalunan Pequeño	100,073 SQM	551	-	-	-	-	-
The Plains @ Matina Enclaves	Commercial/Condominium/ Residential	Brgy. Matina Crossing	16,799 SQM	32	-	-	-	-	-
Villa De Mercedes Subdivision Ph. VI	Open Market	Brgy. Marapangi	135,904 SQM	293	-	-	-	-	-
Las Casas de Maria		Brgy. Indangan	80,000 SQM	450					
Ilumina Estates Ph. II	Open Market	Brgy. Communal	184,833 SQM	515	-	-	-	-	-
Northtown Subdivision Ph. II	Open Market	Brgy. Cabantian	297,960 SQM	491	-	-	-	-	-
The Gardens	-	Brgy. Catigan	70,000 SQM	190	-	-	-	-	-

**Approved 2015**

Name of Subdivision / Condo- minium	Type	Barangay	Area (ha)	No. of Lots / Units	Hazard Susceptibility				
					Fl	Ln	Fa	Su	Lq
Deca Homes Resort Residences Prime	Economic Housing	Brgy. Tacunan	32,266 SQM	217	-	L	-	-	-
Samantha Homes Los Amigos	Economic Housing	Brgy. Los Amigos	44,567 SQM	265	-	-	-	-	-
Deca Homes Resort Residences Ph. XI	Economic Housing	Brgy. Tacunan	16,858 SQM	98	VH	L	-	-	-

Source: Zoning and Enforcement Division, OCPDC

**Table SO – 18. Inventory of Residential Subdivisions and Condominium Projects, Davao City, 2018**

Name of Subdivision / Condominium	Type	Barangay	Area (ha)	No. of Lots / Units	Hazard Susceptibility				
					Fl	Ln	Fa	Su	Lq
Primeland Properties Inc. - Apo Highlands	-	Brgy. Catalunan Grande	191,074 SQM	1,230	-	-	-	-	-
Panacan Homeless Self-Help Development Association	Socialized Housing	Brgy. Panacan	138,401 SQM	778	-	-	-	-	-
Malibu Residences	-	Brgy. Buhangin	14,044 SQM	80	-	-	-	-	-
Sharon Solar Homes	-	Brgy. Catalunan Pequeño	64,698 SQM	320	-	-	-	-	-
Granville III	Economic Housing	Brgy. Catalunan Pequeño	95,272 SQM	596	<b>L</b>	<b>L</b>		-	-
Waterlily Village Cooperative	Socialized Housing	Brgy. Wilfredo Aquino	40,930 SQM	280	-	-	-	-	-
Camella Davao Project	Open Market	Brgy. Communal	149,647 SQM	680	-	-	-	-	-
Deca Homes Indangan Phase 3 and Phase 4	Economic Housing	Brgy. Indangan	244,337 SQM	1,588	-	-	-	-	-
Camella Davao Project	Economic Housing	Brgy. Communal	125,414 SQM	771	-	-	-	-	-
Granville II	Economic Housing	Brgy. Catalunan Pequeño	45,879 SQM	296	<b>L</b>	<b>L</b>		-	-
The Prestige	Economic & Socialized Housing	Brgy. Cabantian	354,477 SQM	2,145	-	<b>M</b>	-	-	-
Plantacion Davao Project	-	Brgy. Mandug	200,059 SQM	1,103	-	-	-	-	-

Source: Zoning and Enforcement Division, OCPDC



**Table SO – 18. Inventory of Residential Subdivisions and Condominium Projects, Davao City, 2018**

**Approved 2016**

Name of Subdivision / Condominium	Type	Barangay	Area (ha)	No. of Lots / Units	Hazard Susceptibility				
					Fl	Ln	Fa	Su	Lq
Oakridge Residential Estate	-	Brgy. Indangan	22,256 SQM	190	-	-	-	-	-
Genesis Place	-	Brgy. Dumoy	13,211 SQM	26	-	-	-	-	-
Cambridge Subdivision	-	Brgy. Mudiang	90,776 SQM	548	-	-	-	-	-
Hyundai Home Town	-	Brgy. Bangkas Heights	33,181.15 SQM	149	-	-	-	-	-
AdDU Homes "Xavierville"	-	Brgy. Catalunan Grande	12,072.61 SQM	149	-	-	-	-	-
Waterlily Village Cooperative	Socialized Housing	Brgy. Wilfredo Aquino	40,930 SQM	280	-	-	-	-	-
Uraya Residences	-	Brgy. Catalunan Grande	288,076 SQM	1,165	-	-	-	-	-
Green Valley Homeowners Association Inc.	Socialized Housing	Brgy.19-B	8,301 SQM	57	-	-	-	-	-
Granville Crest	-	Brgy. Catalunan Pequeño	105,054 SQM	704	-	-	-	-	-
Diamond Heights	-	Brgy. Communal	48,261 SQM	301	-	-	-	-	-
Uraya Residences	-	Brgy. Catalunan Grande	24,973SQM	936	-	-	-	-	-
Jabez Place	-	Brgy. Dumoy	8,847 SQM	15	-	-	-	-	-
Hyundai Home Town	-	Brgy. Bangkas Heights	6,818.85 SQM	81	-	-	-	-	-
Azuela Cove	-	Brgy. Vicente Hizon Sr.	269,961.50 SQM	14	-	-	-	-	-

Source: Zoning and Enforcement Division, OCPDC

**Table SO – 18. Inventory of Residential Subdivisions and Condominium Projects, Davao City, 2018**

**Approved 2017**

Name of Subdivision / Condominium	Type	Barangay	Area (ha)	No. of Lots / Units	Hazard Susceptibility				
					Fl	Ln	Fa	Su	Lq
Deca Homes Talomo	Economic Housing	Brgy. Bago Gallera	1,037,231 SQM	5,950	L	L	-	-	-
Camella Toril	Economic Housing	Brgy. Bato	17,708 SQM	172	-	-	-	-	-
Jabez Place	-	Brgy. Dumoy	7,500 SQM	15	-	-	-	-	-
Camella Toril	PD 957	Brgy. Bato	55,687 SQM	248	-	-	-	-	-
Northtown Ph. III	Open Market	Brgy. Tigatto	413,332 SQM	742	-	-	-	-	-
Diamond Heights Ph. II	-	Brgy. Communal	47,375 SQM	288	-	-	-	-	-
Camella Davao Ph. II	Open Market	Brgy. Communal	55,516 SQM	240	-	-	-	-	-
Camella Davao Ph. II	Open Market	Brgy. Communal	54,602 SQM	463	-	-	-	-	-
Deca Homes Mulig	Economic Housing	Brgy. Mulig	314,971 SQM	1,894	-	L	-	-	-
Narra Park Residences Ph. II	Open Market	Brgy. Tigatto	68,058 SQM	341	-	-	-	-	-
Damosa Fairlane Ph. II	-	Brgy. Angliongto	10,000 SQM	27	-	-	-	-	-

Source: Zoning and Enforcement Division, OCPDC

**Table SO – 18. Inventory of Residential Subdivisions and Condominium Projects, Davao City, 2018**

**Approved 2018**

Name of Subdivision / Condominium	Type	Barangay	Area (ha)	No. of Lots / Units	Hazard Susceptibility				
					FI	Ln	Fa	Su	Lq
The Wisdom Subdivision	Economic Housing	Brgy. Catalunan Pequeño	12,821 SQM	55	-	-	-	-	-
Bread Village HOA	Socialized Housing	Brgy. Tigatto	60,475 SQM	403	-	-	-	-	-
Villa Sofia Subdivision	Economic & Socialized Housing	Brgy. Ula	151,350 SQM	1,327	<b>M</b>	<b>L</b>	-	-	-
The Prestige Phase 2	Economic & Socialized Housing	Brgy. Indangan	158,789 SQM	762	-	<b>H</b>	-	-	-
202 Peaklane	Residential Condominium	Brgy. 34-D	4,040 SQM	2	-	-	-	-	-
Catalunan Pequeño Walog HOAI	Socialized Housing	Brgy. Catalunan Pequeño	8,563 SQM	55	-	-	-	-	-
Bambu Estate Expansion	Medium Cost Housing	Brgy. Catalunan Pequeño	20,000 SQM	54	-	-	-	-	-
Toril Integrated Settlers Association	Socialized Housing	Brgy. Baliok	10,000 SQM	95	-	-	-	-	-
Sunshine Parks Homes	Medium Cost Housing	Brgy. Matina Pangí	30,628 SQM	195	-	-	-	-	-
Alta Josefina Subdivision	Economic & Socialized Housing	Brgy. Catalunan Grande	40,252 SQM	248	-	-	-	-	-
Subasta Agrarian Reform Beneficiaries	Socialized Housing	Brgy. Subasta	23,780 SQM	82	-	-	-	-	-
Santa Clara Village	Socialized Housing	Brgy. Catalunan Grande	21,153 SQM	137	-	-	-	-	-
San Isidro HOAI	Socialized Housing	Brgy. Tibungco	30,000 SQM	174	-	-	-	-	-

Source: Zoning and Enforcement Division, OCPDC

## Resettlement Areas

Relocation areas provide decent shelter to the underprivileged citizens of Davao City, displaced by man-made and natural calamities, demolitions brought by court orders and government infrastructures. These relocation areas uplift the conditions of the underprivileged and homeless citizens by making available resettlements and relocations at affordable cost, basic services and employment services. The informal settlers will be census tagged in order to determine whether or not the occupants can be considered as underprivileged or homeless citizen as defined by R.A. 7279 Sec. 3 (t). Occupants who fall within the definition of underprivileged or homeless citizen are qualified to be a beneficiary of the Social Housing Program under R.A. 7279.

The relocation program by the City Government has a total of 6,516 housing units with a total of 12,125 households. These resettlement areas provide utilities/facilities/amenities like water supply, electricity, day care centers, basketball courts, barangay health centers and evacuation centers. The lands are City Government owned as well as the administered.

As to Table SO-28 Relocation Areas (columns of hazard susceptibility), it is shown that Tigatto Homes Relocation has a high risk of flooding followed by the Los Amigos Relocation Phase 1 and 2 at Tugbok, Davao City. Malagamot Homes Relocation in Bunawan has the highest risk in landslide followed by Mahayag Homes in Bunawan. As for the faultline, Catalunan Grande has the highest susceptibility followed by Los Amigos in Tugbok, Davao City.

**Table SO-19 Resettlement Areas, Davao City**

Name of Resettlement Area	Barangay	Land Ownership	No. of Households	No. of Housing Units	Utilities/Facilities/Amenities	Administration	Hazard Susceptibility (H/M/L)				
							Fl	L	F	S	L
Catalunan Grande	Catalunan Grande, Talomo	City Government	466	233	Day Care Center, Basketball Court, Water, Power	City Housing	-	L	H	-	-
Tibungco Phase 1	Tibungco, Bunawan	City Government	3,295	1,369	Day Care Center, Basketball Court, Water, Power	City Housing	-	L	-	-	-
Tibungco Phase 2	Tibungco, Bunawan	City Government	272	249	Day Care Center, Basketball Court, Water, Power	City Housing	-	L	-	-	-
Sto. Niño Mintal Phase 1	Sto. Niño, Tugbok	City Government	1,200	683	Day Care Center, Basketball Court, Ba-	City Housing	-	L	-	-	-
Sto. Niño Mintal Phase 2	Sto. Niño, Tugbok	City Government	615	823	barangay Health Center, Water, Power	City Housing	-	L	-	-	-

Table SO-19 Resettlement Areas, Davao City

Name of Resettlement Area	Barangay	Land Ownership	No. of Households	No. of Housing Units	Utilities/Facilities/Amenities	Administration	Hazard Susceptibility (H/M/L)				
							Fl	L	F	S	L
Sto. Niño Mintal Phase 3	Sto. Niño, Tugbok	City Government	1,174	646	Day Care Center, Basketball Court, Barangay Health Center, Water, Power	City Housing	-	L	-	-	-
Mahayag Homes	Mahayag, Bunawan	City Government	500	250		City Housing	-	M	-	-	-
Marapangi Homes	Marapangi, Toril	City Government	278	15	Day Care Center	City Housing	-	L	-	-	-
Tigatto Homes	Tigatto, Buhangin	City Government	394	197		City Housing	H	L	-	-	-
Malagamot Homes	Malagamot, Bunawan	City Government	432	216	Day Care Center, Basketball Court	City Housing	-	H	-	-	-
Panacan Homes	Panacan, Bunawan	City Government	1853	666	Day Care Center, Basketball Court	City Housing	-	L	-	-	-
Los Amigos Phase 1	Los Amigos, Tugbok	City Government	1,646	823	Day Care Center, Basketball Court & 2 evacuation centers	City Housing	M	L	L	-	-
Los Amigos Phase 2	Los Amigos, Tugbok	City Government	1,646	346	Day Care Center, Basketball Court & 2 evacuation centers	City Housing	M	L	L	-	-
<b>TOTAL</b>				<b>8,405</b>							

Source: NHA, Civic Organization, Cooperative, OCPDC, Urban Poor

## Urban Land Reform Projects

Urban Land Reform Project (ULRP) involves acquisition of lands through grant of loan to duly organized and registered community associations, whereby the land identified by the association or cooperatives is evaluated if the sites are suitable for relocation and can easily be provided with the basic amenities. Just like the relocation program of the City Government, the ULRP also uplift the conditions of the underprivileged and homeless citizens in urban areas by making available decent resettlements and relocations at affordable cost, basic services and employment services.

There are 62 urban ULand Reform Projects in Davao City. There are 6,619 housing units with a total of 7,029 households. The ULRP also provides utilities/facilities/amenities like water supply, electricity, garbage disposal systems (CENRO), day care centers, basketball courts, chapels and meeting halls.

As to Table SO-20 Urban Land Reform Projects (columns of hazard susceptibility), it is shown that San Rafael Urban HOA and United Settlers both located at Brgy 9-A, Polblacion District have very high risk of flooding. Buhangin Diversion Road HOA has the highest risk in landslide. Desabilla Village Settlers Association in Daliao, Toril and Jirah Settlers of Bunawan are susceptible for a 5m storm surge. As for the liquefaction, fifteen (15) ULRP associations have high risk of liquefaction.

Table SO-20 Urban Land Reform Projects, Davao City, 2018

N o.	NAME of COM-MUNITY ASSOCIATION	Land Own-ership	NO. of Fam-ilies	No. Of Hous-ing Units	Water	Power	Gar-bage Dis-posal System	Community Center	Oth-ers	Hazard Suscep-tibility				
										F l	L n	F a	S u	L q
1	Airview Heights Settlers Ass'n., Inc,	CA	180	128	DCWD	DLPC	CENRO	Basketball Court Meeting Hall Day Care		-	L	-	-	-
2	Bago Gallera Home-owners Ass'n	LO	125	125	DCWD	DLPC	CENRO	Basketball Court Day Care		L	L	-	-	-
3	Bato Urban Home-owners Ass'n.	CA	205	196	Baran-gay	DLPC	CENRO	Meeting Hall		-	L	-	-	-
4	Bayanihan Home-owners Ass'n.	LO	84	84	Baran-gay	DLPC	CENRO	Basketball Court Chapel		-	M	-	-	-
5	Belisario Homesite HOA	CA	50	34	DCWD	DLPC	CENRO	Basketball Court		L	L	-	2 m	H
6	Blue Dia-mond Village HOA, Inc.	LO	80	76	DCWD	DLPC	CENRO	Meeting Hall		-	L	-	-	-
7	Bolton Bridge Home-owners Ass'n.	CA			--				case on go-ing	L	L	-	L	-
8	Buhangin Diversion Road HOA, Invc.	LO	170	151	Baran-gay	DLPC	CENRO	Basketball Court Chapel	-	-	H	-	-	-
9	Buhangin United Neighborhood & SOA	LO	30	30	DCWD	DLPC	CENRO	None	-	-	L	-	-	-
10	Bunawan Divine Mercy HOA, Inc.	LO	155	147	Baran-gay	DLPC	CENRO	Basketball Court DayCare Chapel						
11	Bunawan Hilltop Home-owners Ass'n, Inc.	LO	149	149	Baran-gay	DLPC	CENRO	Basketball court Chapel						



Table SO-20 Urban Land Reform Projects, Davao City, 2018

No.	NAME of COMMUNITY ASSOCIATION	Land Ownership	NO. of Families	No. Of Housing Units	Water	Power	Garbage Disposal System	Community Center	Others	Hazard Susceptibility				
										Flood	Land	Fauna	Soil	Quality
12	Bunawan Home-owners Ass'n	LO	30	30	Ba-rangay	DL PC	CENRO	None	-	-	-	L	3 m	M
13	Bunawan Promise Land Settlers Ass'n	CA	95	85	DC WD	DL PC	CENRO	Basketball Court Day Care Chapel	-	L	-	-	-	M
14	Bunawan Riverside Home-owners Ass'n.	LO	125	118	Ba-rangay	DL PC	Com-post Burn	None	-	L	-	-	-	-
15	Bunawan Village Ass'n., Inc.	CA	180	170	Ba-rangay	DL PC	CENRO	Basketball Court Chapel	-	L	-	-	-	-
16	Calinan Bayanihan HOA, Inc.	LO	35	27	DC WD	DL PC	CENRO	None		M	L	-	-	-
17	Christian Home-owners Ass'n.	CA	73	73	Flo wing	DL PC	CENRO	None		L	L		4 m	H
18	D' Garden Landless Ass'n	CA	90	82	DC WD	DL PC	CENRO	Basketball Court Meeting Hall Chapel		L	L	-	4 m	H
19	Dabawn-on Kita HOA	LO	34	34	DC WD	DL PC	CENRO	None		H	L	-	-	L
20	D'Achievers HOA, Inc.	CA	192	172	DC WD	DL PC	CENRO	Chapel		-	M	-	-	-
21	Daliao Sweet Tamarind HOA, Inc.	CA	130	125	Flo wing	DL PC	CENRO	None		M	L		2 m	H
22	Davao City Peoples Coalition for HR	CA	137	137	DC WD	DL PC	CENRO	Chapel		H	L	-	-	L
23	Denia Settlers Ass'n., Inc.	CA	91	80	DC WD	DL PC	CENRO	Basketball Court Chapel		L	L	-	2 m	H

Source: City Planning and Development Coordinator Office, Community Associations

Table SO-20 Urban Land Reform Projects, Davao City, 2018

No.	NAME of COMMUNITY ASSOCIATION	Land Ownership	NO. of Families	No. Of Housing Units	Water	Power	Garbage Disposal System	Community Center	Others	Hazard Susceptibility				
										Flood	Landslide	Fires	Storm	Other
24	Desabilla Village Settlers Ass'n	LO	135	126	Flo wing	DL PC	CENRO	Chapel		L	L	-	5 m	H
25	Freedom Home-seekers Ass'n	LO	64	64	DC WD	DL PC	CENRO	Chapel		L	L		2 m	H
26	Green Pastures Ass'n. of Buhangin , Inc.	LO	238	238	Ba-rang ay	DL PC	Com-post Burn	Meeting Hall		-	L	-	-	-
27	Guara Talisay HOA, Inc.	LO	20	12	DC WD	DL PC	CENRO	None		L	L	-	-	-
28	Integrat-ed Settlers Ass'n of Toril, Inc.	CA	152	140	DC WD	DL PC	CENRO	Basketball Court Chapel Day Care		M	L	-	2 m	H
29	Jirah Settlers Ass'n of Bunawan	LO	92	82	DC WD	DL PC	CENRO	Chapel		-	L		5 m	M
30	Kahayag Home-owners Ass.	LO	94	94	DC WD	DL PC	CENRO	None						
31	Landless Association of Bunawan	CA	92	92	DC WD	DL PC	CENRO	None						
32	Leonora Village HOA, Inc.	LO	45	41	DC WD	DL PC	CENRO	None		L	L	-	-	-
33	Lizada Integrat-ed Home-owners Ass'n.	LO	77	77	Flo wing	DL PC	CENRO	None		L	L	-	3 m	H
34	Lubogan Home-owners Ass'n	LO	59	59	DC WD	DL PC	CENRO	None		-	L	-	-	-
35	Mahaya-hay Settlers Ass'n	CA	75	75	DC WD	DL PC	Com-post Burn	None		-	L	-	-	-

Source: City Planning and Development Coordinator Office, Community Associations

Table SO-20 Urban Land Reform Projects, Davao City, 2018

No.	NAME of COMMUNITY ASSOCIATION	Land Ownership	NO. of Families	No. Of Housing Units	Water	Power	Garbage Disposal System	Community Center	Others	Hazard Susceptibility				
										Flood	Landslide	Fires	Storm	Other
36	Marapan gi Urban Home-owners Ass'n	LO	71	65	Deep Well	DL PC	CENRO	Meeting Hall		L	L	-	-	-
37	Nagkahiu sa Settlers Ass'n. Inc.	LO	275	250	DC WD	DL PC	CENRO	Basketball Court Chapel Day Care		-	L	-	-	-
38	New Fatima Village HOA, Inc.	CA	110	110	DC WD	DL PC	CENRO	Chapel		L	L	-	2 m	H
39	New Kasilak Home-owners Ass'n.	LO	135	128	Barangay	DL PC	CENRO	Meeting Hall Chapel		-	-	-	-	-
40	New Mahayag Home-owners Ass'n.	CA	95	88	Barangay	DL PC	Compost Burn	Day Care Chapel		-	L	-	-	-
41	Palanca Village HOA	CA	210	195	DC WD	DL PC	CENRO	Basketball Court Chapel		-	L	-	-	M
42	Panacan Looban Community HOA	LO	190	172	Barangay	DL PC	Compost Burn	Basketball Court Chapel		-	M	-	-	-
43	Panacan Roadside Home-seekers Ass'n.	LO	230	202	Barangay	DL PC	Compost Burn	Basketball Court Meeting Hall		-	L	-	-	-
44	Plain View San Isidro Bunawan Ass'n,	LO	115	104	DC WD	DL PC	CENRO	Basketball Court Day Care Chapel		-	L	-	-	M
45	Purok Lourdes Blk 4 Carmelite Highland	LO	122	122	Barangay	DL PC	CENRO	None		-	M	-	-	-

Source: City Planning and Development Coordinator Office, Community Associations

Table SO-20 Urban Land Reform Projects, Davao City, 2018

No.	NAME of COMMUNITY ASSOCIATION	Land Ownership	NO. of Families	No. Of Housing Units	Water	Power	Garbage Disposal System	Community Center	Others	Hazard Susceptibility				
										Flood	Land	Fauna	Soil	Quality
46	R. Gonzales Homeowners Ass'n.	LO	70	70	DC WD	DL PC	CENRO	None		-	H	-	-	-
47	San Lorenzo Ruiz Settlers Ass'n	CA	85	79	DC WD	DL PC	CENRO	Basketball Court Chapel		-	L	-	-	-
48	San Marcos - Jerome Home-seekers Ass'n.	LO	32	16	DC WD	DL PC	CENRO	None		L	L	-	2 m	H
49	San Rafael Urban Poor HOA	LO	65	60	DC WD	DL PC	CENRO	Basketball Court Day Care Chapel		VH	L	-	-	H
50	San Vicente Village HOA, Inc.	CA	12	12	DC WD	DL PC	CENRO	None		L	L	-	2 m	H
51	Sandawa Village HOA, Inc.	CA	75	69	DC WD	DL PC	CENRO	Basketball Court Day Care Chapel		-	L	-	-	-
52	Sandawa Village HOA, Inc. Phase II	CA	80	65	DC WD	DL PC	CENRO	Day Care		-	L	-	-	-
53	Small Communal HOA, Inc.	LO	192	192	DC WD	DL PC	Compost Burn	Meeting Hall		-	-	-	-	-
54	Sto. Niño Bulusan HOA, Inc.	CA	70	65	DC WD	DL PC	CENRO	Chapel		H	L	-	2 m	H
55	Talomo Urban Settlers Ass'n	LO	225	210	DC WD	DL PC	CENRO	Basketball Court Day Care Chapel		M	L	-	2 m	H
56	Tibungco Community HOA, Inc.	LO	323	323	Deep Well	DL PC	Compost Burn	Basketball Court Chapel		-	-	-	-	-

Source: City Planning and Development Coordinator Office, Community Associations

Table SO-20 Urban Land Reform Projects, Davao City, 2018

No.	NAME of COMMUNITY ASSOCIATION	Land Ownership	NO. of Families	No. Of Housing Units	Water	Power	Garbage Disposal System	Community Center	Others	Hazard Susceptibility				
										Flood	Land	Fire	Seismic	Other
57	Tibungco Friendly HOA	LO	227	227	Barangay	DL PC	CENRO	Chapel		-	-	-	-	-
58	Tisa Home-owners Ass'n., Inc.	LO	95	95	DC WD	DL PC	CENRO	Basketball Court Chapel		L	L	-	-	-
59	Tukbisa, Inc	LO	120	195	Deep Well	DL PC	CENRO	Uncemented Basketball Court Chapel		L	L	-	-	-
60	United Bucana Lasang HOA, Inc.	LO	80	80	DC WD	DL PC	CENRO	None		-	-	-	-	-
61	United Settlers of San Rafael HOA, Inc.	LO	32	28	DC WD	DL PC	CENRO	None		VH	L	-	-	H
62	United Toril Home-settlers Ass'n.	LO	110	104	DC WD	DL PC	Compost Burnt	Chapel		-	L	-	-	-

Source: City Planning and Development Coordinator Office, Community Associations

Legend: CA- Community Association,  
LO- Land Owner

## Housing Facilities and Utilities Situation

Facilities and utilities (water, electricity, water-sealed toilets and garbage collection system) are essential services that play a vital role in economic and social development. Quality facilities and utilities provide daily comfort for households and are a pre-requisite for effective poverty elimination. As to Table SO-21, it is shown that there is a remarkable increase of households for the past three censal years, as well as the facilities and utilities served among the households.

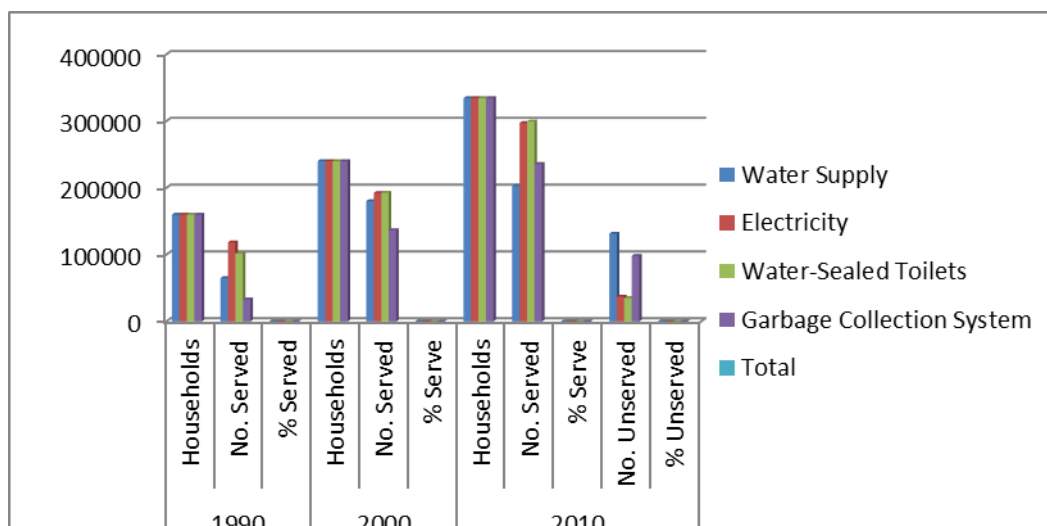
Water Supply tripled in 2000 but slowed down by 2010 by merely posting 12.6% growth for the 10-year period served. Whereas, electricity for the past three censal years had an upward trend and improved its reach due to aggressive expansion of households.

**Table SO-21. Housing facilities and Utilities Situation for the Past Three Censal Years, Davao City, 1990-2010**

Utilities	1990			2000			2010				
	Households	No. Served	% Served	Households	No. Served	% Served	Households	No. Served	% Served	No. Un-served	% Un-served
Water Supply	159,976	65,098	40.69%	240,057	180,352	75.13%	334,473	203,101	60.72%	131,372	39.28%
Electricity	159,976	118,490	74.07%	240,057	192,488	80.18%	334,473	297,322	88.89%	37,151	11.11%
Water-Sealed Toilets	159,976	101,833	63.66%	240,057	192,770	80.30%	334,473	299,388	89.51%	35,085	10.49%
Garbage Collection System	159,976	33,212	20.76%	240,057	136,803	56.99%	334,473	236,103	70.59%	98,370	29.05%

Source: Philippine Statistics Authority

**Housing facilities and Utilities Situation for the Past Three Censal Years, Davao City, 1990-2010**



## Occupied Housing Units and Lots

For the past three censal years, the housing units with a tenure status of "owned/being amortized" have the greatest percentage compared to the others. In 1990, 61.70% have housing units that are owned/being amortized, 67.50% in 2000 and increased to 70.64%.

As to Table SO-22, the decreasing percentage of both housing unit and lot in 2010 is a good sign given that owners are taking control also. In year 2010, almost 100,000 households do not own the housed they occupy nor within the status of owning in the future through amortization. It is interesting to note that houses and/or lots being occupied either with or without the consent of the owners are on a decreasing trend which may directly mean owners are taking back properties for their own utilization.

**Table SO-22. Occupied Housing Units and Lots by Tenure Status for the Past Two Censal Years, Davao City, 2000-2010**

Tenure Status	2000		2000		2010		2010	
	Housing Unit		Lot		Housing Unit		Lot	
	No.	%	No.	%	No.	%	No.	%
Owned/Being Amortized	162,042	67.50%	118,064	56.38%	236,259	70.64%	202,780	60.63%
Rented	33,552	13.98%	24,827	11.86%	47,151	14.10%	55,810	16.69%
Being Occupied for Free with Consent of Owner	31,479	13.11%	42,541	20.31%	37,697	11.27%	56,131	16.78%
Being Occupied for Free without Consent of Owner	5,043	2.10%	14,815	7.07%	6,601	1.97%	13,750	4.11%
Not reported/ NA	7,941	3.31%	9,161	4.37%	6,760	2.02%	6,002	1.79%
<b>Total</b>	<b>240,057</b>	<b>100.00%</b>	<b>209,408</b>	<b>100.00%</b>	<b>334,468</b>	<b>100.00%</b>	<b>334,473</b>	<b>100.00%</b>

Source: Philippine Statistics Authority



## Occupied Housing Units by Condition

Home is often described as the feeling of belongingness and can be found among people, but generally it is also a place that provides a shelter to every household. Good-quality housing is a key element for ensuring the comfort of households. Proper house gives sufficient relaxation for better health. Further, due to protection from the harsh environment, individuals are less prone to diseases. One essential element for considering a good quality housing unit/building is its condition.

As to Table SO-23, housing units that do not need repair or needing minor repair dominate the status of buildings in the city. There are a total of 263,297 units out of 326,577 that do not need repair. In 2010, the highest number of condition is the needs no repair/minor repairs. Compared to the second highest condition which is the needs major repair, which it is equivalent to 15%. Therefore, around 71% of the total occupied housing units need no repair/minor repair.

**Table SO-23. Occupied Housing Units by Condition (State of Repair) of the Building and Year Built, Davao City, 2010**

Year Built	Total Occupied Housing Unit	CONDITION (State of Repair) OF THE BUILDING						
		Needs No Repair/ Minor Repair	Needs Major Repair	Dilapidated/ Condemned	Under Renovation/Being Repaired	Unfinished Construction	Under Construction	Not Reported
2010	5,756	4,083	632	46	127	409	390	69
2009	14,194	10,977	1,781	81	219	657	335	144
2008	13,967	10,933	2,008	70	122	508	185	141
2007	13,635	10,848	1,898	101	127	399	129	133
2006	15,052	11,908	2,200	121	118	338	115	252
2001-2005	54,434	43,800	7,705	285	378	1,326	311	684
1991-2000	89,329	74,686	10,788	343	641	1,312	342	1,217
1981-1990	54,434	43,800	8,565	274	436	628	152	579
1971-1980	25,831	20,683	4,319	139	220	197	49	224
1970 or earlier	17,500	13,563	3,437	104	136	114	30	116
Not Applicable	111	-	-	-	-	-	-	-
Don't Know/ Not Reported	22,026	17,763		146	117	198	42	342
<b>TOTAL</b>	<b>326,577</b>	<b>263,297</b>	<b>46,751 or 14%</b>	<b>1,710 or 0.5%</b>	<b>2,641</b>	<b>6,086</b>	<b>2,080</b>	<b>3,901</b>

Source: Philippine Statistics Authority

## Inventory of Potential Lands for Housing

The vast area of Davao City can be utilized in many ways like infrastructure developments but due to the influx of informal settlers, the city has searched for lands potential for housing. The following potential lands with zoning classifications of medium density residential zone and high density residential zone has a total of 1,052,227 square meters or 105.22 hectares which may cover the backlog of the 89.12 hectares needed for the 59,417 informal settlers as reflected in Table SO-24, Informal Settlements Areas of 2018.

As shown in the hazard susceptibility column, potential lands found in Barangays Baliok, Ula, Marapangi and Los Amigos are vulnerable to low risk of flooding. On the other hand, Baranagy Baliok is prone to low risk of landslide.

**Table So-24. Inventory of Potential Lands for Housing, Davao City, 2018**

TCT No.	Brgy.	Area (sqm)	Zoning Classification	Hazard Susceptibility				
				Fl	Ln	Fa	Su	Lq
146-2013003722	BALIOK	290,828	High Density Residential	L	L	-	-	-
T-166905	ULA	21,377	High Density Residential	-	-	-	-	-
T-194038	ULA	34,759	High Density Residential	L	-	-	-	-
T-401243	MARAPANGI	28,307	High Density Residential	L	-	-	-	-
146-2015010394	MULIG	40,000	Medium Density Residential	-	-	-	-	-
146-2015010398	MULIG	40,000	Medium Density Residential	-	-	-	-	-
146-2015012017	MULIG	40,098	Medium Density Residential	-	-	-	-	-
146-2010005442	LOS AMIGOS & ULA	36,977	Medium Density Residential	L	-	-	-	-
146-2013012267	MARAPANGI	20,900	Medium Density Residential	L	-	-	-	-
146-2013012275	MARAPANGI	18,911	Medium Density Residential	L	-	-	-	-
146-2013012548	ALAMBRE	50,000	Medium Density Residential	-	-	-	-	-
146-2016003853	BANGKAS HEIGHTS	47,652	Medium Density Residential	-	-	-	-	-
146-2017001372	MULIG	40,020	Medium Density Residential	-	-	-	-	-
146-2018001877	TUGBOK	30,000	Medium Density Residential	-	-	-	-	-
146-2018001878	TUGBOK	30,000	Medium Density Residential	-	-	-	-	-

**Table So-24. Inventory of Potential Lands for Housing, Davao City, 2018**

TCT No.	Brgy.	Area (sqm)	Zoning Classification	Hazard Susceptibility				
				FI	Ln	Fa	Su	Lq
146-2018006702	BAGO GAL-LERA	15,368	Medium Density Residential	-	-	-	-	-
146-2018006822	BAGO GAL-LERA	15,368	Medium Density Residential	-	-	-	-	-
146-2018009784	BAGO GAL-LERA	15,368	Medium Density Residential	-	-	-	-	-
146-2018009785	BAGO GAL-LERA	15,368	Medium Density Residential	-	-	-	-	-
146-2018010770	BAGO GAL-LERA	19,800	Medium Density Residential	-	-	-	-	-
146-2018010772	BAGO GAL-LERA	19,824	Medium Density Residential	-	-	-	-	-
146-2018015592	BAGO GAL-LERA	12,253	Medium Density Residential	-	-	-	-	-
146-2019007009	BAGO OSHIRO	28,179	Medium Density Residential	-	-	-	-	-
146-2019009203	ULA	29,646	Medium Density Residential	-	-	-	-	-
CL-1162	BAGO OSHIRO	28,179	Medium Density Residential	-	-	-	-	-
CL-1787	BALIOK	23,491	Medium Density Residential	-	-	-	-	-
CL-4333	MULIG	10,000	Medium Density Residential	-	-	-	-	-
CL-6067	MULIG	49,554	Medium Density Residential	-	-	-	-	-
<b>TOTAL</b>		<b><u>1,052,227</u> SQM/ 105.22 HA</b>						

Source: Geographic Information System (GIS) Division, City Planning and Dev't Office

## Current and Projected Needs

The current and projected needs are the present housing needs and for the projected years (2020-2028). Given all the data needed for the determination for housing and projected needs, the table shows that there is a total of 589,597 present housing needs. The housing backlog was driven by the total of doubled-up households, units in danger areas, affected units due to land earmarked for gov't Infrastructure, evicted/for demolition and homeless. Household formation is the difference of Year 2010 households and Year 2000 households. On the other hand, the upgrading is totaled by adding the units for structural (needs major repair), tenurial and infrastructure.

The Climate and Disaster Risk Assessment (CDRA) for population has additional housing needs of 20,404 for new construction while, 14,654 housing units are needed for retrofitting.

**Table SO-25. Current and Projected Housing Needs, Davao City**

Housing Needs	Present Needs	Future Housing								
		2020 (Y1)	2021 (Y2)	2022 (Y3)	2023 (Y4)	2024 (Y5)	2025 (Y6)	2026 (Y7)	2027 (Y8)	2028 (Y9)
<b>A. Housing Backlog</b>	<b>51,797</b>	46,042	40,287	34,532	28,777	23,022	17,267	11,512	5,757	0
Doubled-Up Households	<b>0</b>	0	0	0	0	0	0	0	0	0
Displaced										
In Danger Areas	27,549	24,488	21,427	18,366	15,305	12,244	9,183	6,122	3,061	0
Affected units due to land earmarked for gov't Infrastructure	9,265	8,235	7,205	6,175	5,145	4,115	3,085	2,055	1,025	0
Evicted/for demolition	14,647	13,017	11,387	9,757	8,127	6,497	4,867	3,237	1,607	0
Homeless	336	299	262	225	188	151	114	77	37	0
<b>B. Household Formation due to increase in population</b>	<b>94,416</b>	83,925	73,434	62,943	52,452	41,961	31,470	20,979	10,491	0
<b>C. Upgrading</b>	<b>474,420</b>	421,707	368,994	316,281	263,568	210,855	158,142	105,429	52,713	0
Structural (needs major repair)	46,751	41,556	36,361	31,166	25,971	20,776	15,581	10,386	5,195	0
Tenurial	125,691	111,725	97,759	83,793	69,827	55,861	41,895	27,929	13,966	0
Infrastructure	301,978	268,424	234,871	201,318	167,765	134,212	100,659	67,106	33,553	0
<b>TOTAL</b>	<b>620,633</b>									
<b>Additional housing needs from CDRA</b>										
New Construction	81,616	18,137	15,870	13,603	11,336	9,069	6,802	4,535	2,267	0
Retrofitting/Upgrading	58,616	13,026	11,398	9,770	8,142	6,514	4,886	3,258	1,628	0

Source: Office of the City Planning and Development Coordinator, Davao City

**PRESENT NEEDS**

Average size per household: 4

A. Housing Backlog- Doubled-Up Households + In Danger Areas + Affected units due to land earmarked for gov't Infrastructure+ Evicted/for demolition

\*Double Occupancy: HHT-DUT

HHT (Total Nos of Household) and DUT (Total Nos. of dwelling units) Source: Table SO-25 Housing Backlog

\*Displaced (Source: PRA 2015)

In danger areas: Total Nos. of ISF in RROW, Canal & Drainage, under the bridge, Garbage & Landfill, Riverbanks/Creeks, Coastline/Shoreline

Affected units due to earmarked for gov't infra: Total No. of ISF dwelling in Gov't property Evited/for demolition: Total No. of ISF dwelling in private property

\*Homeless = Total Homeless Population-(Homeless Individuals)/Average Household Size + Homeless Individuals

Homeless Population: ISF dwelling in Sidewalks, Parks & Playground, Cemetery

Homeless Individuals: CSSDO

Average Household Size: 4

B. Household Formation due to increase in Population

HH 2010- HH 2000 = 334,473-240,057=94,416

C. Upgrading

Structural (needs major repair): 46, 334,473-240,057=94,416751 (from Table 31)

Tenure: Rented + Being Occupied for Free with Consent of Owner + Being Occupied for Free without Consent of Owner

55,810 + 56,131 + 13,750=125,691

Infrastructure (unserved HH): Water + Electricity + Water-sealed toilets + Garbage Collection

131,372+37,151+35,085+98,370=301,978

Additional Housing Needs after CDRA:

New Construction: 81,616 = Total Nos of ISFs in Three Major Decision Areas (based on Population Exposure Database)

Upgrading/Retrofitting: Based on Major Decision Area (MDA)

\*Percentages of Tenure & Infra & Structure Need \* Total No. Of ISF (3 MDA)

Tenure: 38.27% \* 81,616= 31,234

Infra: 22.57% \* 81,616= 18,421

Structure Need: 10.98% \* 81,616= 8961

Total: 58,616

C. Upgrading

--Structural needs major repair (present needs-5,000=Y1)  $46,751-5,000=41,751$

\*Addressed yearly at 5,000 units

--Tenurial (present needs-14,000=Y1)  $125,691-14,000=111,691$

\*Addressed yearly at 14,000 units

--Infrastructure (present needs-34,000=Y1)  $301,978-34,000=267,978$

\*Addressed yearly at 34,000 units

Additional housing needs from CDRA

--New Construction (present needs-10,000=Y1)  $81,616-10,000=71,616$

\*Addressed yearly at 10,000 units

--Retrofitting/Upgrading (present needs-7,000=Y1)  $58,616-7,000=51,616$

\*Addressed yearly at 7,000 units

### **Future Housing:**

Housing Backlog- (present needs-5,755=Y1)  $51,797-5,755=46,042$

\*Addressed yearly at 5,755 units

In Danger Areas- (present needs-3,061=Y1)  $27,549-3,061=24,488$

\*Addressed yearly at 3,061 units

Affected units due to land earmarked for gov't Infrastructure

(present needs-1,030=Y1)  $9,265-1,030=8,235$

\*Addressed yearly at 1,030 units

Evicted/for demolition - (present needs-1,630=Y1)  $14,647-1,630=13,017$

\*Addressed yearly at 1,630 units

Homeless - (present needs-37=Y1)  $336-37=299$

\*Addressed yearly at 37 units

Household Formation due to increase in population

(present needs-52,713=Y1)  $474,420-52,713$

\*Addressed yearly at 52,713 units

## Housing Analysis Matrix

Technical Findings/ Observations	Implications (Effects)	Policy Options/ Interventions
<p>1. Increasing Housing backlog</p> <ul style="list-style-type: none"> <li>Households in hazard areas. Informal settlers along coastal areas, river channel, slope areas (26 coastal barangays, 6 river channel)</li> <li>Flood prone areas/coastal high susceptible area (ISF)</li> </ul> <p>Many city dwellers are homeless, and does not own houses and land</p> <p>81,616 estimated households are needed for relocation based on the major decision areas of Climate Disaster Risk Assessment (CDRA)</p>	<p>Increase number of ISFs vulnerable to all risk factors</p> <p>High exposure to flooding, storm surge, landslide, fire</p> <p>Pollution of water bodies</p> <p>High cost of response activity during disaster</p> <p>High cost of emergency/disaster fund</p>	<p>Reclassify land use of idle lands/non-agri productive to socialized housing</p> <p>Enforcement of easement/buffer zone</p> <p>Introduce tenement housing (allocate lands, especially in urban areas for tenement housing-widen the classification of R3-socialized housing), save easement as park</p> <p>Disaster-risk preparedness, resilience and high mitigating measures against disaster/calamity</p>
Relocation sites far from economic activities (4km-5km from the city proper)	Rampant transfer of rights/back to ISF	Provide alternative livelihood program as part of the design (allot livelihood areas in subdivision plans of relocation sites)
Rising cost of potential areas for housing (mostly prime agricultural areas)	<p>Delayed resettlement of ISFs</p> <p>Land owners prefer selling their lands to private developers for ease in closing transactions</p>	<p>Strictly follow the market value/assessed value</p> <p>Lots of land modification to avoid natural disaster (land development should be responsive to natural land terrain)</p>
Limited lands for socialized housing sites	No available lands for relocation/resettlement	<p>Urban land reform (price control)</p> <p>Undertake land inventory</p> <p>* Involve the City Assessor's Office in the inventory</p>

## Programs/Projects Approved/Funded for Implementation

NAME OF PROJECT/DEVELOPMENT	STATUS
Los Amigos, Phase 1	<ul style="list-style-type: none"> <li>On-going construction of road networks and drainage by Bellavita Land Corporation with 90% completion.</li> </ul>
Balai Pagbabago Davao	<ul style="list-style-type: none"> <li>On-going PALC application</li> </ul>
Housing construction worth 1.8 Billion committed by NHA at Balai Pagbabago Davao	<ul style="list-style-type: none"> <li>On-going construction of 134 units Model B 2-storey residential building</li> </ul>
IP Housing Project Housing Construction worth 20M	<ul style="list-style-type: none"> <li>Ongoing committee hearing for the MOA of IP Buda and Sto.Niño Village</li> <li>Ongoing technical documentation for Obu-Manuvu Village</li> <li>for site inspection (East Marahan, Paquibato, Catigan)</li> </ul>
Community Mortgage Program	<ul style="list-style-type: none"> <li>CMP Takeouts (2021)</li> <li>As of Sept 2021 – 8 associations</li> <li></li> <li>HOAs issued with Census certification for DHSUD registration (2021)</li> <li>As of Sept 2021 – 10 associations</li> </ul>



## Education

### Existing Situation

Davao City is not only the center for business and economic activities in Mindanao but also the center of education, being home to some of the country's leading schools and universities. The number of schools offering basic education in Davao City for SY 2018-2019 are as follows: 486 kindergarten/preschool, 496 elementary and 340 secondary schools (194 junior high school and 146 senior high school).

Total land area occupied by public schools is recorded at 23,815.21 hectares. Public elementary schools occupy a total land area of 23,633.68 hectares while secondary schools have a total area of 181.53 hectares. Among the congressional districts, District III has the largest area with 23,171.50 hectares.

In terms of ownership, majority of the schools are privately-owned. This is about 52.94% of the total number of schools for SY 2018-2019. Private schools are more concentrated in District I while public schools are dominant in District III.

Kindergarten/preschool education is mostly concentrated in District III wherein 40.53% are offered by public schools. With classroom shortage, kindergarten classes in public schools are currently being held in designated classrooms, mostly in grade school classrooms. Private preschool is dominant in District I while a minimal number is observed in District III. Such observation is due to the fact that there are more preschool population in District I compared to other districts.

Elementary education establishments is 58.06% (288) government-owned and 41.94% (208) privately-owned schools. Majority of the elementary schools are located in District III (40.12%) while the least is in District II (23.79%). This is because District III has a vast land area available for the construction of schools. Most private elementary schools are situated in District I (60.58%) whereas public elementary schools are more concentrated in District III (52.08%).

For SY 2018-2019, there are 160 public schools and 106 private schools offering junior high school education. Majority (77.55%) of junior high schools in District I are privately-owned. On the contrary, District II and III have more public schools offering junior high school education. District III has the most number of junior high schools with 86 public schools and 21 private schools.

There are only 145 schools offering senior high school education in Davao City consisting of 50.34% private schools and 49.66% public schools. Only 16.55% (24) senior high schools are available in District II. Majority (46.21%) of the schools are located in District III. A closer examination will reveal that 56.59% of the barangays in the city do not have public junior and senior high schools. Nevertheless, these barangays are being catered by private schools, higher education institutions and technical-vocational institutions.

All facilities indicated on the table are available in both public elementary and secondary schools. The inventory of these facilities are as follows: 360 science laboratories, 360 home economics rooms, 360 computer rooms, 360 libraries, 360 clinics, 360 playgrounds and 4,656 comfort rooms. All these facilities are in good condition.

As shown in the table, not all schools especially in District III have internet service connection. Only 36.81% (106) public elementary and 63.64% (56) public secondary schools have connections. This is due to the absence of electricity in the area and service providers are hesitant owing to the low number of subscribers. There are still 20 (23.53%) elementary and 3 (11.11%) secondary schools in District II while there are 43 (28.67%) elementary and 2 (4.35%) secondary schools in District III that are without electrical connection. Moreover, water supply is absent in 5 (5.88%) elementary schools in District II while there are six (4%) elementary schools and 1 (2.17%) secondary school in District III that are similarly situated. These schools are located in Geographically Isolated and Disadvantaged Areas (GIDAs). Another observation is that all schools were used as evacuation centers during emergencies or disasters. In such case, classes were disrupted impeding the educational development of the students.

In terms of hazard susceptibility, there are 11.46% or 33 elementary schools and 14.77% or 13 junior/senior high schools that are highly susceptible to flooding. These schools are mostly located near the riverbanks. There are 1.74% or 5 elementary schools located along the fault lines of Dacudao, Lacson and Pangyan-Biao Escuela. On the other hand, only one (1) junior high school is located along the Lacson Fault. About 13.19% or 38 elementary schools and 7.95% or 7 junior/senior high schools are prone to landslide. Majority of these schools are situated in the uplands of Paquibato and Marilog Districts. Moreover, there are 15.63% or 45 elementary schools and 15.91% or 14 junior/senior high schools which are highly susceptible to liquefaction. There are also 16.67% or 48 elementary and 15.91% or 14 junior/senior high schools which are highly susceptible to storm surge. Water level in these areas rises from two (2) to five (5) meters during storm surge.

**Table SO-26. Inventory of Schools By Level, Type, Facilities and Condition, SY 2018-2019**

Location by Congressional District	Level	Area Occupied (ha)*	Ownership		Facilities*								Used as Evacuation Center	Hazard Susceptibility (H/M/L)						Others (liquefaction)				
					Public	Private	Science Laboratory	HE Rooms	Computer Rooms	Libraries	Clinic	Playground		Comfort Rooms	Schools with internet connect-	Schools with electricity-	Schools with available water source	Flood	Tropical Cyclone		Earthquake/Fault	Volcano	Landslide	Tsunami
District I	Kindergarten	46.11	53	119	Good-53	Good-53	Good-53	Good-53	Good-53	Good-53	Good-53	Good-53	53	53	Yes - 53	H-13 M-5 L-24				H-2 L-44		5m-2 4m-3 3m-9 2m-12	H-25 M-6 L-2	
	Elementary			126																				
	• Junior High School	78.56	15	76	Good-15	Good-15	Good-15	Good-15	Good-15	Good-15	Good-15	Good-15	15	15	Yes-15	H-3 M-3 L-10				L-17		5m-1 3m-2 2m-5	H-8 M-2 L-2	
	• Senior High School (incorporated in JHS)		13	41			Good-15	Good-15	Good-15	Good-15		Good-15		15	15	Yes-15	H-3 M-3 L-10				L-17		5m-1 3m-2 2m-5	H-8 M-2 L-2
	• Senior High School (stand)		1																					
<b>Sub-Total</b>			<b>124.67</b>	<b>69</b>	<b>Good - 68</b>	<b>Good - 68</b>	<b>Good - 68</b>	<b>Good - 68</b>	<b>Good - 68</b>	<b>Good - 68</b>	<b>Good - 68</b>	<b>Good - 68</b>	<b>68</b>	<b>68</b>	<b>Yes - 68</b>	<b>H-16 M-8 L-34</b>				<b>H-2 L-61</b>		<b>5m-3 4m-3 3m-11 2m-17</b>	<b>H-33 M-8 L-4</b>	

**Table SO-26. Inventory of Schools By Level, Type, Facilities and Condition, SY 2018-2019**

Location by Congressional District	Level	Area Occupied (ha)*	Ownership		Facilities*								Used as Evacuation Center (Yes/No)	Hazard Susceptibility (H/M/L)								
					Science Laboratories	HE Rooms	Computer Rooms	Libraries	Clinic	Playground	Comfort Rooms (No. of Toilets)	Schools with internet connection		Schools with electricity	Schools with available water source	Flood	Tropical Cyclone	Earthquake/Fault	Volcano	Landslide	Tsunami	Storm Surge
			Public	Private																		
District II	Kindergarten	495.43	85	32	Good - 85	Good - 85	Good - 85	Good - 85	Good - 85	Good - 85	Good - 1,533	Good - 30	65	80	Yes - 84	H-6 M-6 L-8				H-13 M-29 L-46	5m-1 4m-1 3m-4 2m-13	H-16 M-3 L-2
	Elementary		85	33	Good - 85	Good - 85	Good - 85	Good - 85	Good - 85	Good - 85	Good - 1,533	Good - 30	65	80	Yes - 84	H-6 M-6 L-8				H-13 M-29 L-	5m-1 4m-1 3m-4 2m-13	H-16 M-3 L-2
	Secondary																					
	• Junior High School	23.62	27	9	Good - 27	Good - 27	Good - 27	Good - 27	Good - 27	Good - 27	Good - 468	Good - 16	24	27	Yes-27	H-4 L-3				H-4 M-7 L-19	4m-1 2m-3	H-4 L-2
	• Senior High School (incorporated in		20	4			Good - 27	Good - 27	Good - 27	Good - 27		Good - 16	24	27	Yes - 27							
Sub-Total	Sub-Total	519.05	112	42	Good-112	Good-112	Good-112	Good-112	Good-112	Good-2,001	Good - 46	89	107	Yes - 111	H-10 M-6 L-11				H-17 M-36 L-	5m-1 4m-2 3m-4 2m-16	H-20 M-3 L-4	

**Table SO-26. Inventory of Schools By Level, Type, Facilities and Condition, SY 2018-2019**

Location by Congressional District	Level	Area Occupied (ha)*	Ownership		Facilities*								Used as Evacuation Center (Yes/No)	Hazard Susceptibility (H/M/L)							
					Science Laboratories	HE Rooms	Computer Rooms	Libraries	Clinic	Playground	Comfort Rooms (No. of Toilets)	Schools with internet connection		Schools with electricity	Schools with available water source	Flood	Tropical Cyclone	Earthquake/Fault	Volcano	Landslide	Tsunami
			Public	Private																	
District III	Kindergarten	306.16	150	47	Good-150	Good-150	Good-150	Good-150	Good-150	Good-150	Good-1,590	Good-24	107	144	Yes-150	H-14 M-18 L-12	Dacudao Fault – 1 Lacson Fault –	H-23 M-46 L-83		3m-1 2m-2	H-4 M-3 L-7
	Elementary		150	49	Good-150	Good-150	Good-150	Good-150	Good-150	Good-150	Good-1,590	Good-24	107	144	Yes-150	H-14 M-18 L-12	Dacudao Fault – 1 Lacson	H-23 M-46 L-		3m-1 2m-2	H-4 M-3 L-7
	Secondary																				
	Junior High School	79.35	46	21	Good - 46	Good - 46	Good - 46	Good - 46	Good - 46	Good - 46	Good - 664	Good - 46	19	20	Yes - 46	H-6 M-6 L-7	Lacson Fault – 1	H-3 M-8 L-35		3m-1 2m-1	H-2 M-2 L-3
	Senior High School (incorporated)		39	28		Good - 46	Good - 46	Good - 46	Good - 46	Good - 46		Good - 46	19	20	Yes - 46	H-6 M-6 L-7	Lacson Fault – 1	H-3 M-8 L-35		3m-1 2m-1	H-2 M-2 L-3
<b>Sub-Total</b>	<b>Sub-Total</b>	<b>385.51</b>	<b>196</b>	<b>145</b>	<b>Good-188</b>	<b>Good-188</b>	<b>Good-188</b>	<b>Good-188</b>	<b>Good-188</b>	<b>Good-188</b>	<b>Good-1,590</b>	<b>Good-49</b>	<b>126</b>	<b>164</b>	<b>Yes - 188</b>	<b>H-20 M-24 L-19</b>	<b>Dacudao Fault – 1 Lacson</b>	<b>H-26 M-54 L-</b>		<b>3m-2 2m-3</b>	<b>H-6 M-5 L-10</b>

**Table SO-26. Inventory of Schools By Level, Type, Facilities and Condition, SY 2018-2019**

Location by Congressional District	Level	Area Occupied (ha)*	Ownership		Facilities*									Used as Evacuation Center (Yes/No)	Hazard Susceptibility (H/M/L)								
					Public	Private	Science Laboratories	HE Rooms	Computer Rooms	Libraries	Clinic	Playground	Comfort Rooms (No. of Toilets)		Schools with internet connection	Schools with electricity	Schools with available water source	Flood	Tropical Cyclone	Earthquake/Fault	Volcano	Landslide	Tsunami
<b>GRAND TOTAL</b>			1,029.23	377	585	Good - 368	Good - 368	Good - 368	Good - 368	Good - 368	Good - 368	Good - 5,601	Good - 163	283	339	Yes -360	H-46 M-38 L-64		Dacudao Fault – 1 Lacson		H-45 M-90	5m-4 4m-5 3m-17	H-59 M-16

Source: DepEd Basic Education Information System

\*Area Occupied and Facilities reflected are only for public schools

\*Numbers after the level of susceptibility indicates the number of facilities affected

## Student-Teacher, Student-Classrooms and Student-Desk/Armchair Ratio

A recent change in the Philippines' educational system was implemented for the purpose of improving its quality and efficiency. The country started the transition from its old system of 10-year basic education to a K-12 educational system as mandated by the Department of Education. The K to 12 Program which covers Kindergarten and 12 years of basic education (six years of primary education, four years of Junior High School, and two years of Senior High School) was fully implemented in 2016.

Davao City's school enrollees in all levels (kindergarten, elementary, junior and senior high school) for SY 2018-2019 both public and private school reached 447,632. The number of enrollees were distributed as follows: kindergarten with 39,052 enrollees, elementary with 218,608 enrollees, junior high school with 136,226 enrollees, and senior high school with 53,746 enrollees. It can be observed that there are more enrollees in public schools than in private schools from kindergarten to junior high school compared to the number of enrollees in senior high school. This is attributed to the senior high school voucher program for Grade 10 completers who are now enrolled in private senior high school. Public school enrollees accounted for 76.37% (341,863) of the total number of enrollees.

In terms of gender distribution, there are more boys enrolled than girls from preschool to junior high school in both private and public school. Conversely, girls dominate senior high schools as they comprised 53.98% (29,011) of the total senior high school enrolment. This trend can be observed in both private and public schools.

For SY 2018-2019, public elementary, junior and senior high school achieved the standard requirement for teacher-pupil ratio, which is 1:35 for both elementary and junior high school and 1:40 for Senior High School. Based on a school to school analysis, elementary schools experience a shortage of 1,514 teachers while junior and senior high schools need an additional of 1,087 and 275 teachers, respectively. Workloads of public school teachers had increased due to the addition of grade levels under the K-12 Program and the need to perform non-teaching duties. Some teachers have to teach various grades while some have to do other functions (e.g., registrar, librarian, clerk) due to the limited number of non-teaching personnel.

Along with the challenge to hire more teachers is the need to build more classrooms. Based on the standard student-classroom ratio of 1:35 for elementary and junior high school and 1:40 for senior high school, both public elementary and junior high school has not achieved the ideal ratio. Currently, it has an average of 44 and 54 students per classroom, respectively. However, the computed school-to-school shortage as of SY 2018-2019 reveals that elementary schools need an additional 368 classrooms. Whereas, junior and senior high schools require 1,006 and 38 classrooms, respectively.

The student-desk/armchair ratio is maintained at 1:1 in all levels both private and public schools. This implies that there is enough furniture for the students as it achieved the standard ratio of 1:1.

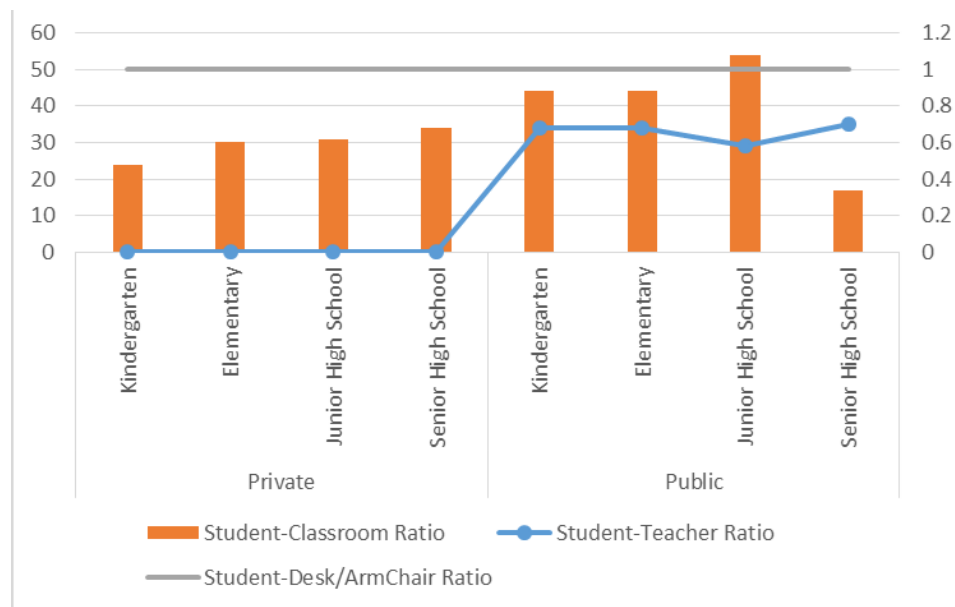


**Table SO-28. Student – Teacher, Student - Classroom and Student – Desk/Armchair Ratio by Level, SY 2018-2019**

Type/ Level	Number of Enrollees			Total No. of Teachers			Total No. of Classrooms	Total Desk/ Armchair	Student-Teacher Ratio	Student Classroom Ratio	Student-Desk/ Arm-chair Ratio
	Male	Female	Total	Male	Female	Total					
<b>PRIVATE</b>											
Kindergarten	3,525	3,219	6,744	-	-	-	286	6,744	-	1:24	1:1
2. Elementary	16,489	15,523	32,012	-	-	-	1,057	32,012	-	1:30	1:1
3. Secondary											
• Junior High School (Grade 7-10)	15,596	15,043	30,639	-	-	-	988	30,639	-	1:31	1:1
• Senior High School (Grade 11-12)	16,590	19,784	36,374	-	-	-	1,083	36,374	-	1:34	1:1
<b>Sub-Total</b>	<b>52,200</b>	<b>53,569</b>	<b>105,769</b>	-	-	-	<b>3,414</b>	<b>105,769</b>	-	-	-
<b>PUBLIC</b>											
1. Kindergarten	16,798	15,510	32,308	731	5,656	6,387	4,927	186,596	1:34	1:44	1:1
2. Elementary	96,853	89,743	186,596								
3. Secondary											
• Junior High School (Grade 7-10)	51,311	54,276	105,587	776	2,805	3,581	1,942	105,587	1:29	1:54	1:1
• Senior High School (Grade 11-12)	8,145	9,227	17,372	-	-	490	1,046	17,372	1:35	1:17	1:1
<b>Sub-Total</b>	<b>173,107</b>	<b>168,756</b>	<b>341,863</b>			<b>10,458</b>	<b>8,569</b>	<b>341,863</b>			
<b>Grand Total</b>	<b>225,307</b>	<b>222,325</b>	<b>447,632</b>			<b>10,458</b>	<b>11,983</b>	<b>447,632</b>			

Source: DepEd, City Schools Division

### Student - Teacher, Student - Classroom and Student - Desk/Armchair Ratio by Level, SY, 2018-2019



Source: DepEd, City Schools Division

### Special Education Program

Pursuant to Department of Education, Culture, and Sports (DECS) Order No. 26, series of 1997 entitled “Institutionalization of SPED Programs in All Schools”, Davao City School Division has organized 34 public SPED Centers as of SY 2018-2019. These centers aim to provide basic education among children with special needs, namely: the gifted/talented, the mentally retarded, the visually impaired, the hearing impaired, the orthopedically handicapped, the learning disabled, the speech defectives, children with behaviour problems, autistic children, and those with health problems through the formal system and other alternative delivery services in education. It also functions as a Resource Center for inclusive education which shall support children with special needs to be integrated in regular schools and conduct continuous assessment of children with special needs. There are 1,282 children with special needs enrolled in SPED Program for SY 2018-2019 composed of 66.69% male and 33.31% female students. As observed, the existing number of SPED Centers is just 11.81% (34) of the 288 public elementary schools. Noticeably, only 10 out of 150 elementary schools in District III have SPED Centers, which means that children with special needs will likely lose the opportunity for learning and development.

**Table SO-29. Special Education Program (SPED) Enrollment, SY 2018-2019**

Location	Number of Public Schools with SPED Centers	Number of Enrollees		
		Male	Female	Total
District I	14	393	197	590
District II	10	267	128	395
District III	10	195	102	297
<b>Total</b>	<b>34</b>	<b>855</b>	<b>427</b>	<b>1,282</b>

## Tertiary and Vocational/Technical Schools

A total of 48 Higher Education Institutions (HEIs) are operating in Davao City for SY 2017-2018. Of these, 93.75% (45) are privately-owned institutions while 6.25% (3) are owned by the government. These 3 state universities are distributed as follows: 1 is located in District I while the 2 universities were situated in District III. There is no state university in District II.

District I is considered as the hub of universities and colleges with 32 most of which (96.87%) are non-state run. Total land area occupied by schools in District I is recorded at 60.6148 hectares.

Tertiary enrolment for SY 2017-2018 is recorded at 76,460 which is composed of 49.32% (37,713) male and 50.68% (38,747) female enrollees. District I has the highest number of enrollees which is about 86.29% of the total tertiary enrolment. In terms of gender parity, females dominate in District I but there are more male enrollees in both District II and III.

Technical Vocational and Education Training (TVET) is offered by 46 institutions/centers in Davao City; three (3) institutions are operated by the government while the rest are privately-owned. Majority (63.04%) of these institutions/centers are concentrated in District I. Only 13.04% or 6 institutions/centers are present in District III.

In terms of land area, District II TVET Schools are expensive with a combined area of 11.7994 hectares followed by District I with 8.1560 hectares and District III with 1.9782 hectares. Big schools offering techvoc education were located in District II such as the Regional Training Center-Davao/Korea Philippines Vocational Training Center whose land area is recorded at 6.2177 hectares.

The total Technical Vocational Education and Training (TVET) enrolment in 2017 is registered at 15,457 composed of 51.47 percent male and 48.53 percent female. The highest TVET enrolment in 2017 was registered in District I with 6,907 enrollees, followed by District II with 6,571 enrollees and District III with 1,979 enrollees.

The hazard susceptibility assessment for tertiary and techvoc schools revealed that there are 6.25% or three (3) tertiary institutions and 6.52% or three (3) techvoc schools that are highly susceptible to flooding. About 94.68% of institutions are less vulnerable to land-side. Moreover, a total of 50 schools are at risk to liquefaction. When water level reaches 2 meters, there are 28 (29.79%) institutions that will be affected by storm surge.

Table SO-30. Tertiary and Vocational/Technical Schools by Type and Total Enrollment, SY 2017-2018

Location by Congressional District	Level	Area Occupied (ha)	Ownership		Total Enrollment			Hazard Susceptibility (H/M/L)*				
			Public	Private	Male	Female	Total	FL	Fa	LN	SU	L
District I	Tertiary	60.6148	1	31	31,133	34,843	65,976	H-2 M-3 L-24	-	M-1 L-32	5m-1 3m-3 2m-12	H-19 M-1 L-1
	Vocational/ Technical	8.1560	0	29	2,659	4,248	6,907	H-2 M-4 L-18	-	L-29	4m-2 3m-4 2m-5	H-14 M-2 L-3
	Sub-Total	<b>68.7708</b>	<b>1</b>	<b>60</b>	<b>33,792</b>	<b>39,091</b>	<b>72,883</b>	<b>H-4 M-7 L-42</b>	-	<b>M-1 L-61</b>	<b>5m-1 4m-2 3m-7 2m-17</b>	<b>H-33 M-3 L-4</b>
District II	Tertiary	9.6428	0	9	4,625	3,339	7,964	M-3 L-1	-	L-9	4m-1 3m-2 2m-3	H-4
	Vocational/ Technical	11.7994	1	10	4,247	2,324	6,571	M-2 L-2	-	L-11	2m-4	H-5
	Sub-Total	<b>21.4422</b>	<b>1</b>	<b>19</b>	<b>8,872</b>	<b>5,663</b>	<b>14,535</b>	<b>M-5 L-3</b>	-	<b>L-20</b>	<b>4m-1 3m-2 2m-7</b>	<b>H-9</b>
District III	Tertiary	34.1050	2	5	1,955	565	2,520	H-1 M-1 L-3	-	L-7		M-1 L-2
	Vocational/ Technical	1.9782	2	4	1,049	930	1,979	H-1 L-5	-	L-6	2m-1	H-1 L-1
	Sub-Total	<b>36.0832</b>	<b>4</b>	<b>9</b>	<b>3,004</b>	<b>1,495</b>	<b>4,499</b>	<b>H-2 M-1 L-8</b>	-	<b>L-13</b>	<b>2m-1</b>	<b>H-1 M-1 L-3</b>
<b>Grand Total</b>		<b>126.2962</b>	<b>6</b>	<b>88</b>	<b>45,668</b>	<b>46,249</b>	<b>91,917</b>	<b>H-6 M-13 L-53</b>	-	<b>M-1 L-94</b>	<b>5M-1 4M-3 3M-9 2M-25</b>	<b>H-43 M-4 L-7</b>

Source: CHED XI & TESDA XI

Notes: \*Hazard Susceptibility - Flood (Fl), Fault (Fa) Landslide (Ln), Storm Surge (Su), Liquefaction (L)

\*\*Indicators for the level of susceptibility - Low (L), Moderate (M), High (H), Very High (VH)

\*Numbers after the level of susceptibility indicates the number of facilities affected

\*The data on the current school year 2018-2019 was not reflected because of the change in the opening of classes because of ASEAN integration.

### Scholarship on Tertiary Education Program (STEP)

STEP is the city's initiative to assist the underprivileged but deserving students who would like to pursue a college education and make a career on their own. The beneficiaries of the said scholarship are entitled of the following benefits: matriculation, tuition and other school fees, monthly stipend, books and supplies allowance, and uniform/clothing allowance. The Educational Benefit System Unit (EBSU) was created by virtue of Executive Order No. 27, series of 2011, with the purpose of consolidating the programs of the City Government of Davao relative to the provision of educational assistance, which includes the following: (1) Scholarship on Tertiary Education Program (STEP); (2) Scholarship on Tertiary Education Program-Financial Assistance; (3) Special Education Assistance Program; (4) Financial Assistance Program for Lumad students; (5) Medical and Law School Educational Assistance Program; (6) Technical and Vocational Skills Training Program; and (7) Other Educational Assistance Program (Educational Assistance for persons with disability or person with special needs, Educational Assistance for the 2003 twin bombing victims and their beneficiaries and Educational Assistance for the 2016 Roxas night market bombing victims and dependents). Based on the table below, beneficiaries of the scholarship program has been increasing over time with SY 2015-2016 having the highest number of scholars.

To further cater the marginalized youths of the city who cannot afford to attend tertiary education, the city needs to establish a city college. This is to augment the existing universities which may be in full capacity with the surge of senior high school graduates and the increasing number of scholars as presented below.

**Table SO-31. Historical Educational Benefit System Unit (EBSU) Scholars, SY 2013-2014 to SY 2017-2018**

Scholarship	Number of Scholars									
	SY 2013-2014		SY 2014-2015		SY 2015-2016		SY 2016-2017		SY 2017-2018	
	1 <sup>st</sup> Sem	2 <sup>nd</sup> Sem	1 <sup>st</sup> Sem	2 <sup>nd</sup> Sem	1 <sup>st</sup> Sem	2 <sup>nd</sup> Sem	1 <sup>st</sup> Sem	2 <sup>nd</sup> Sem	1 <sup>st</sup> Sem	2 <sup>nd</sup> Sem
STEP					785	675	645	580	560	526
TechVoc					250	151	120	57	49	24
Financial Assistance Program for Lumads					100	47	38	42	52	41
Educational Assistance for PWDs					14	14	14	14	14	15
Medical School					4	4	4	4	37	37
Law School					1	1	1	1	19	19
Educational Assistance for Bombing Victims & their beneficiaries					37	37	36	38	80	80
Special Educational Assistance Program									248	249
<b>Total</b>	790	680	1,188	850	1,191	929	858	736	1059	991

## Historical Enrollment Participation Rate

Participation rate at the elementary level is fluctuating from SY 2013-2014 to SY 2017-2018 with SY 2015-2016 posting the highest rate at 86.73%. The indicator used in this analysis is the Net Participation Rate which is the percentage of school-age children in the group who are at school at a certain level of education in accordance with the age of the total number of children in the school age group. This means that 85.50% of the population aged 6 – 12 years were enrolled in public elementary schools for SY 2017-2018.

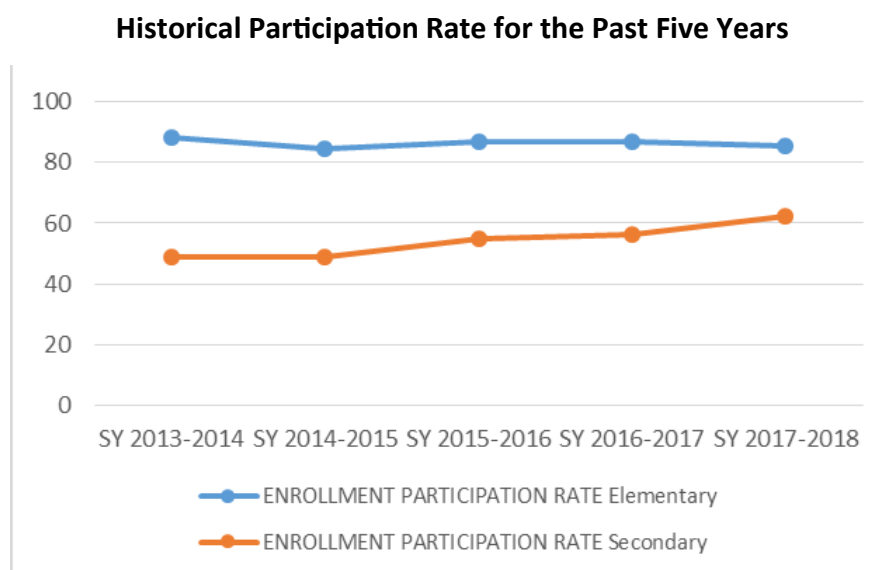
At the secondary level, participation rate was observed to be continuously increasing with SY 2017-2018 posting the highest participation rate at 62.34%. This can be attributed to the increase in education investments through establishments of Junior and Senior High School Annexes and construction of additional classrooms in the far flung areas which made education more accessible.

**Table SO-32. Historical Enrollment Participation Rate for the Past Five Years, SY 2013-2017**

SCHOOL YEAR	ENROLLMENT PARTICIPATION RATE	
	Elementary	Secondary
SY 2017-2018	85.50	62.34
SY 2016-2017	86.66	56.24
SY 2015-2016	86.73	54.69
SY 2014-2015	84.67	48.92
SY 2013-2014	88.24	48.90

Source: DepEd Basic Education Information System

\*Figures reflected only covers public school



## Historical Drop-Out Rate

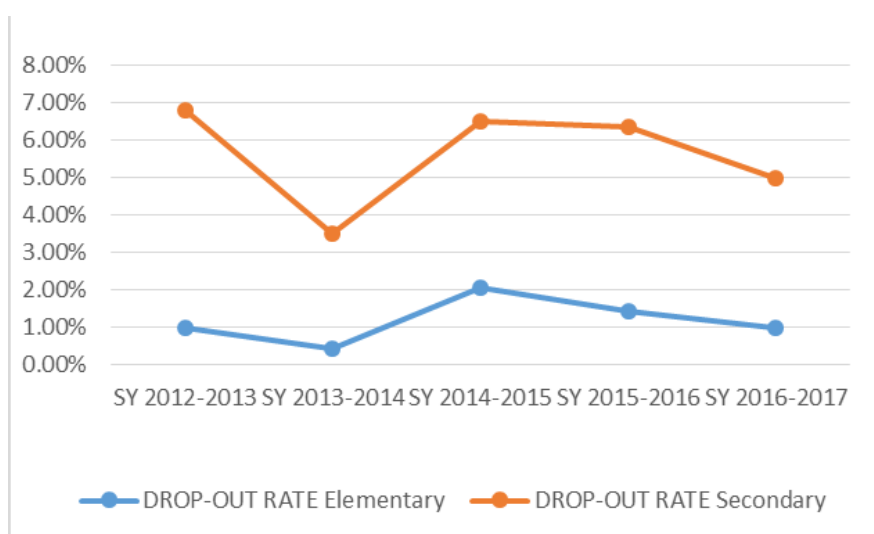
Drop-out rate ranges between 0.4 to 2.06 for elementary and 3.09 to 5.8 for secondary level in the past five (5) years. SY 2013-2014 was observed to have the lowest drop-out rate recorded for both levels pegged at 0.40% and 3.09%, respectively. Note that the rate for SY 2012-2013 and SY 2016-2017 at the elementary level is the same. Meanwhile, drop-out rate at the secondary level has considerably decreased by 45.73% from SY 2012-2013 to SY 2016-2017. These drop-outs were attributed to illnesses, family-related factors, lack of interest, malnutrition and child labor. The Education For All (EFA) target for drop-out rate for both elementary and secondary is posted at 0% which means that the city’s performance has a long way to go.

**Table SO-33. Historical Drop-Out Rate for the Past Five Years, SY 2013-2017**

SCHOOL YEAR	DROP-OUT RATE*	
	Elementary	Secondary
SY 2016-2017	0.98	3.98
SY 2015-2016	1.43	4.93
SY 2014-2015	2.06	4.45
SY 2013-2014	0.40	3.09
SY 2012-2013	0.98	5.80

Source: DepEd Basic Education Information System

**Historical Drop-Out Rate for the Past Five Years**



\*Figures reflected only covers public schools



## Current and Future Needs

### Projected Classroom, Teacher Requirements in Public Schools by Level

As the city's population increases, the number of school-going population correspondingly increases. Using DepEd's computation, it is projected that by the end of the planning period, enrolment at the elementary, junior and senior high school levels will be as follows: 258,293 for elementary, 146,157 for junior high school and 24,047 for senior high school.

To achieve the standard classroom ratio of 1:45 by SY 2029-2030, public elementary schools will need to build additional 7,689 classrooms while junior and senior high schools will require 2,699 and 1,473 classrooms, respectively. Same number applies after the Climate and Disaster Risk Assessment (CDRA) to retain these facilities on the same area considering the population present in the area. However, various mitigation measures will be applied to make the facilities resilient to any disasters that may occur in the future.

Additional teaching personnel is required to complement the newly-established schools specifically, junior high school. By SY 2029-2030, elementary school will need to hire 8,841 teachers. Junior high school will require 4,957 teachers, while senior high school will need 678 teachers.

A city college should be established to cater the less privileged. Moreover, annex schools for tertiary education should rise in the selected areas in District 2 particularly in Paquiba-to District as this area does have a state university.

### Assistance during emergency

During the Covid-19 pandemic period, starting in the first quarter of 2020, the government lockdown has also taken its toll on education, as the Department of Education also declared a closed season for face-to-face classes during summer and the succeeding school years. Online classes took the place instead, with printed copies of learning and test modules as alternative to online classes.

The city government of Davao launched an education assistance program for 22,000 student beneficiaries whose parents have lost income since the shutting down of business industries and movement restrictions, according to Davao City Annual Report 2020.

The city set aside P53 million for Eskwela Davao for 3,000 kindergarten pupils at P1,000 each, 10,000 elementary pupils at P1,500 each, 6,000 junior high school pupils at P3,000 each and 6,000 senior high school students at P3,000 each.

**Table SO-34. Projected Classroom, Teacher Requirements in Public Schools by Level**

Level	SY 2018-2019 (Base Year)	Planning Period										
		SY 2019-2020	SY 2020-2021	SY 2021-2022	SY 2022-2023	SY 2023-2024	SY 2024-2025	SY 2025-2026	SY 2026-2027	SY 2027-2028	SY 2028-2029	SY 2029-2030
<b>Projected Enrollment</b>												
Elementary	186,596	192,194	197,960	203,898	210,015	216,316	222,805	229,490	236,374	243,465	250,769	258,293
Secondary												
Junior HS	105,587	108,755	112,017	115,378	118,839	122,404	126,076	129,859	133,754	137,767	141,900	146,157
Senior HS	17,372	17,893	18,430	18,983	19,552	20,139	20,743	21,365	22,006	22,667	23,347	24,047
<b>Classroom</b>												
Elementary	5,555	5,722	5,893	6,070	6,252	6,440	6,633	6,832	7,037	7,248	7,465	7,689
Secondary												
Junior HS	1,950	2,009	2,069	2,131	2,195	2,261	2,328	2,398	2,470	2,544	2,621	2,699
Senior HS	1,064	1,096	1,129	1,163	1,198	1,233	1,270	1,309	1,348	1,388	1,430	1,473
<b>Teacher</b>												
Elementary	6,387	6,579	6,776	6,979	7,189	7,404	7,626	7,855	8,091	8,334	8,584	8,841
Secondary												
Junior HS	3,581	3,688	3,799	3,913	4,030	4,151	4,276	4,404	4,536	4,672	4,813	4,957
Senior HS	490	505	520	535	551	568	585	603	621	639	659	678

Source: DepEd City School Division

Note: The projections used in the above table are based on DepEd’s parameter. It uses a 3% increase for the succeeding year since it is more realistic than using the school-age population given that the projection only covers public schools

Projected School-going age population see note below table SO-8  
 Projected Enrollment (elementary level) Already reflected in table SO-8 (see 4<sup>th</sup> row)

## Sectoral Analysis Matrix

TECHNICAL FINDINGS/OBSERVATION	IMPLICATION (EFFECTS)	POLICY OPTION/ INTERVENTIONS														
<p><b>Inadequate school buildings and over-crowded classrooms</b> Student-Classroom Ratio, SY 2018-2019</p> <table border="1"> <thead> <tr> <th>Level</th> <th>Ideal</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Elementary</td> <td>1:35</td> <td>1:44</td> </tr> <tr> <td>Junior High School</td> <td>1:35</td> <td>1:54</td> </tr> </tbody> </table>	Level	Ideal	Actual	Elementary	1:35	1:44	Junior High School	1:35	1:54	<ul style="list-style-type: none"> <li>Poor quality of education</li> <li>Poor student performance</li> </ul>	<ul style="list-style-type: none"> <li>Construction of climate/disaster-resilient multi-storey classroom buildings</li> <li>Rehabilitation and repair of existing school buildings/classrooms</li> <li>Adopt-A-School Program (partnership with private companies and LGU)</li> </ul>					
Level	Ideal	Actual														
Elementary	1:35	1:44														
Junior High School	1:35	1:54														
<p><b>School sites are not accessible to school-going population specifically in the rural areas</b></p>	<ul style="list-style-type: none"> <li>Low participation rate</li> <li>Increase in the number of Out-of-School Youth</li> <li>Safety of the students will be at risk</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of Half-way homes/dormitory in GIDAs (Geographically Isolated and Disadvantaged Areas)</li> <li>Establishment of school annexes in far-flung barangays</li> </ul>														
<p><b>Lack of Public Senior High School (Only 72 Public SHS operating at present)</b></p> <table border="1"> <thead> <tr> <th>Congressional District</th> <th>Number of SHS</th> </tr> </thead> <tbody> <tr> <td>District I</td> <td>13</td> </tr> <tr> <td>District II</td> <td>20</td> </tr> <tr> <td>District III</td> <td>39</td> </tr> </tbody> </table>	Congressional District	Number of SHS	District I	13	District II	20	District III	39	<ul style="list-style-type: none"> <li>High dropout rate for incoming SHS students</li> <li>Increase in the number of Out-of-School Youth</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of SHS Annexes and hiring of additional teachers</li> </ul>						
Congressional District	Number of SHS															
District I	13															
District II	20															
District III	39															
<p><b>About 88.19% (254) elementary schools have no special education (SPED) program</b></p> <table border="1"> <thead> <tr> <th>Congressional District</th> <th>No. of Public Elementary Schools</th> <th>No. of Public Elem Schools without SPED</th> </tr> </thead> <tbody> <tr> <td>District I</td> <td>53</td> <td>39</td> </tr> <tr> <td>District II</td> <td>85</td> <td>75</td> </tr> <tr> <td>District III</td> <td>150</td> <td>140</td> </tr> </tbody> </table>	Congressional District	No. of Public Elementary Schools	No. of Public Elem Schools without SPED	District I	53	39	District II	85	75	District III	150	140	<ul style="list-style-type: none"> <li>Loss of opportunity for learning and development</li> <li>Students are prone to bullying and abuse</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of one (1) SPED Center in public elementary schools in every barangay</li> <li>Hiring of additional SPED Teachers</li> </ul>		
Congressional District	No. of Public Elementary Schools	No. of Public Elem Schools without SPED														
District I	53	39														
District II	85	75														
District III	150	140														
<p><b>Limited kindergarten classrooms</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Congressional District</th> <th colspan="2">SY 2018-2019</th> </tr> <tr> <th>Actual No. of Classrooms</th> <th>Ideal No. of Classrooms*</th> </tr> </thead> <tbody> <tr> <td>District I</td> <td>210</td> <td>483</td> </tr> <tr> <td>District II</td> <td>184</td> <td>378</td> </tr> <tr> <td>District III</td> <td>249</td> <td>432</td> </tr> </tbody> </table> <p><i>*Computation is based on the standard pupil-classroom ratio of 1:25</i></p>	Congressional District	SY 2018-2019		Actual No. of Classrooms	Ideal No. of Classrooms*	District I	210	483	District II	184	378	District III	249	432	<ul style="list-style-type: none"> <li>Shifting of classes</li> <li>Not conducive to learning because of overcrowded classrooms</li> <li>More push-out and absenteeism</li> </ul>	<ul style="list-style-type: none"> <li>Construction of classrooms intended for kindergarten</li> <li>Popularized RA 10157 also known as the Kindergarten Education Act</li> </ul>
Congressional District		SY 2018-2019														
	Actual No. of Classrooms	Ideal No. of Classrooms*														
District I	210	483														
District II	184	378														
District III	249	432														

## Sectoral Analysis Matrix

TECHNICAL FINDINGS/OBSERVATION	IMPLICATION (EFFECTS)	POLICY OPTION/ INTERVENTIONS																								
<p><b>Public school classrooms are being used as alternative evacuation center</b></p>	<ul style="list-style-type: none"> <li>• Suspension of classes</li> <li>• Number of hours of students spent on learning and development has diminished</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of evacuation centers in District 1 &amp; 2</li> </ul>																								
<p><b>Hazard Risk</b></p> <p>2.43% (7) elementary schools, and 1.88% (3) Junior/Senior high school are highly at risk to flooding</p> <p>19.10% (55) elementary schools and 6.88% (11) Junior/Senior high school are highly at risk to landslide</p>	<ul style="list-style-type: none"> <li>• Suspension/ Disruption of classes</li> </ul>	<ul style="list-style-type: none"> <li>• Structural mitigation with emphasis on all safety standards (exit, swing out door, sprinklers for 4 storey building )</li> <li>• Higher ground elevation for school sites</li> <li>• School in stilts</li> </ul>																								
<p><b>Schools without electricity and water supply</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Cong. Dist.</th> <th colspan="2">Elementary</th> <th colspan="2">Secondary</th> </tr> <tr> <th>No Elec- tricity</th> <th>W/out Water Supply</th> <th>No Elec- tricity</th> <th>W/out Water Supply</th> </tr> </thead> <tbody> <tr> <td>Dist. I</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Dist. II</td> <td>20</td> <td>5</td> <td>3</td> <td></td> </tr> <tr> <td>Dist. III</td> <td>43</td> <td>6</td> <td>2</td> <td>1</td> </tr> </tbody> </table>	Cong. Dist.	Elementary		Secondary		No Elec- tricity	W/out Water Supply	No Elec- tricity	W/out Water Supply	Dist. I	-	-	-	-	Dist. II	20	5	3		Dist. III	43	6	2	1	<ul style="list-style-type: none"> <li>• No access to information technology</li> <li>• Children are susceptible to waterborne diseases</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of renewable energy</li> <li>• Rainwater harvesting for cleaning purposes and other secondary uses</li> </ul>
Cong. Dist.		Elementary		Secondary																						
	No Elec- tricity	W/out Water Supply	No Elec- tricity	W/out Water Supply																						
Dist. I	-	-	-	-																						
Dist. II	20	5	3																							
Dist. III	43	6	2	1																						
<p><b>Absence of state university/city college in District II</b></p>	<ul style="list-style-type: none"> <li>• Congestion of students in state universities located in District I &amp; III</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of a city college in District II</li> </ul>																								

## Education Programs and Projects, Approved/Funded for Implementation under the Special Education Fund

Access to education remains a top priority of the city. The City Government of Davao through the Local School Board has been supporting the Department of Education by providing supplementary funds to promote sports development, update equipment and supplies, improve the health and nutrition of the children and empower the learners, teachers and school heads through various training programs.

**Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 & 2019**

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
<b>School Supervision</b>									
General Administration	Davao City	Gov't	January	December	96,459,980.00	Gov't	January	December	126,998,010.27
Planning and Monitoring Program	Davao City	Gov't	January	December	4,000,000.00	Gov't	January	December	7,400,418.00
Madrasah Comprehensive Development Promotion Program	Davao City	Gov't	January	December	14,333,048.00	Gov't	January	December	16,953,453.00
Sunday High School Education Program	Davao City	Gov't	January	December	20,868,000.00	Gov't	January	December	29,823,859.15
Integrated School Health and Nutrition Program	Davao City	Gov't	January	December	10,337,050.00	Gov't	January	December	-
Educational Research and Development Program	Davao City	Gov't	January	December	1,013,100.00	Gov't	January	December	-
Implementation of the Kindergarten catch-up Program	Davao City	Gov't	January	December	684,000.00	Gov't	January	December	200,000.00
<b>Public Education</b>									
<b>Elementary Education</b>									
Repair of Library Hub Building at Bolton Street, Corner Magallanes. at Bolton Street, Corner Magallanes	Poblacion District	Gov't (Local School Board)	September 13, 2018	October 12, 2018		-	-	-	

**Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 & 2019**

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Construction of 6-Classroom, 2-Storey Building @ Purok 16, Barangay Talomo	Talomo District	Gov't (Local School Board)	February 14, 2018	November 10, 2018	10,885,000.00	-	-	-	-
Construction of (1) Storey (3) Classroom Building @ Columbus Elementary School	Marilog District	Gov't (Local School Board)	July 17, 2017	January 8, 2018	3,200,000.00	-	-	-	-
Construction of 6-Classroom, 2 Storey Building @ Barangay Matina Biao	Tugbok District	Gov't (Local School Board)	December 11, 2017	July 31, 2018	10,900,000.00	-	-	-	-
Construction of 6-Classroom, 2 Storey Building @ Barangay Matina Biao HS (Extension)	Tugbok District	Gov't (Local School Board)	October 16, 2017	August 31, 2018	11,050,000.00	-	-	-	-
Other Property, Plant & Equipment - Service Entrance & Installation of 100KVA Transformer for Calinan Central Elementary School	Calinan District	Gov't (Local School Board)	March 30, 2018	September 24, 2018	330,000.00	-	-	-	-
Construction of 2-Storey, 4 Classroom Building at Tacunan Elementary School	Tugbok District	Gov't (Local School Board)	May 2, 2018	September 9, 2018	7,450,000.00	-	-	-	-
Construction of 1-Storey, 2 Classroom Building Balite Elementary School	Marilog District	Gov't (Local School Board)	May 15, 2018	August 22, 2018	2,200,000.00	-	-	-	-

Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 &amp; 2019

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Road Widening at Purok 2 in front of Camansi National High School and Bankas Elementary School, Barangay Camansi	Toril District	Gov't (Local School Board)	August 6, 2018	September 19, 2018	1,000,000.00	-	-	-	-
Additional Appropriation for the Construction of 1-Storey, 3-Classroom Building at Columbus Elementary School	Marilog District	Gov't (Local School Board)	November 1, 2018	December 13, 2018	700,000.00	-	-	-	-
Water System @ San Roque Elementary School, Lacson Street,	Poblacion District	Gov't (Local School Board)	March 27, 2018	April 15, 2018	998,704.13	-	-	-	-
Water System @ A. Mabini Elementary School, Bangkal Mc. Arthur Highway, Bangkal	Talomo District	Gov't (Local School Board)	April 12, 2018	May 21, 2018	831,566.78	-	-	-	-
Water System @ Don Manuel Gutierrez Elementary School, Barangay 74-A, Matina Crossing	Talomo District	Gov't (Local School Board)	April 17, 2018	May 24, 2018	1,500,000.00	-	-	-	-
Water System @ Matina Central Elementary School, , Barangay 74-A, Matina Crossing.	Talomo District	Gov't (Local School Board)	April 17, 2018	May 24, 2018	532,098.09	-	-	-	-



**Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 & 2019**

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Water System at Ma-a Central Elementary School @ Don Julian Rodriguez Avenue, Ma-a	Talomo District	Gov't (Local School Board)	April 27, 2018	June 20, 2018	334,988.93	-	-	-	-
Water System at Kapihan Tomas Monteverde Central Elementary School	Talomo District	Gov't (Local School Board)	May 22, 2018	June 22, 2018	444,343.38	-	-	-	-
Water System at Magallanes Elementary School @ C. Bangoy Street, Barangay 4-A	A. Pichon Sr. St., Barangay 1-A	Gov't (Local School Board)	June 11, 2018	July 6, 2018	7,450,000.00	-	-	-	-
Water System @ Sta. Ana Central Elementary School, R. Mag-saysay Avenue	Poblacion District	Gov't (Local School Board)	April 9, 2018	May 28, 2018	7,450,000.00	-	-	-	-
Construction of 4-Classroom, 2-Storey Building at Ula (Extension)	Tugbok District	Gov't (Local School Board)	May 4, 2018	88% On-going	7,450,000.00	-	-	-	-
Construction of 4-Classroom, 2-Storey Building at Bayabas Elementary School, Bayabas Binugao	Toril District	Gov't (Local School Board)	May 24, 2018	85% On-going	7,450,000.00	-	-	-	-
Construction of 2-Storey, 4-Classroom Building at Matina Biao Elementary School	Tugbok District	Gov't (Local School Board)	June 4, 2018	95% On-going	7,212,000.00	-	-	-	-

Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 &amp; 2019

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Construction Of 2-Storey, 10-Classroom Building at Tacunan High School MCHS Annex, Barangay Tacunan	Tugbok District	Gov't (Local School Board)	June 21, 2018	48% On-going	14,700,000.00	-	-	-	-
Construction of 4 Classroom, 2 Storey Building at Malalan Elementary School, Barangay Carmen	Baguio District	Gov't (Local School Board)	July 2, 2018	85% On-going	7,500,000.00	-	-	-	-
Construction of 2 Storey, 16 Classroom Building at Tugbok Central Elementary School	Tugbok District	Gov't (Local School Board)	July 11, 2018	50% On-going	24,343,650.00	-	-	-	-
<b><u>Secondary Education</u></b>		Gov't (Local School Board)				-	-	-	-
Construction of 4-Classroom, 2-Storey Building @ Matina Pangi High School, Km. 9 Matina Pangi, Barangay Matina Pangi	Talomo District	Gov't (Local School Board)	October 13, 2017	March 11, 2018	7,300,000.00	-	-	-	-
Construction of 3 Storey, 9 Classroom @ SPED Bangkal High School	Talomo District	Gov't (Local School Board)	November 20, 2017	November 9, 2018	6,000,000.00	-	-	-	-

Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 &amp; 2019

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Construction of 4-Classroom, 2-Storey Building at Langub High School (Extension of Ma-a National High School), Barangay Langub, Ma-a	Talomo District	Gov't (Local School Board)	April 27, 2018	December 10, 2018	7,370,000.00	-	-	-	-
Construction of 6-Classroom, 2-Storey Building @ E. Ramos National High School, Diamond Village Street Avenue, Barangay Angliongto Lanang	Buhangin District	Gov't (Local School Board)	August 24, 2017	March 1, 2018	11,050,000.00	-	-	-	-
Construction of 4-Classroom, 2-Storey Building @ Communal High School, Barangay Communal	Buhangin District	Gov't (Local School Board)	August 7, 2017	April 13, 2018	7,450,000.00	-	-	-	-
Construction of Two (2) Storey, Two (2) Classroom Building @ Calinan National High School	Calinan District	Gov't (Local School Board)	October 17, 2016	April 22, 2018	6,650,000.00	-	-	-	-
Construction of 4-Classroom, 2-Storey Building @ New Valencia	Tugbok District	Gov't (Local School Board)	November 23, 2017	April 21, 2018	7,450,000.00	-	-	-	-
Construction of 4-Classroom, 2 Storey Building @ Tacunan High School (Extension).	Tugbok District	Gov't (Local School Board)	December 12, 2017	July 19, 2018	7,450,000.00	-	-	-	-

Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 &amp; 2019

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Construction of 2-Classroom, 1-Storey Building at Talandang National High School, New Valencia Campus	Tugbok District	Gov't (Local School Board)	August 14, 2018	December 11, 2018	2,871,371.88	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Marilog National High School Magsaysay Campus	Marilog District	Gov't (Local School Board)	October 12, 2018	December 11, 2018	4,220,000.00	-	-	-	-
Water System @ Sta. Ana National High School, Barangay 28-C, Sta Ana.	Poblacion District	Gov't (Local School Board)	April 9, 2018	May 28, 2018	7,450,000.00	-	-	-	-
Water System @ Davao City SPED High School Km. 7, SPED Street, Bangkal	Talomo District	Gov't (Local School Board)	April 12, 2018	June 11, 2018	733,324.58	-	-	-	-
Water System at Ma-a National High School, Barangay Ma-a	Talomo District	Gov't (Local School Board)	April 27, 2018	May 22, 2018	987,677.09	-	-	-	-
Water System at Davao City National High School, Barangay 10-4 F. Torres Street	Poblacion District	Gov't (Local School Board)	May 16, 2018	June 22, 2018	547,892.85	-	-	-	-
Construction of 4-Classroom, 2-Storey Building @ Baliok High School, Barangay Baliok (Proposed Talomo Annex - 304396 Davao City)	Talomo District	Gov't (Local School Board)	January 26, 2018	80% On-going	7,450,000.00	-	-	-	-

Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 &amp; 2019

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Construction of 3-Storey, 18 Classroom at EFA - ALS	Poblacion District	Gov't (Local School Board)	May 14, 2018	20% On-going	28,998,609.11	-	-	-	-
Construction of 2 Storey, 4 Classroom for Matina Pangi High School (annex), Davao City	Poblacion District	Gov't (Local School Board)	July 2, 2018	90% On-going	7,300,000.00	-	-	-	-
Other Property, Plant and Equipment (Transformer-Gov. Duterte and G. Tajo National High School, Paquibato National High School)	Paquibato District	Gov't (Local School Board)	November 27, 2017	70% On-going	747,548.42	-	-	-	-
Construction of 4-Classroom, 2-Storey Building at Buhisan High School (Extension), Km. 22, Barangay Buhisan	Bunawan District	Gov't (Local School Board)	May 10, 2018	80% On-going	7,400,000.00	-	-	-	-
Construction of 4-Classroom, 2-Storey Building at Mapula High School (Extension Campus of Paquibato National High School), Barangay Mapula	Paquibato District	Gov't (Local School Board)	May 10, 2018	40% On-going	7,650,000.00	-	-	-	-
Construction of 4-Classroom, 2-Storey Building at Tapak HS (Extension Campus of Panaga NHS), Barangay Tapak	Paquibato District	Gov't (Local School Board)	August 3, 2018	65% On-going	7,450,000.00	-	-	-	-

**Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 & 2019**

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Construction of 2-Classroom, 1-Storey Building at Malabog National High School, Binaton Campus	Paquibato District	Gov't (Local School Board)	August 30, 2018	90% On-going	3,550,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Paquibato National High School-Mabuhay Campus, Barangay Mabuhay	Paquibato District	Gov't (Local School Board)	August 29, 2018	85% On-going	4,435,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Panaga National High School - Labo Campus	Paquibato District	Gov't (Local School Board)	September 10, 2018	90% On-going	3,590,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Malabog National High School, Panulawan Campus, Barangay Malabog	Paquibato District	Gov't (Local School Board)	September 5, 2018	35% On-going	2,926,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Malabog National High School - Victorio Bontilao Campus, Barangay Kapihan	Paquibato District	Gov't (Local School Board)	September 26, 2018	40% On-going	3,850,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Malabog NHS - Pamantawan Campus, Barangay Pamantawan	Paquibato District	Gov't (Local School Board)	December 6, 2018	10% On-going	4,360,000.00	-	-	-	-

Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 &amp; 2019

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Construction of 2 Classroom, 1 Storey Building at Dacudao National High School, Dacudao NHS-Dalagdag Campus	Calinan District	Gov't (Local School Board)	September 4, 2018	65% On-going	3,531,000.00	-	-	-	-
Construction of 2 Classroom, 1 Storey Building at Crossing Bayabas National High School, San Isidro Campus	Toril District	Gov't (Local School Board)	September 20, 2018	70% On-going	3,488,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Crossing Bayabas National High School Lubogan Campus, Barangay Lubogan	Toril District	Gov't (Local School Board)	September 26, 2018	95% On-going	3,038,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Calinan National High School-Lacson Campus	Calinan District	Gov't (Local School Board)	September 22, 2018	70% On-going	2,934,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Tagakpan National High School - Anecito R. Barbarona Campus	Tugbok District	Gov't (Local School Board)	October 5, 2018	75% On-going	2,894,000.00	-	-	-	-



**Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 & 2019**

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
Construction of 2-Classroom, 1-Storey Building at Crossing Bayabas NHS, Tagurano Campus, Barangay Tagurano	Toril District	Gov't (Local School Board)	November 13, 2018	40% On-going	2,893,000.00	-	-	-	-
Construction of (2) Classroom, (1) Storey Building at Crossing Bayabas NHS-Bayabas Campus	Toril District	Gov't (Local School Board)	November 27, 2018	30% On-going	3,413,000.00	-	-	-	-
Construction of 2-Classroom, 1-Storey Building at Marilog NHS, Lumatag Campus	Marilog District	Gov't (Local School Board)	December 6, 2018	20% On-going	4,028,000.00	-	-	-	-
<b>Manpower Development</b>						-	-	-	-
Alternative Learning System (ALS)-Informal Education (INFED)	Davao City	Gov't (Local School Board)	January	December	380,500.00	Gov't	January	December	1,254,000.00
Basic Literacy program	Davao City	Gov't (Local School Board)	January	December	393,500.00	Gov't	January	December	1,163,000.00
Alternative Learning System Accreditation and Equivalency (A&E)	Davao City	Gov't (Local School Board)	January	December	539,000.00	Gov't	January	December	2,335,885.00

**Table SO-35. Education Related Projects, Approved/Funded for Implementation, Year 2018 & 2019**

Name of Project	Location	2018				2019			
		Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion	Project Cost
IP Education	Davao City	Gov't (Local School Board)	January	December	5,000,000.00	Gov't	January	December	5,000,000.00
Early Childhood Care and Development	Davao City	Gov't (Local School Board)	-	-	5,000,000.00	Gov't	January	December	5,000,000.00
<b>Sports Development</b>									
DAVRAA Meet	University of Mindanao, Matina, Davao City (2018) Up Sports Complex, Bago Oshiro, Tugbok, Davao City (2019)	Gov't (Local School Board)	Feb. 18	Feb. 24	94,316,695.00	Gov't	Jan-27	Feb. 2	37,474,700
District, Unit and DCAA Meet	Davao City	Gov't (Local School Board)	Aug. 25	Oct. 20	38,248,810.00	Gov't	TBA	TBA	5,560,000.00
Palarong Pambansa	Vigan, Ilocos Sur	Gov't (Local School Board)	Apr-15	Apr-21	41,526,950.68	Gov't	Apr-27	May-04	72,556,355.00
Sports Training of Davao City Athletes, Coaches, Chaperons and Training Staff	Davao City	Gov't (Local School Board)	January	December	28,904,515.00	Gov't	January	December	13,748,900.00

## Social Sub-Sector: Social Welfare Services

### a. Existing Situation

#### a.1 Social Welfare Facilities, Services and Clientele

The City Government of Davao is committed to providing social services for its constituents to ensure their welfare. It provides social welfare facilities to uphold the rights of the children, women, persons with disabilities, and senior citizens.

Early childhood care and development (ECCD) services are provided in all barangays of the city. In 2018, a total of 60,750 children aged 3-4 years old were served; 49% of which were males and 51% females. These children were served in 686 ECCD service centers - 563 center-based, 4 child-minding centers, and 119 home-based centers/supervised neighborhood play in 175 barangays. These barangays have an average of four (4) day-care facilities. However, ten (10) barangays in the Poblacion District particularly 3-A, 11-B, 13-B, 14-B, 16-B, 17-B, 24-C, 25-C, 29-C, and 34-D have not established such facilities as these areas are located in commercial zones. Children aged three (3) to four (4) years old children in the said barangays are served by the mobile ECCD.

As of 2018, there were 160 ECCD service centers considered to be in poor physical condition of which 31 were home-based. Moreover, 43 centers were in critical status wherein 7 were home-based.

Residential care facilities are established to guarantee the social protection of the children needing special protection. Balay Dangupan Crisis Intervention Center caters to abused female children where forty-nine (49) are temporarily sheltered. Balay Dangupan is built within the compound of Co Su Gian Home for the Elderly in Lower Cabantian, Buhangin District. The area is susceptible to low-level of landslide.

Bahay Pag-asa provides homelife and reformative services to male children in conflict with the law (CICL), where 100 CICLs are being housed. The center is located in Barangay Oshiro, Tugbok District with a high level of susceptibility to flood but low susceptibility to landslide.

Paginhawaan Drop-In Center and the Quick Response Team for Children Concerns provide services to 123 male children, and 1,294 male and female children, respectively. Both centers are within a compound located in Barangay 38-D, where the site is susceptible to flood, landslide, liquefaction, and storm surge.

Mentally-challenged children are provided residential care in Lingap Center with 22 children being assisted. It is located in Barangay Tugbok, Tugbok District, where there is high susceptibility to flooding, and low susceptibility to landslide and liquefaction.

Victims of violence against women and their children (VAWC) who need temporary shelter are housed in the Sidlakan Women Crisis Center where sixteen (16) VAWC victims

were temporarily housed as of 2018. The center located in SIR Phase 1, Barangay 76, Poblacion District is susceptible to flood, landslide, liquefaction, and storm surge.

Provision of educational assistance, conduct of case management, family life, education and counseling are common services to all these facilities

For abandoned male and female elderly, Co Su Gian Center for the Elderly provides residential care, case management, and self and social enhancement services. As of 2018, the facility catered to 57 abandoned elderly. The center is located in Lower Cabantian, Buhangin District where Balay Dangupan Crisis Intervention Center is also situated.

Another social welfare facility of the city is the Davao City Treatment and Rehabilitation Center for Drug Dependents (DTRCDD). As of 2018, it houses 135 male and 31 female adults and 18 male and 5 female children drug dependents. The facility provides treatment and rehabilitation, family life education and counseling, educational assistance, and self and social enhancement. DTRCDD is situated in Bago Oshiro, Tugbok, where it is low susceptible to landslide.

Shelter-care facilities of the national social welfare arm are also present. The Reception and Study Center for Children (RSCC) of the Department of Social Welfare and Development provides services for the abandoned, foundling, neglected or involuntary committed, surrendered or voluntary committed children 0-6 years old. RSCC is located within the Southern Philippines Medical Center, Dumanlas Road, Barangay Buhangin, where it is low susceptible to landslide.

Group Home for Girls provides temporary substitute home care to girls and women in extremely difficult circumstances. It is located in Barangay Maa, Talomo District, which is susceptible to flood, landslide, and liquefaction.

The Regional Rehabilitation Center for the Youth (RRCY) provides homelife and judicial liaison services to 16-17 years old CICLs who are committed by the courts of justice. It is located in Bago Oshiro, Tugbok District, where it is less susceptible to landslide.

Table SO 36. Presence of Social Welfare Facilities and Services Offered, 2018

District	Facility	Services Offered	Type of Clientele	No. of Clientele	Staff	Owner-ship	Physical Condition	Hazard Susceptibility				
								Flood	Earth-quake	Land-slide	Storm Surge	Liquefaction
									(Lacson Fault)			
Poblacion	ECCD centers	ECCD Services	Children 3-4 years old	2,926	57	LGU	32 – good	11 – L	24 - L	10 -2m	6 – M	
							21 - fair	1 – M		2 – 3m	46 – H	
1 – poor							2 – H	5 – 4m				
1 - critical							11 – VH	2 – 5m				
	Residential Care Facilities	Temporary shelter, home life / surveillance & rescue	Children-at-risk	110	45		2 – good	2 – L	2 – L	2 – 2m	2 - H	
Talomo	ECCD centers	ECCD services	Children 3-4 years old	5,131	92	-do-	41 – good	17 – L	36 - L	15 – 2m	9 – L	
							49 – fair	8 – M		3 – 3m	7 – M	
							2 - critical	6 – H		1 – 4m	52 – H	
								1 – VH		2 – 5m		
	Residential care facility	Temporary shelter, family life	Victims of violence against women & their children	20	8		Good	M	L	2m	H	
Agdao	ECCD centers	ECCD services	Children 3-4 years old	1,607	30	LGU	13 – good	5 – L	12 - L	14 – 2m	25 – H	
							6 – fair	9 - M	12 - L	1 – 3m	25 – H	
							6 – poor		12 - L		25 – H	
							5 - critical		12 - L		25 – H	

**Table SO 36. Presence of Social Welfare Facilities and Services Offered, 2018**

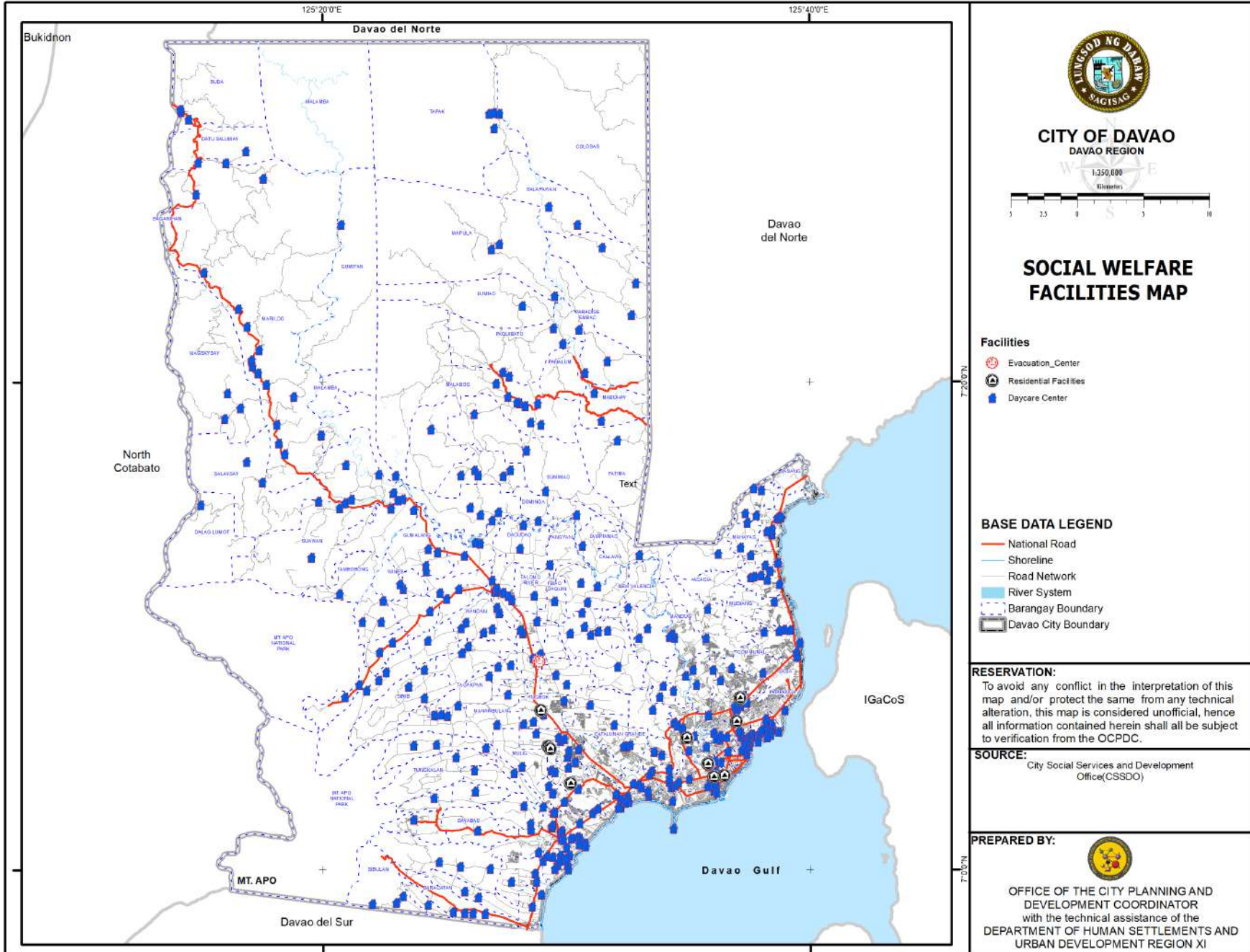
District	Facility	Services Offered	Type of Clientele	No. of Clientele	Staff	Owner-ship	Physical Condition	Hazard Susceptibility							
								Flood	Earth-quake	Land-slide	Storm Surge	Liquefaction			
									(Lacson Fault)						
Buhangin	ECCD centers			4,191	91	-do-	59 – good	12 – L		56 – L	27 – 2m	8 – L			
							5 - fair	3 – M		2 - M		7 – L			
							13 - poor	36 – H		1 – H		43 – H			
							14 - critical	2 - VH							
	Residential care facility / alternative home for children	Temporary shelter, case management, home life	Abandoned / foundling, neglected or involuntary committed, surrendered or voluntary committed children 0-6 years old;	100	60	LGU					3 - L		1 - M		
														Abused girl-children;	DSWD
														Abandoned older persons	
	Paquibato	ECCD centers			3,150	82		30 – good	8 – M		2 – L				
								1 – fair	42 – H		21 – M				
								48 – poor	12 – VH		59 – H				
3 - critical															
Baguio	ECCD centers			1,071	27		6 – good	2 – L		23 – L					
							6 – fair	2 – M		1 – M					
							10 – poor	9 – H		3 – H					
							5 - critical								

Table SO 36. Presence of Social Welfare Facilities and Services Offered, 2018

District	Facility	Services Offered	Type of Clientele	No. of Clientele	Staff	Owner-ship	Physical Condition	Hazard Susceptibility				
								Flood	Earth-quake (Lacson Fault)	Land-slide	Storm Surge	Liquefaction
Calinan	ECCD centers	10 <sup>th</sup>		2,856	67		13 – good	10 – L	1	43 – L		22 - Low
							2 – fair	15 – M		5 – M		
							46 – poor	24 – H		13 – H		
							6 - critical	1 – VH		1 - VH		
Marilog	ECCD centers			2,711	79		4 – good	42 – H		16 – L		
							17 – fair			33 – M		
							51 - poor			30 - H		
							7 - critical					
Toril	ECCD centers			3,850	76		15 – good	33 – L	2	65 – L	5 – 2m	10 – L
							13 – fair	4 – M		7 – M	4 – 3m	19 M
							45 – poor	16 – H		1 – H	2 – 4m	4 - H
							3 - critical					
Tugbok	ECCD centers			3,081	60		13 – good	8 – L		56 – L		17 - L
							47 – fair	23 – M		4 – M		
								10 – H				
	Residential care facilities	Temporary shelter, home life, case management	Children in conflict with the law committed by the courts of justice	400	200		4 – good	1 – H		4 – L		1 - L
	Treatment and rehabilitation	Mentally-challenged children										
	Judicial liaison services	Drug dependents										



# Social Welfare Facility Map



SO-430

## a.2 Historical Number of Population Served by Type of Clientele System

Davao City has a total population of 1,632,991 (NSO 2015 CPH). From 2014 to 2018, an average of 12 percent of the total population or 189,700 clients were provided with social welfare services annually.

Disadvantaged Families and Early Childhood Care and Development top the number of clients served by the social welfare system of the government across the five-year period. Older Persons took the second spot, followed by the Victims of Natural Disasters. The drastic increase in clientele served in 2016 and 2018 was due to the number of persons affected by drought in Marilog and Paquibato Districts, and the flood that occurred in Poblacion (Davao River areas), Talomo (Matina Crossing, Matina Pangji, Maa, Talomo areas), and Buhangin Districts (Callawa, Indangan, Tigatto, Waan areas) respectively.

**Table SO-37. Historical Number of Population Served by Type of Clientele, Year 2014 to Year 2018**

No.	Type of Clientele	Previous Years				Current Year	
		2014	2015	2016	2017	2018	Percentage
1	Disadvantaged Family	55,435	47,034	65,136	50,858	60,978	26.8
2	Disadvantaged Women	15,102	10,139	10,770	10,317	14,288	6.28
3	Disadvantaged Children	18,414	8,284	13,398	5,992	15,942	7.0
4	Disadvantaged Youth	11,128	6,398	6,482	7,396	8,006	3.5
5.	Persons with Disabilities	3,807	1,730	3,122	2,157	3,541	1.56
6.	Older Persons	22,109	11,327	22,204	11,746	38,855	17.08
7.	Victims of Natural Disasters	5,449	3,609	59,280	2,002	21,327	9.37
8.	Victims of Man-made Disasters	19,409	4,409	2,281	2,321	3,854	1.69
9.	Early Childhood Care	46,373	52,913	52,173	53,693	60,750	26.7
	<b>TOTAL</b>	<b>193,773</b>	<b>145,843</b>	<b>234,846</b>	<b>146,482</b>	<b>227,541</b>	<b>100.00</b>

Source: City Social Services and Development Office, Davao City

### a.2.1 Disadvantaged Families

Disadvantaged families comprised 27% of the total clients served in 2014 to 2018. The number of families served during these periods showed an increasing trend of five percent (5%) annually. Families in especially difficult circumstance - those unable to meet basic needs, those experiencing crisis such as chronic illness, death and reversal of roles, and solo parents are among the clients provided with basic social services. These families are given self-employment or livelihood assistance, services on capability-building for productivity and entrepreneurship skills, enhanced parenting skills and other psychosocial interventions like the hospital and funeral assistance from Lingap Program of the city. Migrant/overseas Filipino workers in distress are provided psychosocial intervention/counseling services or are referred to concerned agencies in case of medical requiring treatment or problems like labor, immigration and other issues requiring legal representation.

A number of families identified in the National Household Targeting System for Poverty Reduction and assessed to be the poorest among the poor were included in the Pantawid Pamilyang Pilipino Program (4Ps). There were 33,380 households from 160 barangays currently registered in the 4Ps; 11,729 households in the Modified Conditional Cash Transfer for the Indigenous People.

### a.2.2 Disadvantaged Women

Disadvantaged women covered 6% of the total clientele served. Most clients served were marginalized women - those living in poverty and have little or no access to land and other resources, basic social and economic services such as health care, education, water and sanitation, employment and livelihood opportunities, housing, social security, physical infrastructure, and the justice system (*Sec 4[d] RA 9710*).

Eleven percent (11%) of the total women served in 2014 to 2018 were victims of violation of Republic Act 9262 otherwise known as the Anti-Violence against Women and their Children (VAWC) Act of 2004. VAWC cases increased by an annual average of 12% from 1,030 cases in 2014 to 1,469 cases in 2018. The increase in reported VAWC cases may be attributed to more women mustering the courage to report, due to the passage of laws that address sexual and gender-based violence. Although there is a compelling support for the victims of violence against women, there is a need to strengthen the Barangay VAW Desks and reinforce legal and economic assistance to VAW victims.

**Table SO 37.1 Number of Violence against Women and their Children (VAWC) cases, 2014-2018, Davao City**

Client	2014	2015	2016	2017	2018
Victims of Violence Against Women and children (VAWC)	1,030	1,015	1,387	1,834	1,469

Sources: Integrated Gender and Development Division (IGDD)

### a.2.3 Disadvantaged Children

Disadvantaged children constituted 7% of the total clientele served. Most or 80% of the total children served in that period were assisted in educational assistance programs, participation in children's congress, and children issued with permits to travel and 20% served were children needing special protection (CNSP).

Children needing special protection refers to children who are vulnerable or at-risk of being pushed and exploited to come into conflict with the law because of personal, family, and social circumstances. They are at risk of being abused through physical, psychological, sexual, economic, or any other means. These include street children, children victims of commercial sexual exploitation, prostitution and pornography, children in situations of armed conflict, abandoned or neglected, child victims of illegal recruitment and trafficking, child labor, and children coming from a dysfunctional or broken family or being without a parent or guardian such as those children of migrant/overseas Filipino workers in distress Children in conflict with the law (CICL) refers to children who are alleged as, accused of, or adjudged as, having committed an offense.

**Table SO 37.2 Children Needing Special Protection, 2014-2018,  
Davao City**

Children Needing Special Protection	2014		2015		2016		2017		2018	
	M	F	M	F	M	F	M	F	M	F
Children-at-Risk	1,747	1,970	1,455	1,680	496	508	574	578	897	602
Children in Conflict with the Law	353	34	232	19	492	58	231	8	222	12
<b>TOTAL</b>	<b>2,100</b>	<b>2,004</b>	<b>1,687</b>	<b>1,699</b>	<b>988</b>	<b>566</b>	<b>805</b>	<b>586</b>	<b>1,119</b>	<b>614</b>

Source: City Social Services and Development Office, Davao City

Fourteen percent (14%) of children needing special protection were CICLs, comprising 222 males and 12 females. CICLs are made to undergo programs that will allow them to become accountable and responsible for their actions. Republic Act 10630, amending R.A. 9344 "An Act Strengthening the Juvenile Justice System in the Philippines" provides that a CICL would be mandatorily placed at the Intensive Juvenile Intervention and Support Center (IJISC) of the Bahay Pag-asa.

#### **a.2.4 Disadvantaged Youth**

Disadvantaged youth covered 3.5% of the total clientele served. They were actively involved in public and civic affairs, in the promotion and protection of their physical, moral, spiritual, intellectual, and social and economic well-being.

Forty-seven (47) percent of the clientele served were in-school youth; distribution of males and females were equal. The local government unit extends educational assistance and scholarship for the underprivileged students with high intellectual capacities to have access to college education through the Scholarship on Tertiary Program (STEP) under the Educational Benefits Unit of the City Mayor's Office.

The out-of-school youth (OSY) are assisted through capability-building programs on personality and leadership protective behavior, and productivity and livelihood skills development.

#### **a.2.5 Persons with Disabilities**

The Household Assessment Results of the Listahanan of 2015 conducted by the Department of Social Welfare and Development assessed 2,658 persons with disabilities to be poor. These were the marginalized who lack access to rehabilitative services and opportunities to be able to participate fully in socioeconomic activities and have no means of livelihood.

Persons with disabilities advocate equal treatment and equal access to development opportunities. Despite the initiatives of the city government to provide services that would help improve their lives, this sector continues to suffer exclusion from social and economic opportunities. Batas Pambansa 344 otherwise known as the Accessibility Law intended for barrier-free on building and public transportation made a little progress in terms of implementation as steep ramps and ramps without handrails are still seen and most buildings are not accessible for them.

Persons with disabilities do not have strong organizations for their meaningful participation. The Department of Social Welfare and Development is promoting for the functionality of the Persons with Disability Affairs Office (PDAO) to ensure the implementation of programs and services for them. Republic Act No. 10070 – An Act Establishing Institutional Mechanism to Ensure the Implementation of Programs and Services for Persons with Disabilities in Every Province, City and Municipality Amending Republic Act No. 7277, otherwise known as the Magna Carta for Disabled Persons, as Amended mandates that local government units shall ensure funding of PDAO be included in the Annual Plans and Budget.

From 2014 to 2018, the social welfare arm of the city recorded an annual average of 2,870 persons with disabilities with provided services. In consonance with Republic Act No. 10754 -An Act Expanding the Benefits and Privileges of Persons with Disability, 5,189 persons with disabilities were issued with identification cards from 2014 to 2018.



### **a.2.6 Older Persons**

Population of older persons in Davao City in 2015 was recorded at 109,562. The elderly women outnumbered the male - 54% and 46%, respectively. Older persons (OPs) are confronted with significant issues such as security in old age, their health status as they tend to be more at risk of developing disabilities and diseases, and occurrence of abuses at home or abandonment by the families.

Older persons comprised 17% of the clients served. Services for senior citizens include provision of psychosocial interventions, identification cards, and purchase slips for medicines and groceries. The *Listahanan* or Household Assessment Result of 2015 of the Department of Social Welfare and Development showed that there were 8,723 older persons assessed as poor.

As of 2018, 30,526 OPs received social pension.

### **a.2.7 Victims of Natural and Man-made Disasters**

The number of individuals affected by natural and manmade disasters in 2014 to 2018 totaled to 123,941 victims; 74 percent of these were victims of natural calamities and 26% by manmade calamities.

The large number of victims of natural disasters recorded in 2016 and 2018 were affected by the El Niño phenomenon/drought that placed the areas of Talomo (areas of Bago Gallera, Baliok, Catalunan Grande), Paquibato District, Calinan District, Toril and Tugbok Districts under state of calamity per SP Resolution No. 02882-16 with corresponding Ordinance No. 0531-16, and by flash floods that affected the Poblacion (barangays affected by the Davao River), Talomo (Maa, Matina Crossing, Matina Pang, Catalunan Grande), and Buhangin Districts, respectively.

In terms of manmade disasters, 75% of the affected individuals were victims of fires wherein highest number recorded was in 2014 for the incidence that occurred in coastal barangay of Poblacion District; twenty five percent (25%) were affected by social disorganization mostly in Inayangan, Lacson, Lamanan, Megkawayan, Suawan and Sumimao, and by demolition.

### **a.2.8 Emergency Services During the Covid-19 Pandemic**

Social welfare assistance played a crucial role during the Covid-19 pandemic period with the city allocating a big chunk of the Bayanihan Grant for Cities and Municipalities from the national government. Of the P462 million the city received, it allocated P425,383,710 to a total of 1,654,302 food packs and grocery packs in periodic distribution, especially during the highly restrictive enhanced community quarantine.

The city also distributed P3.8 billion in cash assistance to non-4Ps beneficiaries, and P306.7 million in cash assistance to 4Ps beneficiaries. The city also conducted other social welfare assistance such as the Palugaw/Palomi Para sa Masa, to ensure that residents would not go out of their barangays and stay at home.

### a.2.9 Early Childhood Care and Development

Early childhood education (ECE) is the first crucial step in enhancing pupil learning and school retention, especially during elementary education. It aims to develop children in all aspects (physical, social, emotional, and cognitive) so that they will be prepared to adjust and cope with life situations and the demands of formal schooling; and to maximize the children's potential through a variety of carefully selected and meaningful experiences considering their interests and capabilities.

Children ages 3-4 years old are served by the City Social Services and Development Office (CSSDO). Davao City's ECCD enrolment followed an increasing trend reaching 60,750 in 2018. The increasing enrolment in early childhood education program can be attributed to the DepEd policy that no children be admitted to Grade 1 unless he/she has attended the preschool education. In terms of gender parity, the distribution of boys and girls were equal.

Early childhood care and development in Davao City is managed by the City Social Welfare and Development Office (CSWDO). There are 626 ECCD Service Providers – 112 are plantilla personnel, 260 on contract of services basis, 14 job orders, 152 volunteers, 84 home-based/parent volunteers and 4 Mobile Day Care Workers

### a.3 Social Welfare Related Projects, Approved/Funded for Implementation

The city is undertaking projects required to meet the standards set by national agencies in accrediting social welfare facilities.

**Table SO-38. Social Welfare Related Projects, Approved/Funded for Implementation, Year 2017**

Name of Project	Location	Type	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion
<b>Standardization of Residential Facilities</b>					
- Construction of covered court, classroom, clinic and mess hall of Bahay Pag-asa Children's Village	Bago Oshiro, Tugbok District	Residential care facility	Government	June 15, 2018	
- Renovation of Crisis Intervention Center-Balay Dangupan	Lower Cabantian, Buhangin District	-do-	-do-		
- Renovation of Quick Response Team for Children's Concern (QRTCC) facility	C.M. Recto St., Poblacion District	Temporary shelter	-do-	June 8, 2018	
- Repair of Paginhawaan Drop-In Center (PDIC)	-do-	-do-	-do-		



**Table SO-38. Social Welfare Related Projects, Approved/Funded for Implementation, Year 2017**

Name of Project	Location	Type	Proponent (Gov't. Private, other)	Estimated Start Date	Estimated Date of Completion
- Upgrading of Co Su Gian Home for the Elderly	Lower Cabantian, Buhangin District	Residential care facility	-do-	June 8, 2018	
- Renovation of Sidlakan Women Crisis Center	SIR Phase 1, Sandawa, Brgy. 76-A	-do-	-do-	May 31, 2018	
Lingap Center for Mentally-Challenged Children	Tugbok, Tugbok Dist	-do-	-do-		
Construction of 4-storey CSSDO building	A. Pichon Sr. (Magallanes) St.	Corporate building	-do-	May 2018	Dec 2018
Construction of Child-Minding Center for the Children of City Hall Employees	Davao City Recreation Center Compound, Brgy. 39-D, Poblacion District	ECCD Center	-do-		
Construction of Day Care Center with complete facilities / amenities with male and female child with disability toilets, lavatory, and PWD ramp	Sitio Cabunbon, Malabog, Paquibato District	ECCD Center	Government	March 2018	June 2018
Construction of Day Care Center	Purok 4, Sitio Igpit, Brgy. Sibulan, Toril	-do-	-do-		
Repair and improvement of evacuation center	Sitio San Roque, Brgy. Cawayan, Calinan District	-do-	-do-		
Construction of Day Care Center	Purok 16, Ph 1 Don Lorenzo Homes Subd., Brgy Bato, Toril	-do-	-do-	Feb 26, 2018	May 32 2018
Rehabilitation of Day Care Center	Purok 1, Tamayong, Calinan	-do-	-do-	July 23, 2018	Sept 14, 2018
Construction of Day Care Center	Brgy. Gumitan, Marilog	-do-	-do-		
Construction of Day Care Center	Sitio Panigan, Tawan-tawan, Baguio District	-do-	-do-	May 15, 2018	Oct 2018
Construction of Day Care Center	Crossing Bayabas, Toril Dist	-do-	-do-		
Construction of Senior Citizen's Building	Brgy. Gatungan, Bunawan District	Processing center	-do-		
Construction of Day Care Center	Purok 1, Sumimao Proper, Paquibato District	ECCD Service Center	-do-		
Renovation of Day Care Center	P6, Luman, New Valencia, Tugbok District	-do-	-do-	Nov 2017	Feb. 2018
Renovation of Day Care Center	P1, Sumimao Proper, Paquibato District	-do-	-do-	Feb 21 2018	Apr 11 2018
Construction of Day Care Center	P17, Magkuno, Angalan, Tugbok District	-do-	-do-	Aug 18, 2018	Oct 22, 2018

#### a.4. Current and Projected Needs

##### a.4.1 ECCD Service Centers (Day Care Centers)

Day Care Services managed by CSWDO is distributed in the 11 administrative districts of Davao City but operational in 175 barangays only. Based on the standard set by DSWD (every 500 families must have 1 ECCD service center), it shows that the city is currently in need of 204 ECCD service centers. Talomo District has the highest number of needed DCC followed by Buhangin District with 83 DCC and 41 DCC, respectively.

**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
<b>1st District</b>									
<b>Poblacion</b>	Barangay 1-A	3,308	882	2	1			1	
	Barangay 2-A	2,953	763	2	1			1	
	Barangay 3-A	399	100	0					
	Barangay 4-A	1,708	562	1	1				
	Barangay 5-A	11,232	2,558	5	5				
	Barangay 6-A	2,045	465	1	1				
	Barangay 7-A	4,334	1220	2	2				
	Barangay 8-A	8,859	2,114	4	3	1			
	Barangay 9-A	4,848	1,228	2	3				1
	Barangay 10-A	4,613	1149	2	1			1	
	Barangay 11-B	1,647	435	1			1		
	Barangay 12-B	990	322	1	1				
	Barangay 13-B	154	40	0					
	Barangay. 14-B	1,127	263	1					
	Barangay 15-B	2,700	664	1	1				
	Barangay 16-B	560	147	0					
	Barangay 17-B	774	204	0					

**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
	Barangay 18-B	1,561	403	1	1				
	Barangay 19-B	29,247	6,853	14	5			9	
	Barangay 20-B	4,499	1451	3	1			2	
	Barangay 21-C	7,097	1,527	3	1			2	
	Barangay 22-C	6,027	1,379	3	1			2	
	Barangay 23-C	15125	3419	7	1	6			
	Barangay 24-C	2,115	572	1					
	Barangay 25-C	1,496	380	1			1		
	Barangay 26-C	2,146	559	1	1				
	Barangay 27-C	2,117	521	1	3				2
	Barangay 28-C	2,234	630	1	2				
	Barangay 29-C	1,304	374						
	Barangay 30-C	1,468	421	1	1				
	Barangay 31-D	7,276	1,579	3	2			1	
	Barangay 32-D	2002	618	1	1				
	Barangay 33-D	2,049	561	1	1				
	Barangay 34-D	1,093	281						
	Barangay 35-D	597	131	0	1				
	Barangay 36-D	1,548	430	1	1				
	Barangay 37-D	5,819	1,521	3	1			2	
	Barangay 38-D	1,487	440	1	1				
	Barangay 39-D	4,106	1084	2	2			1	
	Barangay 40-D	2,057	545	1	1				

**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
Talomo	Barangay 76-A (Bucana)	78,352	19,407	39	17			22	
	Bago Aplaya	14,658	3,441	7	6			1	
	Bago Gallera	14,751	3,353	7	3	1		3	
	Baliok	13,769	3,112	6	4			2	
	Catalunan Grande	30,068	1,595	3	6				3
	Catalunan Pequeño	19,996	4,671	9	1	4		4	
	Dumoy	18,804	4,223	8	5			3	
	Langub	2,667	614	1	1				
	Ma-a	49,915	10,972	22	10			12	
	Magtuod	3,815	822	2	1			1	
	Matina Aplaya	29,642	6,842	14	8			6	
	Matina Crossing	34166	8022	16	7	1		8	
	Matina Pangi	13,625	3,083	6	2			4	
Talomo Proper	58414	13545	27	12	1		14		
<b>2nd District</b>									
Agdao	Agdao Poblacion	7,811	1,958	4	3			1	
	Wilfredo Aquino	8,535	1,898	4	2			2	
	Gov. Paciano Bangoy	9,717	2,442	5	3			2	
	Rafael Castillo	6,339	1,541	3	1			1	
	Centro	14,398	3,362	7	7				
	Gov. Vicente Duterte	9,072	2,052	4	2			2	
	Leon Garcia	12,641	2,860	6	2			4	

**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
	Lapu-Lapu	10,094	2,255	5	4			1	
	Kap. T. Monte-verde, Sr.	5,813	1340	3	1			2	
	San Anto-nio	12,211	2,771	6	4			2	
	Ubalde	2,775	655	1	1				
Buhangin	Acacia	2,999	645	1	1				
	Angliongto	15,758	3,501	7	1	2		4	
	Buhangin (Pop.)	61,461	14,003	28	21	3		4	
	Cabantian	43,351	10,454	21	7			14	
	Callawa	2,848	680	1	3	2			4
	Communal	7,403	1591	3	3	2			2
	Hizon	11,883	2,685	5	2			3	
	Indangan	9,133	2,080	4	1	1		2	
	Mandug	13,234	2,902	6	4			2	
	Pampang	14,480	3,336	7	4			3	
	Sasa	56,697	12,980	26	18	4		4	
	Tigatto	14,533	3,284	7	6			1	
Waan	3,179	707	1	3				2	
Bunawan	Bunawan (Pop.)	20,950	4,814	10	7			3	
	Gatungan	981	229	1	1				
	Ilang	18,380	4,188	8	5	4			1
	Mahayag	4,914	1111	2	4				2
	Mudiang	2,570	602	1	1				

**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
	Panacan	34,379	7,825	16	15	2			1
	San Isidro (Licanan)	4,260	955	2	4				2
	Tibungco	36,416	8,072	16	8			8	
	Colosas	4,912	987	2	2				
	Fatima (Benowang )	2,959	713	1	2				1
Paquibato	A. Navar-ro (Lasang)	8,854	2,075	4	4				
	Lumiad	1441	331	1	1				
	Mabuhay	1,055	202	1	2				1
	Malabog	10,015	2,271	5	14	2			11
	Mapula	2284	449	1	3	1			3
	Pandaitan	3,366	683	1	4				3
	Pañalum	1,713	379	1	2	1			2
	Paquibato (Pob.)	2,104	498	1	2				1
	Paradise Embak	2,368	501	1	2				1
	Sala-pawan	1716	346	1	2				1
	Sumimao	1,404	323	1	2				1
Tapak	4351	833	2	5	27			30	
<b>3rd Distirct</b>									
Baguio	Baguio (Pob.)	3,885	913	2	2	1			1
	Cadalian	2,290	531	1	2				1
	Carmen	1,946	447	1	2				1
	Gumalang	48,949	1092	2	6				4
	Malagos	5,933	1302	3	3				

**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
	Tam-bobong	5243	1042	2	1	3			2
	Tawan-Tawan	3,463	808	2	4	1			3
	Wines	2,775	635	1	2				1
Calinan	Biao Joaquin	1,767	389	1	1				
	Calinan (Pob.)	22,979	5,169	10	12	1			3
	Cawayan	2,185	520	1	1				
	Dacudao	4,206	985	2	2				
	Dalagdag	841	202	0	1				
	Dominga	1,218	254	1	1	1			1
	Inayangan	4,058	910	2	7				5
	Lacson	4,466	990	2	4				2
	Lamanan	3,343	729	1	4				3
	Lampianao	760	169	0	2				
	Megka-wayan	2,766	625	1	1	1			1
	Pangyan	1,725	392	1	3				2
	Riverside	5,108	1171	2	4				2
	Saloy	2,112	528	1	1	3			3
	Sirib	4,887	1,180	2	3	2			3
	Subasta	3,466	862	2	2	1			1
	Talomo River	5,660	1242	2	2				
Tamayong	5,872	1108	2	3				1	
Wangan	4,742	1082	2	3				1	



**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
Marilog	Baganihan	1,280	280	1	1				
	Bantol	1,860	400	1	2	1			2
	Buda	1,571	347	1	1	2			2
	Dalag	1,353	249	0	1	1			
	Datu Salumay	1469	369	1	3	1			3
	Gumitan	1,219	223	0	1	1			
	Magsaysay	2,347	484	1	2	3			4
	Malamba	3,661	828	2	6	3			7
	Marilog	14,545	3,125	6	11	10			15
	Salaysay	3,936	832	2	3	3			4
	Suawan (Tuli)	3,631	826	2	3	4			5
Tamugan	8,253	1,756	4	6	6			8	
Toril	Alambre	1,620	375	1	1				
	Atan-awe	1,060	246	1	1				
	Bangkas Heights	7,191	1,595	3	2			1	
	Baracatan	2561	572	1	3				2
	Bato	7,133	1,628	3	3	4			4
	Bayabas	2,606	644	1	1				
	Binugao	6,074	1375	3	1	1		1	
	Camansi	1172	311	1	1				
	Catigan	2,698	627	1	3				2
	Crossing Bayabas	12,349	2,896	6	4	2			
	Daliao	19,993	4,584	9	10				1
	Daliaon Plantation	3,324	767	2	1			1	
	Eden	2,309	500	1	1				
Kilate	1193	293	1	1					

**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
	Lizada	16,725	3,813	8	10				2
	Lubogan	9,719	2,139	4	2	1		1	
	Marapangi	6,128	1344	3	1	2			
	Mulig	2,101	514	1	3				2
	Sibulan	2,365	536	1	2	1			2
	Sirawan	5,792	1,264	3	3				
	Tagluno	1,323	293	1	2				1
	Tagurano	1150	277	1	1				
	Tibuloy	2,141	493	1	2				1
	Toril Poblacion	12,140	3,035	6	3				3
	Tungkalan	2836	671	1	1	2			2
Tugbok	Angalan	2,465	588	1	2				1
	Bago Oshiro	8,305	1,798	4	2			2	
	Balengaeng	2,041	492	1	3				2
	Biao Escuela	3,009	683	1	1				
	Biao Guianga	2,962	681	1	1				
	Los Amigos	5,221	1148	2	4				2
	Manambu-lan	2,611	617	1	1				
	Manuel Guianga	6,088	1,423	3	3				
	Matina Biao	1,340	277	1	1				
	Mintal	12518	2855	6	9				3
	New Carmen	1,961	403	1	1				
	New Valencia	1,516	348	1	2				1
	Sto. Niño	18,395	4,043	8	8				
Tacunan	3,093	718	1	2				1	

**Table SO-38.1 ECCD Service Centers Needs/Shortage/Excess, by District, by Barangay, 2018**

DISTRICT	Barangay (Location)	Popula-tion	No. of House-holds	Require-ment	Actual no. of centers		Needs	Short age	Excess
					Center-based	Home based			
	Tagakpan	4,186	1047	2	3				1
	Talandang	3,118	748	1	3	1			3
	Tugbok (Pop.)	9,107	2,167	4	5				1
	Ula	3,685	852	2	2	2			2

Source: City Social Services and Development Office, Davao City

#### **a.4.2 Residential Facilities**

##### **a.4.2.1 Senior Citizen Care Center**

Projected population of older persons in 2018 reached 116,942; there were 30,526 older persons assessed as poor per qualifications set in the grant of social pension.

Republic Act 7876 provides for the establishment of a senior citizens center in every city and municipality of the Philippines, thus the city government established the Co Su Gian Center for the Elderly. The center has a floor area of 1,235.05sq.m built on the 6,482.4809sq.m lot area. It has a female and male wards' rooms, recreational, educational, health and social program and facilities. Abandoned and neglected older persons are being served. From 2014-2018, a total of 281 abandoned and neglected older persons has been sheltered.

**Table SO-38.2 Co Su Gian Center for the Elderly Wards, 2014-2018**

Clientele Type	2014	2015	2016	2017	2018
<b>Abandoned and neglected older persons</b>	50	47	50	71	63

Source: City Social Services and Development Office, Davao City

Establishment of Co Su Gian Center for the Elderly is in accordance with the standards set by the Department of Social Welfare and Development.

##### **a.4.2.2 Bahay Pag-asa for Girls**

The Department of Social Welfare and Development, as the agency mandated to set standards, register, license, and accredit residential care services, recommends enhancing further the Bahay Pag-asa facilities. Bahay Pag-asa currently houses 100 CICL and is being manned by one (1) center head, three (3) registered social workers, and fourteen (14) houseparents with a staff-client ratio that is not within the standards of 1:15 social workers and 1:20 houseparents. Bahay Pag-asa caters only to male CICL. The city has no center for female children in conflict with the law.

### **a.4.3 Social Welfare and Development Service Delivery System**

The city government is keen in delivering quality social welfare and development services to protect the well-being and promote the best interest of its constituents. Measures are undertaken to exceed the standards set by the Department of Social Welfare and Development in the service delivery at the local level of implementation.

#### **a.4.3.1 Human resource**

The social services and development organization of the city has a total of 611 personnel. There are 233 plantilla personnel in which 46 are social workers holding the positions of department head, assistant department head, administrative officer, division chiefs, district heads, and center heads; 120 day care workers; 67 administrative and support personnel, and 260 contract of service day care workers, and 118 contract of service to augment its work force.

While the city provides social welfare services to promote the social well-being of its residents, there are still concerns that needed to be addressed for a quality service delivery. The city needs competent human resource to operate the additional service welfare facilities. It likewise envisioned providing one social worker for every barangay. It has appointed 86 contract of service social workers and needed to hire 96 more social workers.

#### **a.4.3.2 Facilities**

The current office of the social welfare and development is below the standard set by DSWD. Construction of a 4-storey building has already been completed.

The city has a satellite social welfare office in each of the 11 administrative districts, which typically occupies a 32sq.m room in District Halls. These offices are manned with average of 10 personnel and do not have room for interview or counseling due to lack of space.

In terms of promotion of physical accessibility on built-environment, social welfare facilities (residential and ECCD centers) should conform to the standards set forth in BP 344, otherwise known as the Accessibility Law.

Davao City's population is at risk due to exposure to natural hazards which are aggravated by climate change, thus it strengthened its capacity in responding to the victims in order to lessen its impact. The city's evacuation center is located in the Third District particularly in Los Amigos, Tugbok District. This temporarily shelters victims of disasters from all over the city. Construction of the Regional Evacuation Center is also ongoing at the same location. The city needs to establish major evacuation center for First and Second Districts, each requiring at least 1,500 square meter lot.

### Social Welfare Analysis Matrix

Technical Findings / Observations	Implications (Effects)	Policy Options / Interventions
<p>Standard on establishment of ECCD (day care) centers set by DSWD was not met. There is a need for 204 centers to meet the 1:500 families standard; 121 centers in poor physical condition (needs improvement) and 36 in critical condition (need priority action)</p>	<ul style="list-style-type: none"> <li>• Children 3-4 years old are deprived of their right to health, psychosocial and mental development</li> <li>• safety of children is at risk</li> <li>• Not conducive for the children's psycho-social healing and physical safety</li> </ul>	<p>Strict implementation of RA 6972 (Barangay-Level Total Development and Protection of Children) Construction of more ECCD centers</p>
<p>Evident number of children at risk and children in conflict with the law</p> <ul style="list-style-type: none"> <li>• Congested reformatory center for disadvantage children (children in conflict with the law): ideal capacity of the center is 60 clients, currently housed – 115; only for boys CICL</li> </ul>	<ul style="list-style-type: none"> <li>• Vulnerability to abuse, neglect and exploitation</li> <li>• Deprivation of basic rights</li> <li>• Vulnerability of children at risk to become children in conflict with the law</li> <li>• Possible overcapacity of Bahay Pag-asa and other shelter facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Establish / construction of additional teen centers</li> <li>• Establish/creation of community center for children at risk</li> <li>• Additional play and recreation area in the communities</li> <li>• Expansion of Bahay Pag-asa and its facilities</li> <li>• Establish/construction of Bahay Pag-asa for girl children in conflict with the law</li> </ul>

## Protective Services

### Existing Situation

#### a.1 Protective Services by Facilities and Equipment

##### a.1.1 Police Services

The Davao City Police Office (DCPO) has 12 police stations (PS) and three operating units, namely: Public Safety Command Unit, Mobile Patrol Group, and Traffic Group. For easier access of information and communication, nine (9) out of 12 PS are equipped with internet service connection while the remaining three (3) PS in Baguio, Marilog, and Paquibato can be accessed through radio and mobile/cell phone. All PS have Women & Children Protection Desk (WCPD) pursuant to Sec. 57 RA 8551. Thus, the city has one Center for sexually abused victims located at the Southern Philippines Medical Center (SPMC) pursuant to RA 8505.

As shown in Table SO-39a, Davao City in December 2018 has a total of 2,131 police personnel assigned to carry out field and administrative duties. On the other hand, the City's average personnel to population ratio in 2018 is 1:814 and may appear to have surpassed the minimum national standard. It is interesting to note that Baguio police station's personnel to population is way above the standard of 1:447 while other remaining police stations fall below the given national standards except for San Pedro Police Station with 1:1004 personnel to population ratio becoming the closest. A total of 1,244 Police Auxiliaries are assigned in each PS of DCPO, along with the Special CAFGU Active Auxiliaries (SCAA) personnel of the city's Anti-Crime Unit (ACU), Task Force Davao, Barangay Tanods, detective services and private security agencies which act as additional force multiplier to the current police manpower. Talomo Police District (PS3) has the most number of forces with 164 police officers and correspondingly, having the largest population served at 440,199; in contrast, both Marilog and Paquibato Police Stations only have 48 police officers.

Furthermore, all buildings and structures of DCPO are in good condition and equipped with 130 patrol vehicles, 14 utility vehicles, one (1) Personnel Troop Carrier and 122 motorcycles in 2018. Of the total number of vehicles, 14 patrol vehicles and one (1) unit of Troop Carrier were donated by the Davao City LGU and Japan's Grant Aid also bestowed 26 units of patrol vehicles as part of their "Economic and Social Development Program."

Table SO-39. Davao City Police Protective Services by Facilities and Equipment, 2018

Types of Services	Barangay	Area (sq. m)	Physical Condition of Facility	No. of Police Personnel	No. of Police Auxiliaries	Personnel to Population Ratio	Vehicles		Equipment		Contact no.	Hazard Susceptibility				
							NO.	Types	Handheld Radio	Base Radio		Fl	Ln	Ft	Su	Lq
Headquarters	Brgy. 38-D	59,629	Fair	251		1:6,966	32	Patrol Car	64	3	224-1313	L	L		3m	H
						29	Patrol Jeep									
City Mobile Force Company			Fair	220		1:7,947	24	Motorcycle	40	2						
Mobile Patrol Group			Fair	145		1:12,058	1	Troop Carrier	35							
Foot Patrol Section			Fair	286		1:6,113	3	Utility Vehicle	4							
Traffic Group	Brgy. 76-A	5,000	Fair	107		1:16,340	3	Patrol Jeep	26	1	296-0771					
						53	Motorcycle									
Police Station 1 (Sta. Ana)	Quezon Blvd., Davao City	500	Fair	142	224	1:1,545	6	Patrol Jeep	22	1	233-4884	L	L		2m	H
						1	Utility Vehicle									
						2	Motorcycle									
						1	Patrol Car									
PS1 Sub-Station (Jacinto)	Brgy 31-D, D.C.	100	Fair									L	L		2m	H
PS1 Sub-Station (23-C)	Brgy 23-C, D.C.	25	Poor									L	L		2m	H
PS1 Sub-Station (Tomas)	Brgy Tomas Monteverde	25	Poor									M	L		2m	H

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Table SO-39. Davao City Police Protective Services by Facilities and Equipment, 2018

Types of Services	Barangay	Area (sq. m)	Physical Condition of Facility	No. of Police Personnel	No. of Police Auxiliaries	Personnel to Population Ratio	Vehicles		Equipment		Contact no.	Hazard Susceptibility				
							NO.	Types	Handheld Radio	Base Radio		Fl	Ln	Ft	Su	Lq
Monteverde }																
PS1 Sub-Station (Agdao Proper)	Brgy Agdao Proper	50	Fair									L	L		3m	H
PS1 Sub-Station (Paciano Bangoy)	Paciano Bangoy	25	Poor									M	L			
PS1 Sub-Station (Leon Garcia)	Brgy. Leon Garcia	25	Poor									H	L		2m	H
PS1 Sub-Station (Jerome)	Brgy Ubalde Agdao	25	Poor									H	L		2m	H
Police Station 2 (San Pedro)	San Pedro St., Davao City	250	Fair	100	172	1:1,004	7	Patrol Jeep	10	1	226-4835	L	L		3m	H
							1	Utility Vehicle								
							7	Motorcycle								
							1	Patrol Car								
Police Station 3 (Talomo)	Matina Crossing., Davao City	1,000	Fair	169	246	1:2,604	8	Patrol Jeep	20	1	297-1598	VH	L			H
							1	Utility Vehicle								
							4	Motorcycle								
							2	Patrol Car								
PS3 Sub-Station (Sandawa)	Brgy. 76-A	15	Fair									L	L		2m	H
PS3 Sub-Station (Sandawa)	Brgy. 76-A	8	Fair									M	L		3m	H

Table SO-39. Davao City Police Protective Services by Facilities and Equipment, 2018

Types of Services	Barangay	Area (sq-m)	Physical Condition of Facility	No. of Police Personnel	No. of Police Auxiliaries	Personnel to Population Ratio	Vehicles		Equipment		Contact no.	Hazard Susceptibility					
							NO.	Types	Handheld Radio	Base Radio		Fl	Ln	Ft	Su	Lq	
McArthur)																	
PS3 Sub-Station (UM Matina)	Brgy. 74-A	6	Fair									M	L		4m	H	
PS3 Sub-Station (Matina Aplaya)	Brgy. 75-A	8	Fair									VH	L		2m	H	
PS3 Sub-Station (Maa)	Brgy. Maa	20	Fair									M	L			L	
PS3 Sub-Station (Catalunan Grande)	Brgy. Catalunan Grande	8	Fair									L	L				
PS3 Sub-Station (Baliok)	Brgy. Baliok	20	Fair									L	L				
PS3 Sub-Station (Ulas)	Brgy. Talomo	12	Fair									M	L		4m	M	
PS3 Sub-Station (Bogsers)	Brgy. Matina Aplaya	16	Fair										L		4m	H	
PS3 Sub-Station (Dumoy)	Brgy. Dumoy	8	Fair									L	L			L	
PS3 Sub-Station (Talomo)	Brgy. Talomo	12	Fair									M	L		2m	H	
Police Station 4 (Sasa)	KM. 9, Sasa, Davao City	250	Fair	105	89	1:1,427	4	Patrol Jeep	18	1	233-0441	M	L				M
							1	Utility Vehicle									
							2	Motorcycle									
							1	Patrol Car									

Table SO-39. Davao City Police Protective Services by Facilities and Equipment, 2018

Types of Services	Barangay	Area (sq. m)	Physical Condition of Facility	No. of Police Personnel	No. of Police Auxiliaries	Personnel to Population Ratio	Vehicles		Equipment		Contact no.	Hazard Susceptibility				
							NO.	Types	Handheld Radio	Base Radio		Fl	Ln	Ft	Su	Lq
PS4 Sub-Station (Damosa)	Brgy. Angliongto	5	Fair									L	L		3m	M
PS4 Sub-Station (Panacan Relocation)	Brgy, Panacan	40	Fair									L	L			
Police Station 5 (Buhangin)	Buhangin, Davao City	200	Fair	108	118	1:1,947	4	Patrol Jeep	21	1	241-1411					
							1	Utility Vehicle								
							7	Motorcycle								
							1	Patrol Car								
PS5 Sub-Station (Milan)	Brgy. Buhangin	30	Fair										L			
PS5 Sub-Station (Hillside)	Brgy. Buhangin	40	Fair										L			
PS5 Sub-Station (La Verna)	Brgy. Cabantian	40	Fair										L			
PS5 Sub-Station (Cabantian)	Brgy. Cabantian	80	Fair										L			
PS5 Sub-Station (Tigatto)	Brgy. Tigatto	80	Fair										L			M
PS5 Sub-Station (North Town)	Brgy. Cabantian	120	Fair										M			
Police Station 6 (Bunawan)	KM. 23, Bunawan, Davao City	200	Fair	75	66	1:1,550	4	Patrol Jeep	1	1	236-0685					
							1	Utility Vehicle								

Table SO-39. Davao City Police Protective Services by Facilities and Equipment, 2018

Types of Services	Barangay	Area (sq. m)	Physical Condition of Facility	No. of Police Personnel	No. of Police Auxiliaries	Personnel to Population Ratio	Vehicles		Equipment		Contact no.	Hazard Susceptibility						
							NO.	Types	Handheld Radio	Base Radio		Fl	Ln	Ft	Su	Lq		
							3	Motorcycle										
							1	Patrol Car										
PS6 Sub-Station (Ilang)	Brgy. Ilang	80	Fair										L			3m	M	
PS6 Sub-Station (Lasang)	Brgy. Lasang	100	Fair										L			5m	L	
Police Station 7 (Paquibato)	Malabog, Paquibato, Davao City	4,711	Fair	48	22	1:1,479	3	Patrol Jeep	4	1	RADIO							
							4	Motorcycle										
Police Station 8 (Toril)	Lao St., Toril, Davao City	500	Fair	99	121	1:1,544	4	Patrol Jeep	10	1	291-1633		L	L				L
							1	Utility Vehicle										
							3	Motorcycle										
							1	Patrol Car										
PS8 Sub-Station (Shell Toril)	Brgy. Toril	5	Fair										L	L				M
PS8 Sub-Station (Crossing Bayabas)	Brgy. Crossing Bayabas	5	Fair										L	L				
PS8 Sub-Station (Lubogan)	Brgy. Lubogan	5	Fair										H	L				
Police Station 9 (Tugbok)	Mintal, Davao City	200	Fair	83	78	1:1,126	3	Patrol Jeep	5	1	293-1977		H	L	Dacudao Fault			
							1	Utility Vehicle										
							5	Motorcycle										
							1	Patrol Car										

Table SO-39. Davao City Police Protective Services by Facilities and Equipment, 2018

Types of Services	Barangay	Area (sq. m)	Physical Condition of Facility	No. of Police Personnel	No. of Police Auxiliaries	Personnel to Population Ratio	Vehicles		Equipment		Contact no.	Hazard Susceptibility				
							NO.	Types	Handheld Radio	Base Radio		Fl	Ln	Ft	Su	Lq
PS9 Sub-Station (Bago Oshiro)	Brgy. Mintal	30	Fair										L			
PS9 Sub-Station (Tacunan)	Brgy. Tacunan	30	Fair									H	L			
PS9 Sub-Station (Los Amigos)	Brgy. Los Amigos	30	Fair									M	L			L
Police Station 10 (Calinan)	Calinan, Davao City	300	Fair	81	51	1:1,140	5	Patrol Jeep	10	1	295-0119	H	L			L
							1	Utility Vehicle								
							3	Motorcycle								
							1	Patrol Car								
PS10 Sub-Station (Poblacion Calinan)	Brgy. Calinan	30	Fair									M	L			L
Police Station 11 (Baguio)	Baguio, Davao City	200	Fair	64	28	0.352083333	3	Patrol Jeep	6	1	RADIO		L			
							1	Utility Vehicle								
							3	Motorcycle								
							1	Patrol Car								
Police Station 12 (Marilog)	Marahan, Davao City	10,000	Fair	48	29	1:1,173	3	Patrol Jeep	4	1	RADIO		M			
							1	Utility Vehicle								
							2	Motorcycle								
							1	Patrol Car								
<b>Total</b>		<b>84,098</b>		<b>2,131</b>	<b>1,244</b>	<b>1:814</b>	<b>267</b>		<b>39</b>	<b>18</b>						

Source: Davao City Police Office  
 \*Physical condition of facility - fair, poor, critical  
 \*Vehicle Type - Patrol Car, Station Car, Motorcycle, Bicycle, Patrol Boat  
 \*Indicates level of susceptibility to all hazards: very high (VH), High (H), Moderate (M), Low (L)  
 \*Types of hazards: Flood (F), Landslide (Ln), Fault (Ft), Storm Surge (Su), Liquefaction (Lq)

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### a.1.2 Jail Management

In Table SO-39b, the number of jail officers in 2018 is 159, distributed as: 82 jail officers in Davao City Jail Main, 31 jail officers in Female Jail and 46 jail officers in the City Jail Annex. The personnel to inmate ratio of all the jail facilities in Davao City is below the given national standard of 1:7. Female and Annex facility of the jail has the nearest personnel to inmate ratio having 1:15 and 1:13, respectively. However, the Main Jail Facility is way below the national standard with a 1:40 ratio. Inmates detained in Davao City Jail (DCJ) are city prisoners either waiting for the court sentence or sentenced to one day to not more than three years of imprisonment. On the other hand, inmates sentenced for longer punishment are transferred to the Davao Penal Colony in Dujali, Davao del Norte.

DCJ Annex is intended for older persons aged 50 years old and above and inmates who are TB positive and TB symptomatic. Furthermore, the implementation of the decongestion program allowed other detainees to transfer to DCJ Annex. Majority of the inmates are from Davao City, while the minority are from other provinces in Mindanao who committed crimes in the city. The Ray of Hope or the Davao City Female Jail is a recipient of several awards such as Best Female Jail Facility and Best Model Therapeutic Jail in the Country and was recognized for its large number of Alternative Learning System (ALS) passers.

**Table SO-39b. Davao City Jail Protective Services by Facilities and Equipment, 2018**

Types of Services	Baran-gay	Area (sq. m)	Physical Condition of	No. of Person-n	Person-nel to Inmate	Vehicles		Contact no.	Hazard Susceptibility				
						NO.	Types		FI	Ln	Ft	Su	Lq
Davao City Jail (Main)	Brgy Ma-a, City Jail Compound, Davao City	750	Fair	82	1:40	4	3 Van 1 Bus	284-0033	M	L			
Davao City Jail (Female)		400	Fair	31	1:15	2	1 Car 1 Van	284-0644					
Davao City Jail (Annex)		198	Fair	46	1:13	4	1 Am-bulan 3 Van	237-8003					
<b>Total</b>		<b>1,348</b>		<b>159</b>	<b>1:23</b>	<b>10</b>							

Source: Bureau of Jail Management and Penology

\*\*Physical condition of facility – fair, poor, critical

\*Vehicle Type – Patrol car, prisoner van, motorcycle, bicycle, patrol boats

\*Indicate level of susceptibility for all hazards: very high (VH), high (H), moderate (M), Low (L)

### a.1.3 Fire Safety and Protection

The Davao City Fire Headquarters, a major component of the Bureau of Fire, has a total of 11 fire sub-stations, strategically distributed in the populated barangays of the city. As shown in Table SO-39c, there are 247 firefighters operating through-out the city together with 23 fire trucks and three (3) rescue/transport vehicles. The city's overall firefighter to population ratio in 2018 is computed at 1:7,079 and is way below the ideal number of firemen. The firefighter to population ratio of each station varies. Central Fire Station has 1:5,705 becoming the closest ratio to the given ideal national standard. Moreover, other remaining fire stations are way below the national standards. As prescribed by regulations, the Davao City Fire Protection's fire truck to fireman ratio surpasses the standards with 1:11 ratio of the ideal standard of 1:14. While the 1:76,013 fire truck to population ratio is a far cry from the given national standards (1:28,000).

**Table SO-39c. Davao City Fire Safety Protective Services by Facilities and Equipment, 2018**

Types of Services	Barangay	Area (sq. m)	Physical Condition of Facility	No. of Personnel	Personnel to Population Ratio	Fireman to Fire-truck Ratio	Fire-truck to Population Ratio	Vehicles		Fire Hydrants	Contact no.	Hazard Susceptibility					
								No.	Types			Fl	Ln	Ft	Su	Lq	
District Office	Monteverde Cor. Alvarez Sts, Davao City	1,587	fair	57	1:5,705	1:12	1:14,262	6	Fire-truck and BER Fire-truck	99	285-8820	L	L		2m	H	
EMS				9				1	Service Vehicle								224-0524
SRU				9				3	Fire-truck and Rescue Transport Vehicle								
Central				20				2	Rescue Transport Vehicle								
S.I.R. Bucana	Pag-asa St., Phase 1, New Matina, Davao City	417	poor	12	1:14,537	1:12	1:162,419	1	Fire-truck	82	298-3566	M	L		2m	H	
Buhangin	San Francisco St., Buhangin, Davao City	200	poor	11	1:11,964	1:11	1:131,598	1	Fire-truck	13	98223 60414		L				
Bunawan	Km. 23, Bunawan, Davao City	300	poor	14	1:6,983	1:14	1:97,758	1	Fire-truck	1	99689 31379		L		3m	M	

Source: BFP



#### **a.1.4 Task Force Davao and other Related Protective Services**

Task Force Davao (TFD) is an anti-terrorist unit founded in 2003 after the bombing incidents at the Davao International Airport and Sasa Port. TFD personnel are strategically spread across designated crowded areas in the city. TFD has a total force of 453 with 35 patrol cars and motorcycles to carry out their function efficiently. It is also reported that all facilities of the unit are in fair condition.

On the other hand, the Central Communication and Emergency Response Center or Central 911 continues to respond to emergency cases and crime incidents in a quick, more effective and coordinated manner. The operations of both the TFD and the Central 911 provide some level of confidence for people to carry on with their business activities. Central 911 has a total of 364 personnel and 79 vehicles.

The Davao City Disaster Risk Reduction and Management Office (DCDRRMO) is geared towards leading the city in planning and coordinating disaster risk reduction and management efforts among agencies and barangays, and individuals. The Council adopted the National Disaster Risk Reduction and Management Framework: prevention and mitigation, preparedness, response and relief and rehabilitation. The DCDRRMO, through the facility known as the Disaster Operation Center gives emphasis on preparedness by way of conducting different preparedness activities. There are 50 personnel of the Davao City Disaster Risk Reduction and Management Office with two (2) Rescue vehicle and two (2) motorcycle.

In Addition, the DCDRRMO strategically placed a total of 125 Early Warning Devices (EWDs) within the City that is broken down by types, 11 City-wide remote sirens, 10 HD Coastal and River Cameras, 84 Hazard and Risk Signage, and 14 riverbank manual water level gauges. Also, all barangays of the City is equipped with radios and mobile sirens (See Table SO-39e for list of EWDs).

The Public Safety and Security Command Center (PSSCC) was created through Executive Order No. 18, Series of 2012. Its mandate is to provide an effective, coordinative and integrative command and control organization for improved inter-operability in the delivery of emergency quality services by offices and units comprising the safety, law and order, security and intelligence clusters in the City. The PSSC has a total of 110 personnel which are assigned in different public parks, schools and other government offices.

Moreover, the PSSCC has 135 Closed Circuit Televisions (CCTVs) to monitor people, events and incidents in different strategic areas of the City to help other line agencies in assuring safety and security in the City.

**Table SO-39d. Task Force Davao and other Related Protective Services by Facilities and Equipment, 2018**

Types of Services	Barangay	Area (sq. m)	Physical Condition of Facility	No. of Personnel	Personnel to Population Ratio	Vehicles		Contact no.	Hazard Susceptibility				
						No.	Types		FI	Ln	Ft	Su	Lq
Task Force Davao and Task Group Agila Headquarters	Sta. Ana Wharf, Brgy. Leon Garcia, Agdao, Davao City	9,990	Fair	297	1:5,382	28	Motorcycles and Patrol Car	0917-3057-826	H	L		2m	H
Task Group Falcon, Sirawan Detachment	Crossing Catigan, Purok 6, Brgy. Sirawan, Toril District Davao City	2,000	Fair	56	1:28,571	4	Motorcycles and Patrol Car	0936-9555-453	L	L			
Task Group Falcon, Lacson Detachment	Purok 9, Lacson Calinan District, Davao City	500	Fair	30	1:53,333	1	Motorcycles	0916-1951-662	H	L			
Task Group Lawin, Lasang Detachment	Crossing Licanan, Brgy. Lasang, Bunawan District Davao City	2,256	Fair	70	1:22,857	2	Motorcycles and Patrol Car	0915-4975-570		L		5m	H
<b>TFD Total</b>		<b>14,746</b>		<b>453</b>		<b>35</b>							
Central 911 - Central Communications and Emergency Response Center	Central 911 Bldg. S.I.R. New Matina, Brgy Bucana	1,800	Poor (on-going major renovation)	364	1:4,803	27	Motorcycle	296-9626/296-0443	L	L		3m	H
Central 911 - Toril Sattelite Station	Telstar Bldg., Toril District Hall, Toril Proper		Poor			3	Service Vehicle						
						3	Pick-up						
Central 911 - Calinan Sattelite Station	Old Barangay Hall, Calinan Proper		Fair			17	Ambulance						
						1	Utility Vehicle						
						4	Firetruck						
						2	Tanker Truck						
Central 911 - Cabantian Sattelite Station	Aveo Homes, Cabantian		Fair			1	Pumper						
						4	Bucket Truck						
						1	Hydraulic Wingvan						
Central 911 - Panacan Sattelite Station	Fronting Kudos Port, Km. 13, Brgy Sasa	Fair	3	Equipment Vehicle									
			1	Troop Carrier									
			1	Recondition Truck AATV Carrier									
			2	AATV									
C911 Total		1,800	Fair	364	1:4,803	1	Rescue Vehicle					3m	H
						1	Tow Truck						
						6	K9 Carrier Van						
						1	Communications Van						
DGDRRMO	SIR Phase II Central 911 Compound, Sandawa Davao City	60	fair	50	1:34,966	4	2 KIA & 2 Motorcycle	295-2387 296-9626 loc.211	L	L		3m	H
Public Safety and Security Services	SIR Phase II, Sandawa Davao City	2,912	Fair	110	1:15,894	1	Motorcycle	294-3636/ 295-7772	L	L		3m	H
<b>Total</b>				<b>977</b>		<b>119</b>							

Source: Task Force Davao, Central 911, DGDRRMO and PSCC

\*\*Physical condition of facility – fair, poor, critical

\*Vehicle Type – Patrol car, prisoner van, motorcycle, bicycle, patrol boats

\*Indicate level of susceptibility for all hazards: very high (VH), high (H), moderate (M), Low (L)

\*Types of hazards- Flood (FI), landslide (Ln), Fault (Ft), Storm Surge (Su), Liquefaction (Lq)

### a.1.5 Protective Services Facility Map

Based on the map, Davao City's protective service facilities are all accessible to road networks. A total of 12 police stations, 12 fire stations, three (3) jail facility, four (4) task force detachments and five (5) central 911 headquarters and satellite stations are present in the city. Furthermore, most of the facilities are situated near the national road.

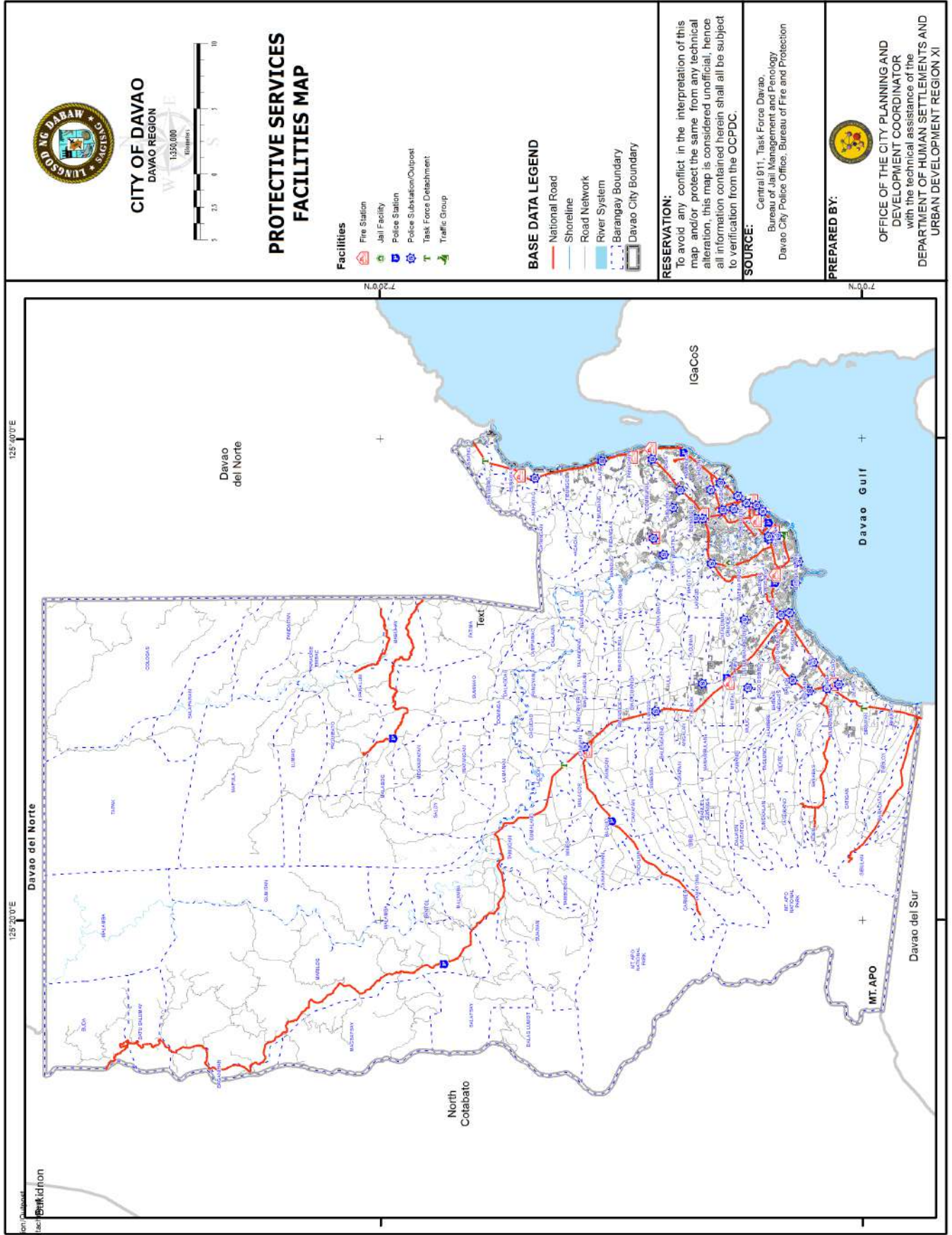
Seven (7) out of 12 police stations (PS) in the City are prone to flood, Talomo PS, Mintal PS and Calinan PS are verified to be highly susceptible. In addition, Sta. Ana PS, San Pedro PS and Talomo PS are assessed to be highly susceptible to liquefaction. Meanwhile, San Pedro and Bunawan PS are susceptible to storm surge with 3-meter wave, while Sta. Ana PS is susceptible to storm surge with 2-meter wave. The Mintal PS is also susceptible to earthquake damage because it is located near the Dacudao Fault. For landslide occurrence, Mari-log and Paquibato PS are moderately susceptible.

Davao City has a total of three (3) jail facilities located in one compound. These facilities are highly susceptible to flood and moderately susceptible to liquefaction. Calinan FS is identified to be highly susceptible to flood out of seven (7) fire stations susceptible to the said hazard. Cabantian FS is the only fire station moderately susceptible to landslide as other fire stations have low susceptibility. In the event of storm surge with two-meter wave, S.I.R. FS, Lanang FS and Central FS will be reached by the water spillover. A three (3) meter storm surge will also reach both Bangoy FS and Bunawan FS, and if the storm surge will have a four (4) meter wave, it will reach Panacan FS. Also, SIR, Lanang, Central and Bangoy fire stations are highly susceptible to liquefaction.

The City has one Central 911 station and four (4) 911 satellites stations. Calinan satellite station is highly susceptible to flooding, while Central and Panacan satellite stations are susceptible to storm surge with 3-meter wave.

Task force Davao has four (4) headquarters, with three (3) being susceptible to flood. A two (2)-meter storm surge can reach the TFD headquarters at Sta. Ana Wharf while a five (5)-meter storm will affect Task Group Lawin headquarters in Lasang.

Map of Protective Services Facilities, Davao City



## a.2 Barangay Security Force and Volunteers

As mandated by the Local Government Code of the Philippines or R.A. 7160, all barangays are allowed to employ a maximum of 20 barangay tanods. The primary role of the Barangay Tanod is on the enforcement of peace and order in their respective barangays. The types of service they provide depend on the barangay captain whom they are accountable to. Nonetheless, being under the supervision of the Barangay Captain, the Barangay Tanod is normally required to multi-task. Aside from being involved in the enforcement of peace and order they also performed tasks related to traffic enforcement. In addition, their services are being tapped to assist during natural calamities.

**Table SO-40 Barangay Security Force and Volunteers by Types of Services, 2018**

Types of Services	Number of Security Force/ Volunteer	Facilities/ Equipment	Condition of Facilities/ Equipment
Barangay Tanod (Traffic, Peace and Order, Disaster, Auxiliary Services)	3,640	Full Gear/ Tala Mobile	Fair
		Motorcycle/ Mobile Car	Fair
		Rain Coat/ Flashlight/ Backboard	Fair
		Batota/ Pito/ Posas	Fair

Source: Barangay and Cultural Communities Affairs Division

## a.3 Fire Incidence

Electrical connection, open flame due to torch or solo/copra drier/ live embers and lighted cigarette butt topped the list of origin/cause of fire for the past 5 years (2014-2018). From 2014-2018, Talomo Fire Station (FS) responded to more fire incidents with a total of 321 cases followed by Toril FS with 247 cases. A total of 1,993 fire cases have been recorded by the Bureau of Fire Protection from 2014-2018. In 2016, 489 fire cases are listed by the agency becoming the most number of fire cases in the last five years (2014-2018).

	Origin/ Course	Frequency of Occurrence					
		2014	2015	2016	2017	2018	2014-2018
Davao City	Electrical Connection	96	108	124	101	139	568
	Electrical Appliances	22	38	30	19	45	154
	Electrical Machineries	28	42	34	30	34	168
	Spontaneous Combustion	9	5	4	5	9	32
	Open flame due to unattended cooking/ stove	30	24	19	19	32	124
	Open flame due to torch or solo/ copra drier/ live embers	32	107	128	27	39	333
	Open flame due to unattended lighted candle or gasera/ mosquito coil	15	15	19	5	9	63
	Flame contact static	1	15	0	1	0	17
	Lighted cigarette butt	24	50	69	15	30	188
	Chemicals	0	0	0	0	4	4
	Pyro techniques	0	0	0	1	1	2
	Lighted matched stick or lighter	10	16	13	12	9	60
	Incendiary device/ mechanical or ignited flammable liquids	11	9	8	12	7	47
	Lightning	0	0	0	0	0	0
	Bomb explosions	0	0	0	4	0	4
	Undetermined	12	3	19	27	10	71
	Others	12	15	22	21	88	158
<b>Total</b>		<b>302</b>	<b>447</b>	<b>489</b>	<b>299</b>	<b>456</b>	<b>1993</b>

Source: Bureau of Fire Protection – Local Fire Protection Office

## **a.4 Crime Incidence**

### **a.4.1. Adults**

The crime volume from 2014-2018 showed a decreasing trend year in year out from 12,970 to just a third at 4,973 in 2018. While crimes solved also show a progressive outcome at 68%, 80%, 83%, 88% and 87% from 2014-2018.

In terms of index crimes, of the 5,142 total crimes against persons from 2014 to 2018, more than half (3,250 or 63.21%) were attributed to physical injury, followed by rape (1,045 or 20.32%), murder (711 or 13.83%) and homicide (136 or 2.64%). PS3 Talomo had the highest number of recorded crimes against person for the period observed with 1,184 cases. However, more crimes against property were reported with 8,303 cases (Annex SO-42). The number is taken from the sum of reports from 2014 to 2018. Theft topped the most common type of crime against property (6,237 or 75.12%) followed by robbery (2,066 or 24.88%). Most of the cases reported are in PS3 Talomo (2,260 or 27.22%) followed by PS1 Sta. Ana (1,707 or 20.56%). Crime against property has been consistently decreasing from a high of 3,106 in 2014 to a low of 543 in 2018. Robbery cases too are on a downward trend from a high of 815 cases in 2014 to 153 cases in 2018.

For crime solution efficiency, non-index crimes are consistently efficiently solved at the high percentage going as high as 94% in 2018, murder, however, has low solution efficiency with a mere 32% in 2018.



Table SO-41 Davao City Crime Incidence, Adults, for the Past Five Years

Type of Crime	2014			2015			2016			2017			2018		
	Offender		Total	Offender		Total	Offender		Total	Offender		Total	Offender		Total
	M	F		M	F		M	F		M	F		M	F	
<b>Index Crimes</b>	3159	484	4611	3034	399	3986	1846	285	2222	1337	126	1483	969	159	1115
<b>Crimes Against Person</b>	1191	50	1505	1077	91	1391	904	19	954	681	22	722	508	63	572
a. Murder	83	13	123	145	7	213	150	1	159	124	2	122	90	1	94
b. Homicide	25	5	38	30	1	38	21	0	26	16	0	22	9	2	12
c. Physical Inquiry	890	32	1139	683	82	900	515	17	554	342	20	367	263	31	290
d. Rape	193	0	205	219	1	240	218	1	215	199	0	211	146	29	176
<b>Crimes Against Property</b>	1968	434	3106	1957	308	2595	942	266	1268	656	104	761	461	96	543
a. Robbery	640	9	815	439	9	540	312	8	332	199	0	196	150	9	153
b. Theft	1328	425	2291	1518	299	2055	630	258	936	457	104	565	311	87	390
<b>Non-Index Crimes</b>	5459	1663	8359	7733	653	9201	5672	1514	7493	5423	520	5865	3285	541	3834
<b>Total</b>	8618	2147	12970	10767	1052	13187	7518	1799	9715	6760	646	7348	4254	700	4949

Source: Davao City Police Office



Table SO-42 Davao City Crime Incidence Solution Efficiency, Adults, for the Past Five Years

Type of Crime	2014			2015			2016			2017			2018		
	Total		Crime Solution Efficiency	Total		Crime Solution Efficiency	Total		Crime Solution Efficiency	Total		Crime Solution Efficiency	Total		Crime Solution Efficiency
	Total	Cases Solved		Total	Cases Solved		Total	Cases Solved		Total	Cases Solved		Total	Cases Solved	
<b>Crimes Against Person</b>	1505	800	53%	1391	861	62%	954	569	60%	722	467	65%	572	346	60%
a. Murder	123	37	30%	213	79	37%	159	64	40%	122	61	50%	94	30	32%
b. Homicide	38	20	53%	38	26	68%	26	12	46%	22	11	50%	12	9	75%
c. Physical Inquiry	1139	641	56%	900	595	66%	554	344	62%	367	264	72%	290	202	70%
d. Rape	205	102	50%	240	161	67%	215	149	69%	211	131	62%	176	105	60%
<b>Crimes Against Property</b>	3106	1292	42%	2595	1309	50%	1268	661	52%	761	537	71%	543	426	78%
a. Robbery	815	306	38%	540	212	39%	332	149	45%	196	113	58%	153	107	70%
b. Theft	2291	986	43%	2055	1097	53%	936	512	55%	565	424	75%	390	319	82%
<b>Non-Index Crimes</b>	8359	6690	80%	9201	8336	91%	7493	6851	91%	5865	5428	93%	3834	3587	94%
<b>Total</b>	12970	8782	68%	13187	10506	80%	9715	8081	83%	7348	6432	88%	4949	4359	88%

Source: Davao City Police Office

#### **a.4.2 Children in conflict with the Law (CICL) (below 18 years old)**

Delinquency and crimes by children in conflict with the law (CICL) posted a total of 2,511 cases from the period of 2014-2018. Moreover, the figures show a decreasing trend by having a 67.8% difference from 820 cases in 2014 to 264 cases in 2018. This is the result of the intensified campaigns of the Davao City Police Office (DCPO) to veer away children from lawlessness and illegal acts.

There are 1,556 cases for index crimes recorded having 30% for crimes against persons and 70% for crimes against properties. Among which, the top 3 offenses are theft having 63.8%, followed by physical injuries at 24.7%, and robbery at 11.2%. Furthermore, the number of non-index crimes has significantly decreased from 2014 to 2018 at a rate of 74.1%, or 305 cases in 2014 as against 79 cases in 2018. With all of these figures, the crime solution efficiency for CICL offenders has an average of 63% in the span of five years.

It can also be noted there are more male CICL offenders with 2,179 compared to female CICL offenders with 324 .

Table SO-43a Davao City Crime Incidence, Children in Conflict with the Law, for the Past Five Years

Type of Crime	2014			2015			2016			2017			2018		
	Offender		Total	Offender		Total	Offender		Total	Offender		Total	Offender		Total
	M	F		M	F		M	F		M	F		M	F	
<b>Index Crimes</b>	652	166	817	418	70	488	289	42	332	222	12	234	184	7	191
<b>Crimes Against Person</b>	246	62	308	124	36	160	99	24	123	88	4	92	79	2	81
a. Murder	9	2	11	13	1	14	13	0	13	4	0	4	7	0	7
b. Homicide	12	5	17	7	8	15	10	0	10	3	0	3	4	0	4
c. Physical Inquiry	204	55	259	74	25	99	55	24	79	64	4	68	51	2	53
d. Rape	21	0	21	30	2	32	21	0	21	17	0	17	17	0	17
<b>Crimes Against Property</b>	406	104	509	294	34	328	190	18	209	134	8	142	105	5	110
a. Robbery	74	9	83	50	2	52	28	0	28	43	0	43	16	0	16
b. Theft	332	95	426	244	32	276	162	18	181	91	8	99	89	5	94
<b>Non-Index Crimes</b>	67	9	76	136	17	152	50	1	51	59	2	61	60	19	79
<b>Total</b>	719	175	893	554	87	640	339	43	383	281	14	295	244	26	270

Source: Davao City Police Office

Table SO-43b Davao City Crime Incidence Solution Efficiency, Children in Conflict with the Law, for the Past Five Years

Type of Crime	2014			2015			2016			2017			2018		
	Total		Crime Solution Efficiency	Total		Crime Solution Efficiency	Total		Crime Solution Efficiency	Total		Crime Solution Efficiency	Total		Crime Solution Efficiency
	Total	Cases Solved		Total	Cases Solved		Total	Cases Solved		Total	Cases Solved		Total	Cases Solved	
<b>Crimes Against Person</b>	308	161	52%	160	92	58%	123	89	72%	92	51	55%	81	66	81%
a. Murder	11	8	73%	14	11	79%	13	11	85%	4	4	100%	7	7	100%
b. Homicide	17	12	71%	15	11	73%	10	8	80%	3	2	67%	4	3	75%
c. Physical Inquiry	259	127	49%	99	55	56%	79	54	68%	68	34	50%	53	46	87%
d. Rape	21	14	67%	32	15	47%	21	16	76%	17	11	65%	17	10	59%
<b>Crimes Against Property</b>	509	212	42%	328	164	50%	209	79	38%	142	77	54%	110	69	63%
a. Robbery	83	74	89%	52	32	62%	28	18	64%	43	41	95%	16	13	81%
b. Theft	426	138	32%	276	132	48%	181	61	34%	99	36	36%	94	56	60%
<b>Non-Index Crimes</b>	76	59	78%	152	79	52%	51	45	88%	61	56	92%	79	40	51%
<b>Total</b>	893	432	48%	640	335	52%	383	213	56%	295	184	62%	270	175	65%

Source: Davao City Police Office

## Current and Future Needs

### Police and Firefighter

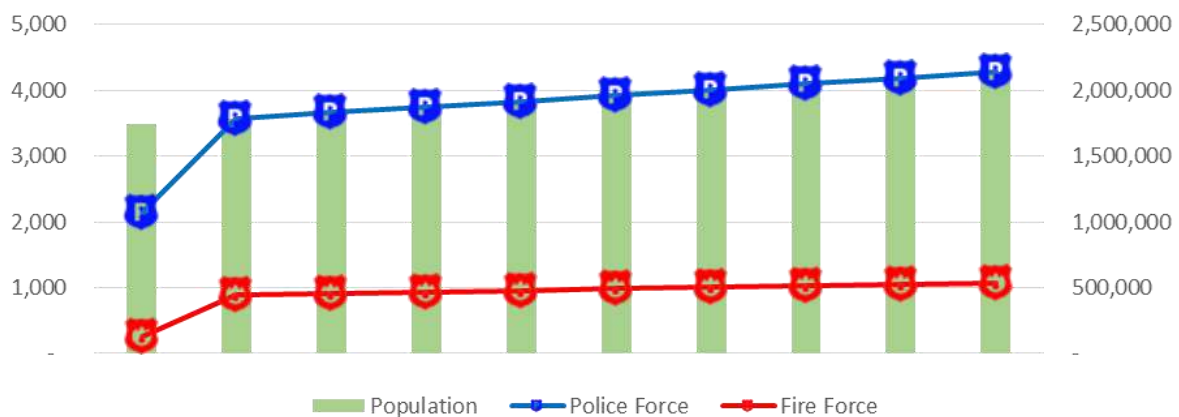
With the annual growth in population, the need for additional police personnel cannot be overemphasized. Based on the 2018 statistics, the police to population ratio is 1:814 which means every police serves 814 persons. Davao City also met the ideal 1:500 population to police ratio. However, data per station do not reflect the overall results of population to police ratio. Davao City needs an additional 1,446 police out of the existing 2,131 police personnel to cope with the ideal population to police ratio. The current number of firefighters is 247 or a ratio of 1:7,079 in 2018. With the ideal ratio of 1:2,000, the city still needs 873 additional firefighters. Talomo FS needs firefighter augmentation at 143 while Calinan needs 90. This is attributed to the large population served by the Fire Stations.

**Table SO-44a Current and Projected Requirement for Police and Fire Personnel**

TYPE	Existing No. (2018)	Projected Population* and Requirement for Police and Fire Personnel**									
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Population	1,748,279	1,788,489	1,829,624	1,871,706	1,914,755	1,958,794	2,003,847	2,049,935	2,097,084	2,145,317	2,194,659
Police Force	2,131	3,577	3,659	3,743	3,830	3,918	4,008	4,100	4,194	4,291	4,389
Fire Force	247	894	915	936	957	979	1,002	1,025	1,049	1,073	1,097

Source: Davao City Police Office, Bureau of Fire Protection and Office of the City Planning & Development Coordinator  
 Notes: \*Based on population increase rate = 2.3% per annum  
 \*\*Computed based on population projection and standard ratios

**Current and Projected Requirement for Police and Fire Personnel**



The Bureau’s fire-fighting force has a total of 23 fire trucks, only three (3) fire trucks are in the latest model, the remaining 20 are from 1968 – 1991 models. Thus, the city still needs 41 fire trucks and to upgrade the existing old model trucks. To date, the city has 715 fire hydrants throughout the city. One fire truck per Fire Station (FS) is the existing national requirement. Although all fire Stations have fire trucks, none met the standard of one fire truck in every 14 firefighters or 28,000 persons. In addition, some FS are in poor condition, all stations need repair.

The current number of Police Stations (PS) in the City is 12. Hence, Sta. Ana PS, San Pedro PS, Talomo PS, Sasa PS, Buhangin PS, and Toril PS are classified to be type “A”, servicing 100,000 and above population. Bunawan PS, Tugbok PS and Calinan PS belongs to type “B”

catering to 75,000 to less than 100,000 starting at Paquibato, Baguio and Marilog are classified as type “C” with less than 75,000 constituents. These classifications have the following standard lot requirements, 2,500 sq.m., 600 sq.m., and 400 sq.m. respectively. Moreover, 83.33% of the total number of police stations in the city do not conform to the standard lot requirement.

According to the Climate Disaster Risk Assessment (CDRA), there are nine (9) police facilities that are prone to flooding. These are in the areas of Talomo, Bucana, Matina Aplaya, Leon Garcia, Matina Crossing and Paciano Bangoy. The protective service facilities form part of the top 10 priority areas for CDRA. The said areas are also recommended to be retrofitted as a hazard-resilient facility.

Table SO-44b, Requirement for Fire Station, Davao City 2019

Fire Station (FS)	Existing Fire Fighter	Fire Fighter Requirement	Needed number of Fire Fighter	Existing Fire Truck	Fire Truck Requirement	Needed number of Fire Truck
Bangoy FS	20	60	40	2	4	2
Buhangin FS	11	66	55	1	5	4
Bunawan FS	14	49	35	1	3	2
Cabantian FS	10	44	34	2	3	1
Calinan FS	15	90	75	2	6	4
Central FS	20	57	37	6	4	-2
Lanang FS	12	51	39	2	4	2
Mintal FS	15	65	50	1	5	4
Panacan FS	13	83	70	1	6	5
S.I.R. FS	12	87	75	1	6	5
Talomo FS	15	143	128	1	10	9
Toril FS	15	80	65	1	6	5

Source: Bureau of Fire, Office of the City Planning and Development Coordinator



**Table SO-44c Projected Area Requirement for Police Stations, Davao City**

2018			2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
Police Station (PS)	Current Population	Current Area (sq. m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)	Projected Population	Area Requirement (sq.m.)
PS1 - Ana	219,527	500	224,576	2,500	229,741	2,500	235,025	2,500	240,431	2,500	245,961	2,500	251,618	2,500	257,405	2,500	263,326	2,500	269,382	2,500	275,578	2,500
PS2 - San Pedro	100,424	250	102,734	2,500	105,097	2,500	107,514	2,500	109,987	2,500	112,516	2,500	115,104	2,500	117,752	2,500	120,460	2,500	123,231	2,500	126,065	2,500
PS3 - Talomo	440,199	1000	450,324	2,500	460,681	2,500	471,277	2,500	482,116	2,500	493,205	2,500	504,548	2,500	516,153	2,500	528,025	2,500	540,169	2,500	552,593	2,500
PS4 - Sasa	149,911	250	153,359	2,500	156,886	2,500	160,495	2,500	164,186	2,500	167,962	2,500	171,825	2,500	175,777	2,500	179,820	2,500	183,956	2,500	188,187	2,500
PS5 - Buhan gin	210,288	200	215,125	2,500	220,072	2,500	225,134	2,500	230,312	2,500	235,609	2,500	241,028	2,500	246,572	2,500	252,243	2,500	258,045	2,500	263,980	2,500
PS6 - Bunawan	116,296	200	118,971	2,500	121,707	2,500	124,506	2,500	127,370	2,500	130,300	2,500	133,296	2,500	136,362	2,500	139,499	2,500	142,707	2,500	145,989	2,500
PS7 - Paquibato	71,024	4711	72,658	400	74,329	400	76,038	600	77,787	600	79,576	600	81,406	600	83,279	600	85,194	600	87,154	600	89,158	600
PS8 - Toril	152,891	500	156,407	2,500	160,005	2,500	163,685	2,500	167,450	2,500	171,301	2,500	175,241	2,500	179,272	2,500	183,395	2,500	187,613	2,500	191,928	2,500
PS9 - Tugbok	93,500	200	95,651	600	97,850	600	100,101	2,500	102,403	2,500	104,759	2,500	107,168	2,500	109,633	2,500	112,154	2,500	114,734	2,500	117,373	2,500
PS10 - Calinan	92,393	300	94,518	600	96,692	600	98,916	600	101,191	2,500	103,518	2,500	105,899	2,500	108,335	2,500	110,827	2,500	113,376	2,500	115,983	2,500
PS11 - Baguio	30,544	200	31,247	400	31,965	400	32,700	400	33,452	400	34,222	400	35,009	400	35,814	400	36,638	400	37,481	400	38,343	400
PS12 - Marilog	56,312	10000	57,607	400	58,932	400	60,288	400	61,674	400	63,093	400	64,544	400	66,028	400	67,547	400	69,101	400	70,690	400

Source: Davao City Police Office and City Planning and Development Office

Notes: \*Based on population increase rate = 2.3% per annum

\*\*\*Computed based on population projection and standard ratios

## Protective Services Analysis Matrix

Effectiveness of peace and order strategies rely on the forces' capacity and efficiency to be one step ahead in every situation. Resources from both the local and national government are pooled to ensure that the people are served efficiently and effectively.

Challenges to augment forces, upgrade facilities and equipment, and improve visibility are being addressed. The bigger challenge of recruitment lies on how the profession can be promoted, given the hazards attached to its functions.

The preceding table reflects the challenges faced by the sub-sector with the corresponding recommended policy options or interventions available. These existing issues spell out the effects when the needs remain to be unmet.

With natural hazards such as flooding, landslide, storm surge, and earthquake possibly crippling operations of our police and Central 911 forces, the retrofitting, redesigning, and reinforcement of these facilities are considered urgent and should be prioritized given that these protective and emergency services provide the needed stability when disaster strikes.

Equipping the police, fire fighters, and jail management personnel will fortify the performance of the sub-sector and widen its coverage in terms of areas reached. As the City Government of Davao prioritizes the peace and order situation in Davao City, resources continue to be infused to provide better response during occurrence of emergency situations.

Increasing the capacity of every citizen to be resilient in times of calamities fall under sub-sector. Therefore, it is crucial that people are well-informed and trained to respond to disasters that threaten the lives and properties of the people.

Maintaining the peace and order of the city is a shared responsibility of every person who call Davao their home.

Table SO 45. Protective Services Analysis Matrix

Technical Findings/Observations	Implications (Effects)	Policy Options/Interventions																				
<p>Human resource</p> <p>Insufficient Police personnel Insufficient Fire fighter personnel Insufficient Jail Officers and specific personnel</p> <p>Personnel to Population Ratio</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ideal</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Police</td> <td>1:500</td> <td>1:814</td> </tr> <tr> <td>Firefighter</td> <td>1:2,000</td> <td>1:7,079</td> </tr> <tr> <td>Jail Officers</td> <td>1:5</td> <td>1:23</td> </tr> </tbody> </table> <p>Source: DCPO, BFP and BJMP</p>	Type	Ideal	Actual	Police	1:500	1:814	Firefighter	1:2,000	1:7,079	Jail Officers	1:5	1:23	<p>Response, prevention and investigation of fire incidents, criminality and security of jail facility is compromised.</p>	<p>Restructuring of Bureaus (BFP and BJMP).</p> <p>Hiring of personnel to meet the ideal standard ratio (firemen, police and jail officers).</p> <p>Hiring of Specific personnel in jail facilities (lawyers, doctors, psychologists and social workers).</p>								
Type	Ideal	Actual																				
Police	1:500	1:814																				
Firefighter	1:2,000	1:7,079																				
Jail Officers	1:5	1:23																				
<p>Lack and Inadequate number of facilities and equipment</p> <p>Lack of Fire stations</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ideal</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Fireman to Popu-</td> <td>1:2,000</td> <td>1:7,079</td> </tr> <tr> <td>Firetruck to Fireman</td> <td>1:14</td> <td>1:11</td> </tr> <tr> <td>Firetruck to Population</td> <td>1:28,000</td> <td>1:76,013</td> </tr> </tbody> </table> <p>Source: BFP</p> <p>Lack of Fire hydrants</p> <table border="1"> <tbody> <tr> <td>Total number of</td> <td>715</td> </tr> </tbody> </table> <p>Source: BFP</p> <p>Outdated Fire trucks</p> <table border="1"> <thead> <tr> <th>Type of Firetruck</th> <th>No.</th> </tr> </thead> <tbody> <tr> <td>Man Rosenbauer (Latest Model)</td> <td>3</td> </tr> <tr> <td>Old Model Firetrucks (1968-1991)</td> <td>20</td> </tr> </tbody> </table> <p>Source: BFP</p>	Type	Ideal	Actual	Fireman to Popu-	1:2,000	1:7,079	Firetruck to Fireman	1:14	1:11	Firetruck to Population	1:28,000	1:76,013	Total number of	715	Type of Firetruck	No.	Man Rosenbauer (Latest Model)	3	Old Model Firetrucks (1968-1991)	20	<p>Delayed time of response leading to possible conflagration of fire and loss of lives and properties.</p>	<p>Construction of additional 8 Fire stations at Binugao, Ulas-Puan, Catalunan Grande, Corner Maa Diversion Road, Sasa, Tibungco, Tugbok and Marilog District.</p> <p>Installation of Fire hydrants in strategic streets (subdivisions, villages, commercial and public areas).</p> <p>Procurement of additional top of the line Fire truck (pumper, snorkel, ladder, break-squirt, light and rescue) equipment.</p>
Type	Ideal	Actual																				
Fireman to Popu-	1:2,000	1:7,079																				
Firetruck to Fireman	1:14	1:11																				
Firetruck to Population	1:28,000	1:76,013																				
Total number of	715																					
Type of Firetruck	No.																					
Man Rosenbauer (Latest Model)	3																					
Old Model Firetrucks (1968-1991)	20																					

**Table SO 45. Protective Services Analysis Matrix**

Technical Findings/Observations	Implications (Effects)	Policy Options/Interventions								
<p>Poor and congested Jail Facility</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Actual Facility to Pop-</th> </tr> </thead> <tbody> <tr> <td>DCJ Main</td> <td>1:3263</td> </tr> <tr> <td>DCJ Female</td> <td>1:568</td> </tr> <tr> <td>DCJ Annex</td> <td>1:482</td> </tr> </tbody> </table> <p>Source: BJMP</p>	Type	Actual Facility to Pop-	DCJ Main	1:3263	DCJ Female	1:568	DCJ Annex	1:482	<p>Compromised Jail security, Welfare and Development (health, livelihood, education and etc.) and prone to man-made catastrophe (riots, noise barrage and hunger strike).</p>	<p>Upgrading and construction of Jail facility (adequate cell for inmates, tower posts, infirmary/ clinic, livelihood, visiting, sports and recreation and educational area).</p>
Type	Actual Facility to Pop-									
DCJ Main	1:3263									
DCJ Female	1:568									
DCJ Annex	1:482									
<p>Need for a Child-Friendly Facility</p>	<p>Violation of privacy and confidentiality of the child</p>	<p>Establish separate child-friendly interview or diversion proceeding room for children at risk and CICAL.</p>								
<p>Prevalence of crime and proliferation of drugs</p> <p>Increasing incidence of drug related cases</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Total (2018)</th> </tr> </thead> <tbody> <tr> <td>Drug Surrenderees</td> <td>11,565</td> </tr> <tr> <td>Persons under Rehab</td> <td>353</td> </tr> </tbody> </table> <p>Source: CADAC and DCTRCDD</p>	Category	Total (2018)	Drug Surrenderees	11,565	Persons under Rehab	353	<p>Societal Deterioration in terms of health, security, family relations and, peace and order.</p>	<p>Treatment and Rehabilitation of Drug Dependents Surrenderees (Community based, Outpatient and Residential).</p>		
Category	Total (2018)									
Drug Surrenderees	11,565									
Persons under Rehab	353									
<p>Hazard Susceptibility</p> <p>I. Two (2) Police Stations are located along/near the Dacudao Fault Line.</p> <p>II. Six (6) Fire Stations, one (1) Police Headquarter, five (5) Police Stations, three (3) Jail Facility and two (2) Task Force Davao Headquarter/ Detachment are moderate-high susceptible to liquefaction.</p> <p>III. Seven (7) Fire Stations, one (1) Police Headquarter, three (3) Police Stations and two (2) Task Force Davao Headquarter/ Detachment are susceptible to storm surge with a sea water level of 5 meters.</p> <p>IV. Three (3) Fire Stations, four (4) Police Stations, three (3) Jail Facility and two (2) Task Force Davao Headquarter/ Detachment are moderate-high susceptible to flood.</p> <p>V. One (1) Fire Station and two (2) Police Stations are moderately susceptible to landslide.</p>	<ul style="list-style-type: none"> <li>• Potential for landslide occurrence.</li> <li>• Potential delay of possible response and emergency due to damaged property and structure.</li> <li>• Potential Casualties due to landslide occurrence.</li> </ul>	<p>Structural mitigation with emphasis on all safety standards (exits, swing-out doors, sprinklers for 4-storey building).</p> <p>Relocation (if needed) of facility that is highly susceptible to hazards.</p> <p>Rehabilitation/retrofitting of an ideal protective services facilities that can withstand hazards.</p>								

### Programs/Projects Approved/Funded Ongoing and for Implementation

Name/ Type of Project	Location	Proponent (Government, Private, NGO)	Estimated Start Date/ Start Date	Estimated Date of Completion	Implementing Agency	Project Cost
Construction of Davao City Jail Cell Building	Davao City Jail Main, Ma-a Davao City	GOV-LGU	2019	2019	BJMP	2,500,000.00
Construction of New Davao City Jail Facility (Mega Jail)	Brgy. Wangan, Calinan District	GOV-BJMP	October 2018	October 2020	BJMP	
Construction of Searching Area and Desk Officers Post	Davao City Jail Annex, Ma-a Davao City	GOV-TESDAROXI & DCJ-A	November 2018	May 2019	BJMP	
Fabrication of Triple Deck Steel Bed-bunks	Davao City Jail Annex, Ma-a Davao City	GOV-LGU	April 2019	June 2019	BJMP	286,000.00
Construction of 3-storey building with multi-purpose hall	Davao City Female Jail, Ma-a Davao City	Congressional Insertion	March 2018	August 2019	BJMP	
Construction of 3-storey Records Office and Barracks Building	Davao City Female Jail, Ma-a Davao City	Congressional Insertion	March 2018	August 2019	BJMP	
Construction of 3-storey Cell Building with roof deck for WDU and Health	Davao City Female Jail, Ma-a Davao City	Congressional Insertion	March 2018	August 2019	BJMP	
Construction of Mess Hall	Davao City Female Jail, Ma-a Davao City	Congressional Insertion	March 2018	August 2019	BJMP	
Construction Davao City Mobile Force Company Building	Camp Domingo E Leonor, San Pedro St. Davao City	GOV-DPWH & CEO	October 2018	February 2019	DCPO	4,826,242.54
Construction of Police Station 4 (Sasa) Building	Sasa, Davao City	GOV	October 2018	February 2019	DCPO	5,790,000.00
Acquisition of Kawasaki Versys 650cc Motorcycle	Camp Domingo E Leonor, San Pedro St. Davao City	GOV	1 <sup>st</sup> Quarter of 2019	1 <sup>st</sup> Quarter of 2019	DCPO	

### Programs/Projects Approved/Funded Ongoing and for Implementation, cont.

Name/ Type of Project	Location	Proponent (Government, Private, NGO)	Estimated Start Date/ Start Date	Estimated Date of Completion	Implementing Agency	Project Cost
External Network Upgrade	C.M. Recto St. Corner San Pedro St., Davao City	GOV & Private	August 2018	July 2019	PSSCC	
Rehabilitation of the Task Force Davao Checkpoint	Sirawan, Lacson and Lasang Davao City	GOV	2 <sup>nd</sup> Quarter of 2018	May 2019	PSSCC	
Improvement of the Public Safety and Security Complex to include its communication System	SIR Phase II, Sandawa, Davao City	GOV	March 2019	November 2019	PSSCC	6,010,989.46
Installation of Security System for the Palarong Pambansa 2019	UP-Mindanao Campus, Mintal, Davao City	GOV	April 2019	April 2019	PSSCC	
Installation of Security System for the Alveo Ironman	Azuela Cove, Davao City	GOV	March 2019	March 2019	PSSCC	
Additional CCTV Camera	All vital points in Davao City with no existing surveillance camera	GOV	June 2019	December 2019	PSSCC	
Central 911 Sandawa Base Renovation	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	August 2018	-	CENTRAL 911	7,990,162.93
Central 911 Fire Auxiliary Services (FAS) Base Construction * Watch Tower * Exit Gate * Common CR * Response Vehicle Parking Yard	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	February 2019	-	CENTRAL 911	2,485,897.71

### Programs/Projects Approved/Funded Ongoing and for Implementation, cont.

Name/ Type of Project	Location	Proponent (Government, Private, NGO)	Estimated Start Date/ Start Date	Estimated Date of Completion	Implementing Agency	Project Cost
Unified Communications Tower	PSSCC Complex, Sandawa, Davao City	GOV	2018	2019	CENTRAL 911	
Central 911 Marahan Satellite Station	Marahan, Davao City	GOV	March 2019	-	CENTRAL 911	
Establishment of 911 Motor Pool	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	May 2019	-	CENTRAL 911	
Acquisition of additional Emergency Medical Services (EMS) Ambulances	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	February 2019	-	CENTRAL 911	
Upgrading of Emergency Medical Services (EMS) Skills/Capacity	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	January 2019	December 2019	CENTRAL 911	
Acquisition of Mass Transport Vehicle	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	October 2018	2019	CENTRAL 911	
Acquisition of Sonar Search and Rescue Underwater Equipment	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	2019	-	CENTRAL 911	
Acquisition of Search and Rescue Air and underwater, Collapsed and underground thermal imager equipment	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	2019	-	CENTRAL 911	
Acquisition of Field Command Large Multi-purpose tents (for field operations incl. mobile trailer support)	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	2019	-	CENTRAL 911	



### Programs/Projects Approved/Funded Ongoing and for Implementation, cont.

Name/ Type of Project	Location	Proponent (Government, Private, NGO)	Estimated Start Date/ Start Date	Estimated Date of Completion	Implementing Agency	Project Cost
Acquisition of Aerial Fire-trucks (to enhance fire-fighting and rescue capability, particularly for high-rise structures)	Daang Patnubay, SIR Phase II, New Matina, Davao City	GOV	2018	-	CENTRAL 911	
Completion of Phase 3 Interoperability Communications Plan						
Acquisition of Search and Rescue Drones with Thermal Imagery						
Training of 911 EMT (Emergency Medical Technicians) Volunteers, to augment and strengthen the capabilities of the ambulance motorcycle team/s (FREMS)						

Source: Davao City Police Office, Bureau of Jail Management and Penology, Public Safety and Security Command Center, and Central Communications and Emergency Response Center.

## Sports and Recreation

### Existing Sports and Recreational Facility

Most of the sports and recreation facilities are located in the Poblacion District and Talomo District where population is dense. In 2018, the city has 336 government-owned sports and recreational facilities with an estimated total land area of 49.433 hectares. The largest sports complex is the University Sports Complex, covering 20 hectares of land area. This facility aims to achieve the city's goal of becoming the premier destination for sports events/activities. There are still on-going construction for more facilities within the sports complex. Davao City has two (2) major public namely People's Park and Magsaysay Park. These parks established for people to unwind, for children to play, and for the public to gather in their period of leisure or physical fitness activities. The city lacks indoor sports facilities to accommodate the sports enthusiasts who play volleyball, badminton, table tennis, and similar indoor activities.

However, park facilities lack locker/storage area to cater park-goers who intend to leave their things or valuables while jogging or doing other activities in the park. There is also a need to rehabilitate uneven pavements, pathways and jogging lanes.

Out of the 326 facilities, twelve (12) need renovation while the rest are still well-maintained and in good condition. There are covered courts in barangays that have been used as evacuation centers over the years for lack of structures assigned as such to house families affected by the occurrence of natural or manmade calamities. It is also a noteworthy information that only two of the 95 facilities are used as evacuation areas in Barangay 21-C and Barangay Gumalang wherein the area is identified as park or open space. These number to 166 facilities used as evacuation centers based on its physical and geographical locations.

The hazard susceptibility to flood, landslide, storm surge, and liquefaction are identified based on the location of both the sports and recreational facilities. There are 84 facilities found to be highly susceptible to flooding, while 6 facilities are highly susceptible to landslide. Moreover, when a storm surge occurs with a height of four (4) meters, 51 facilities are expected to be affected, but a storm surge of 5-meter water level will affect two (2) more facilities. Some 143 facilities are highly susceptible to liquefaction. Mintal Park, for example, is located near the Central Davao fault system.

Table SO-46a. Existing Sports and Recreational Facilities by District, Year 2018

District	Type of Facility		Number of Facilities	Total Lot Area (ha)	Ownership	Physical Condition of Facility	Used as Evacuation Center (Y/N)	Hazard Susceptibility (H/M/L)			
								FI	Ln	Su	Liquefaction
Poblacion	Sports	Basketball Court	42	1.686	Public-42	Fair-41 Poor-1	Yes-19 No-24	L-36 H-2 VH-3	L-41	2M-17 3M-4 4M-8	M-13 H-24
	Recreational	Parks	19	8.250	Public-19	Fair-19	Yes-2 No-17	L-15 H-3 VH-1	L-19	2M-11 3M-5	M-2 H-17
Talommo	Sports	Basketball Court	83	4.314	Public-83	Fair-81 Poor-2	Yes-43 No-20	L-28 M-12 H-25 VH-9	L-80 M-2 H-1	2M-28 3M-8 4M-11	L-5 M-9 H-37
	Recreational	Parks	2	0.080	Public-2	Fair Poor	No-2	L-2	L-2	2M-2	H-2
Buhanagin	Sports	Basketball Court	42	1.813	Public-42	Fair-41 Critical-1	Yes-20 No-22	L-14 H-7 VH-1	L-41 M-1	4M-8	L-6 M-4 H-10
	Sports	Tennis Court	7	0.565	Public-7	Fair-7	No	L-5 H-2	L-7	4M-7	M-5 H-7
	Sports	Gymnasiums	6	0.273	Public-6	Fair-6	No	L-6	L-6	4M-6	H-6
	Recreational	Parks	2	0.220	Public-2	Fair-2	No-2	L-2	L-2	4M-1	L H
Agdao	Sports	Basketball Court	23	0.901	Public-23	Fair-21 Critical-2	Yes-11 No-12	L-9 M-9 H-5	L-19	2M-9	L-1 M-4 H-18
	Recreational	Parks	1	0.370	Public	Fair	No	M			M
Tugbok	Sports	Basketball Court	36	21.781	Public-36	Fair-34 Poor-2	Yes-31 No-5	L-7 M-10 H-6	L-34 M-2		L-1
	Sports	Gymnasium	1	0.144	public	fair	yes	L	L		
	Recreational	Mintal Park	1	0.11	public	Fair	no	H	L		

Table SO-46a. Existing Sports and Recreational Facilities by District, Year 2018

District	Type of Facility		Number of Facilities	Total Lot Area (ha)	Ownership	Physical Condition of Facility	Used as Evacuation Center (Y/N)	Hazard Susceptibility (H/M/L)			
								FI	Ln	Su	Liquefaction
Baguio	Sports	Basketball Court	9	0.480	Public-9	Fair-8 Poor-1	Yes-5 No-4	L-1 M-1 H-2	L-7 H-2		
Baguio	Sports	Gymnasium	2	0.085	Public-2	Fair-2	Yes-2	H-2	L-1		
Toril	Sports	Basketball Court	26	1.422	Public-26	Fair-24 Poor-1 Critical-1	Yes-22 No-4	L-18 M-5 H-1	L-26	2M-12	L-2 M-3 H-15
Toril	Recreational	Parks	2	4.237	Public-2	Fair-2	No-2	L-2	L-2		L-2
Bunawan	Sports	Basketball Court	14	1.177	Public-14	Fair-14	Yes-10 No-4	L-2 M-6 H-1	L-12 M-1	2M-6 3M-1 5M-2	L-4 M-4 H-3
Bunawan	Recreational	Parks	1	0.248	DOTC	fair	No		L		
Calinan	Sports	Basketball Court	5	0.290	Public-5	Fair-5	Yes-5	L-2 M-1 H-1 VH-1	L-5		L-2
Calinan	Recreational	Parks	1	0.548	Public	Fair	No	H	L		
Paquibato	Sports	Basketball Court	9	0.317	Public-9	Fair-9	Yes-7 No-2	H-8	L-6 H-3		H-2
Paquibato	Recreational	Parks	1	0.083	Public	fair	No	H	L		
Mari-log	Sports	Basketball court	1	0.040	Public	Fair	Yes	H	M		
<b>Total</b>			<b>336</b>	<b>49.433</b>							

Source: City Environment and Natural Resources Office, Sangguniang Kabataan, Association of Barangay Captains

Notes: \*Hazard Susceptibility - Flood (FI), Landslide (Ln), Storm Surge (Su), Liquefaction

\*\*Indicators for the level of susceptibility -Low (L), Moderate (M), High (H), Very High (VH)

\*\*\*Figures after level of hazard susceptibility are the number of facilities affected

Government-owned sports and recreational facilities can cater to a large portion of the population. There are also facilities which are owned and operated by the private sector to offer additional options to the community. However, use of said facilities require corresponding fees. Table SO 46b enumerates privately owned facilities. There are also privately owned subdivisions wherein their open spaces are complemented with facilities such as basketball courts, tennis courts, golfcourse, football field, cockpit, and cinemas for the purpose of holding sports or recreational activities. These facilities will supplement the public facilities to meet the standard ratio of Sports and Recreational Facilities. The number of private facilities by category are the following: eight (8) basketball courts; one (1) tennis court; four (4) golfcourses; one (1) football field; four (4) parks; five (5) cockpit; and seven (7) cinemas for the purpose of holding sports or recreational activities with a total area of 248.235 hectares. These facilities are located in Poblacion, Talomo, Agdao, Buhangin, Malagos, Toril, and Calinan. Sports facilities such as Basketball, tennis courts, golf course, and football field can be rented while the recreational facilities such as parks, cockpits, and cinemas can also be accessed for a fee.

**Table SO 46b. List of Private Sports and Recreational Facilities in Davao City, year 2018**

District	Brgy.	Type of Facility	Total Lot Area (ha)	Physical Condition of Facility	
Poblacion	3-A	Sports	Gaisano Sky Gym	0.010	Fair
	6-A	Sports	Smash n' drop Badminton	0.105	Fair
	9-A	Sports	Badminton World Badminton	0.085	Fair
	13-B	Sports	Wheels n' more Badminton	0.110	Fair
	13-B	Recreational	Gaisano Mall of Davao	0.633	fair
	15-B	Sports	Garden Oases Basketball Gym	0.042	Fair
	15-B	Sports	Goldstar Gym	0.139	Fair
	15-B	Sports	Methodist Gym	0.067	Fair
	18-B	Sports	Evergold Basketball Court	0.070	Fair
	20-C	Recreational	Abreeza Mall Cinema	0.281	fair
	26-C	Sports	Smashville Badminton Court	0.065	Fair
Talomo	76-A	Sports	Tionko Football Field	3.549	Fair
	Bago Gallera	Sports	Apo Golf & Country Club	58.720	Fair
	Catalunan Pequeño	Sports	South Pacific & Leisure Estate	70.000	Fair
	MA-A	Sports	Playsite basketball court	0.124	Fair
	MA-A	Sports	Southpoint soccer field	0.609	Fair
	Ma-a	Recreational	Davao Butterfly House	0.073	Fair
	Maa	Recreational	Crocodile Park	0.073	Fair
	Maa	Sports	Rancho Palos Verdes Golf Course	71.000	Fair
	Matina Crossing	Sports	GSIS Lawn Tennis Club	0.154	Fair
	Matina	Recreational	New Davao Matina Gallera	0.75	fair
	Matina	Sports	Davao City Golf Club	21.410	Fair
	Matina	Recreational	SM City Davao Cinemas	0.422	fair

**Table SO 46b. List of Private Sports and Recreational Facilities in Davao City, year 2018**

District	Brgy.	Type of Facility		Total Lot Area (ha)	Physical Condition of Facility
Agdao	Paciano Bangoy	Sports	Montana Sky Gym	0.042	Fair
	Agdao	Recreational	SM Lanang Premier	0.492	fair
	Agdao	Recreational	Aquino Coliseum	0.35	fair
	W. Aquino	Sports	Saphil Gym	0.095	Fair
Buhangin	Buhangin	Recreational	Buhangin Gallera	0.1	fair
	Buhangin	Recreational	Gaisano Grand Citygate Mall Buhangin	0.281	fair
	Buhangin	Recreational	NCCC Mall Buhangin	0.281	fair
Malagos	Eden	Recreational	Eden nature park	8.000	Fair
	Eden	Recreational	Tamayong prayer mountain	8.000	Fair
	Malagos	Recreational	Malagos Garden Resort	1.200	Fair
	Malagos	Recreational	Bamboo Sanctuary and Eco-	0.84	Fair
Toril	Toril	Recreational	Toril Cockpit Arena	0.41	fair
	Toril	Recreational	Gaisano Mall of Toril	0.281	fair
Calinan	Calinan	Recreational	New Calinan Gallera	0.21	fair
<b>Total</b>				<b>248.235</b>	

Source: City Planning and Development Office

Davao City is blessed with a vast land area and there is more room for the establishment of sports facilities. Table SO-47 enumerates proposed sports and recreational facilities within barangays.

The City aims to be a destination for sporting events in Mindanao. For that reason, the city endeavors to build more facilities in the appropriate locations to promote active lifestyle, and health and wellness, aside from sports activities.

The City Council passed Ordinance No. 0218-09 or The Davao City Parks System Ordinance in May 26, 2009. This ordinance provides for the creation of the Parks System Board which is tasked to formulate plans and policies, flow of actions for maintenance of standard singular, development of the existing public parks, and those that are planned to be established.

As shown in Table SO – 47a, most barangays propose for the construction of sports facilities to cater to the needs of the community in terms of sports and other appropriate activities which the public can have access to and seven (7) recreational facilities are being propose.

As per initial survey, about 1.3 hectares of land can be potential location for sports and recreational facilities. It is imperative that land consolidation efforts of the city should also consider land and space allocation for sports and recreational facilities.

Among Urban Barangays, Brgy. Hizon has the biggest vacant land at 0.375 hectares that can potentially be developed as site for sites facility.

**Table SO-47. Potential Sports and Recreation Facilities  
by Barangay, Year 2018**

Proposed Recreational Facility	Brgy.	Type of Facility	Ownership	Area (ha)	Hazard Susceptibility (H/M/L)			
					F I	L n	Su	Liquefac- tion
Basketball Court	8-A	sports	private		L	L	4M	H
Park and Play-ground	31-D	recrea- tional	Public	0.006	H	L	2M	H
Basketball Court	31-D	sports	Public	0.006	L	L	2M	H
Basketball Court	76-A	Sports	Courts	0.2	L	L	2M	H
open court change into covered court	Agdao Proper	sports	Private	0.018	M	L	2M	H
Basketball Court	Agdao Proper	sports	Public	0.03	M	L	2M	H
Basketball court	Baguio Proper	Sports	Public	0.04	L	L		
Parks/ Playgrounds	Baguio Proper	Recrea- tional	Public	0.025	L	L		
playground	carmen	recrea- tional	Public	0.03	H	L		
open park	carmen	recrea- tional	Public	0.03	H	L		
semi-closed grand-stand with electric board	cadalian	sports	Public	0.06	H	L		
Basketball court	carmen	sports	Public	0.06	H	L		
Covered court	Daliao	Sports	Private	0	L	L		H
Basketball court	Gumalang p. 4-A	sports	Public	0.0392	M	L		
Basketball court	Gumalang p. 4-B	sports	Public	0.0392	M	L		
Basketball court	Gumalang p. 6-A	sports	Public	0.0392	M	L		
Basketball court	Gumalang p. 6-B	sports	Public	0.0392	M	L		
Parks and Play-ground	Gumalang p. 1-B	recrea- tional	Public	0.04	M	L		
Parks and Play-ground	Gumalang p. 1-A	recrea- tional	Public	0.04	M	L		
Basketball Court	Leon Garcia	sports	public	0.03	H	L		H
Licanan Public Gym	Purok Virgo, Licanan, Lasang	Sports	Public	0.028	H	L	2m	H
Tambongon Public Gym	Taurus, Tam- bongon, Lasang	Sports	Public	0.028	H	L	2m	H
Sagittarius II Public Gym	Sagittarius II Lasang	Sports	Public	0.028	H	L	2m	H
St. John Public Gym	St. John, Lasang	Sports	Public	0.028	H	L	2 m	H
tennis court	Sto. Niño	sports	Public	0.04	M	L		



**Table SO-47. Potential Sports and Recreation Facilities  
by Barangay, Year 2018**

Proposed Recreational Facility	Brgy.	Type of Facility	Ownership	Area (ha)	Hazard Susceptibility (H/M/L)			
					F I	L n	Su	Liquefac- tion
covered Basketball Court	V.Hizon Sr. - PEHA Phase 2	sports	Private to be turned over to the City Government	0.105	H	L		M
covered Basketball Court	V. Hizon Sr. - Model Homes	sports	Private to be turned over to the City Government	0.225	H	L		M
covered Basketball Court	v. Hizon Sr. - Sto. Domingo 1	sports	Private to be turned over to the City Government	0.15	H	L		M
covered Basketball Court	V. Hizon Sr. - Nova Tierra 3	sports	Private to be turned over to the City Government	0.09	H	L		M
playground	V.Hizon Sr. - PEHA Phase 2	recrea- tional	Private	0.04	H	L		M
<b>Total</b>				<b>1.4738</b>				

Source: Sangguniang Kabataan, Association of Barangay Captains

Notes: \* Hazard Susceptibility - Flood (FI), Landslide (In), Storm Surge (Su), Liquefaction

\*\* Indicators for the level of susceptibility –Low (L), Moderate (M), High (H), Very High (VH)

\*\*\*Figures after level of hazard susceptibility are the number of facilities affected

Establishment of Human Settlement for Economic and Socialized Housing Projects in Urban and Rural Areas or Batas Pambansa (BP) 220 and Presidential Decree on Regulating the Sale of Subdivision Lots and Condominiums or PD 957 are the acts that provide that the total land area of subdivisions be allotted with area for parks and recreation. These laws mandate the subdivisions and condominiums to allocate 3.5% of the total area for parks and recreation.

Based on the table, a total of 429.335 hectares for community facilities have been allotted from 424 subdivisions and condominiums since 1993-2018. On the other hand, the city has an estimated area of 15.027 ha for parks and recreation facilities but the total land area for parks and playgrounds on subdivisions and condominiums do not tally with the estimated total area of sports and recreation facilities in the City since some of the subdivisions were constructed earlier than 1993.

**Table SO-48 Total Land Area of Community Facilities in Subdivisions, 1993-2018.**

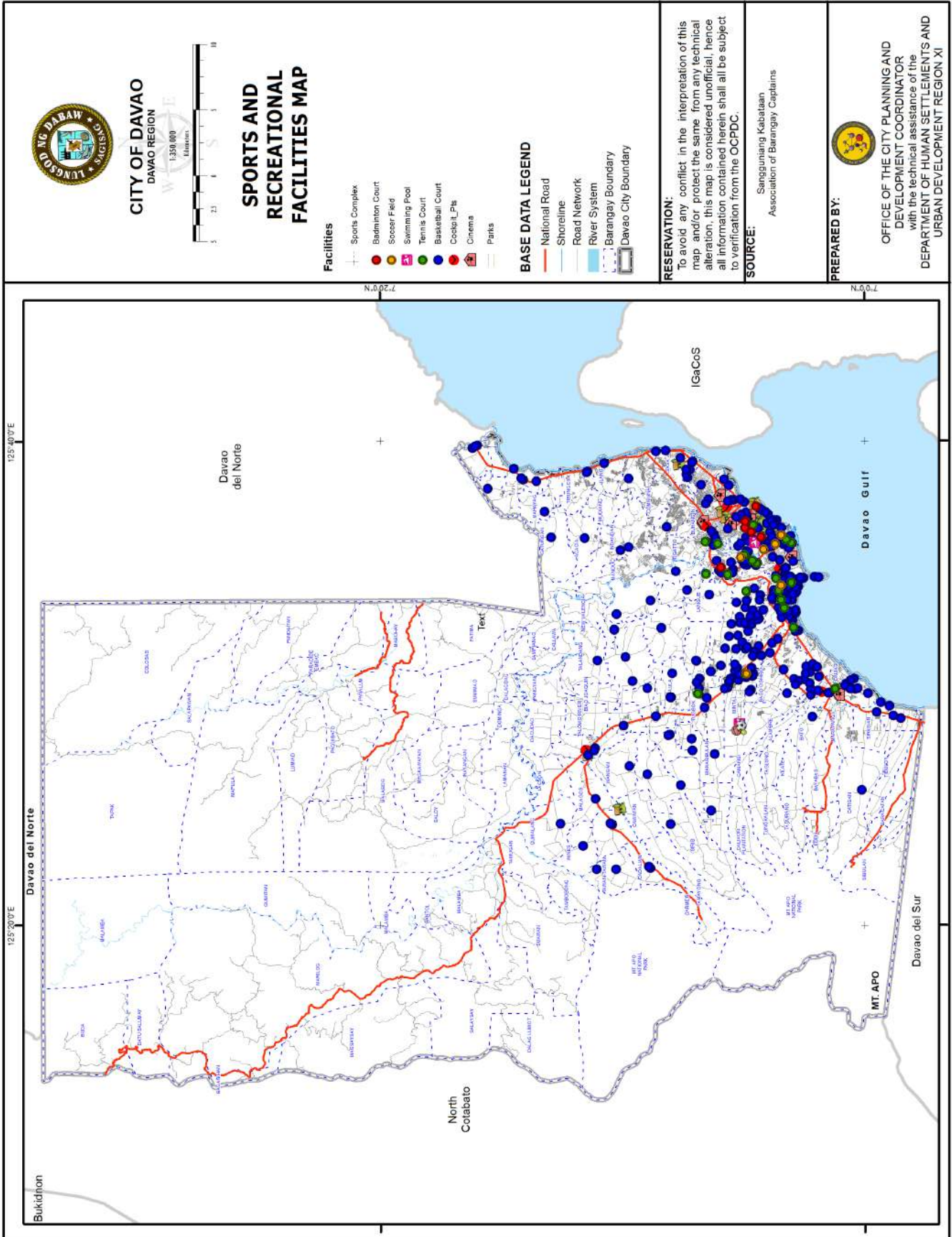
	No. of Subdivision	Total Land Area (ha)	Total Land Area for parks and playgrounds
BP 220 Socialized Housing	88	21.480	0.752
BP 220 Economic Housing	278	285.682	9.999
PD 957	58	122.173	4.276
<b>Total</b>	<b>424</b>	<b>429.335</b>	<b>15.027</b>

Source: City Planning and Development Office

### Sports and Recreational Facility Map

Most of the sports and recreational facilities are within the Poblacion area. Basketball courts (open and covered) also cater to nearby barangays. It is evident on the map that the City doesn't have ample spaces for green parks or sports within the downtown area, however beyond the downtown area, there are more areas where sports and recreational facilities can be established. The Poblacion area may not have abundant land area for the purpose, but for the existing sports and recreational facilities their accessibility provides wider coverage in terms of population being served.

Sports and Recreational Facility Map



## Current and Projected Need

Standard ratio of sports facilities per 1,000 population is 0.5 hectares or 5,000 square meters. The standard area for parks per 1,000 population is 500 square meters.

Davao City's population in 2018 is 1,748,279, where the current area requirement for the sports facilities' land area is at 874.14 hectares and 87.41 hectares for recreational facilities. The future area requirement for sports is at 1,148.39 hectares and 114.84 hectares for parks purposes, based on the projected population of 2,296,774.18 in 2028.

In 2018, the existing total area for sports facilities is 35.29 hectares and 13.74 hectares for parks, which leaves the city 838.85 hectares and 73.67 hectares more to meet the standard requirements. It shows that Davao City needs to meet standards for both facilities. However, there are privately-owned facilities, which can supplement government-owned facilities.

In the projected needs for sports and parks facilities until 2028, the City must pursue an aggressive plan to acquire lands and meet the future needs of a growing population, which by 2028 should total to at least 1,262 hectares for both sports and parks areas. Unless complied with, the shortage for the required area will be 1,214 hectares.

**Table SO-49 Current and Projected Needs, 2018-2028.**

Year	Projected Population	Area Requirements (ha)		Existing Area (ha)		Area Needed (ha)	
		Sports	Parks	Sports	Parks	Sports	Parks
2018	1,748,278.80	874.14	87.41	35.29	13.74	838.85	73.67
2019	1,788,489.22	894.24	89.42	35.29	13.74	858.95	75.68
2020	1,829,624.47	914.81	91.48	35.29	13.74	879.52	77.74
2021	1,871,705.83	935.85	93.59	35.29	13.74	900.56	79.85
2022	1,914,755.07	957.38	95.74	35.29	13.74	922.09	82
2023	1,958,794.43	979.4	97.94	35.29	13.74	944.11	84.2
2024	2,003,846.70	1,001.92	100.19	35.29	13.74	966.63	86.45
2025	2,049,935.18	1,024.97	102.5	35.29	13.74	989.68	88.76
2026	2,097,083.69	1,048.54	104.85	35.29	13.74	1013.25	91.11
2027	2,145,316.61	1,072.66	107.27	35.29	13.74	1037.37	93.53
2028	2,296,774.18	1,148.39	114.84	35.29	13.74	1113.1	101.1

Source: City Planning and Development Office

Note: \*Sports: Basketball courts (open and covered), tennis courts, gymnasiums, and sports complex

## SPORTS AND RECREATIONAL SUB-SECTOR MATRIX

TECHNICAL FINDINGS/ OBSERVATION	IMPLICATION (EFFECTS)	POLICY OPTION/INTERVENTIONS										
<p><b>Lack of other public sports facilities</b></p> <ol style="list-style-type: none"> <li>1. Absence of a City Volleyball Court</li> <li>2. Insufficient indoor sports training facilities/ venues</li> <li>3. Public school classrooms are utilized as athletes' quarters and Inadequate facilities</li> </ol> <p><b>Existing Sports Facilities, 2018</b></p> <table border="1"> <thead> <tr> <th>Type of Facility</th> <th>Public</th> </tr> </thead> <tbody> <tr> <td>Basketball Court</td> <td>245</td> </tr> <tr> <td>Tennis Court</td> <td>7</td> </tr> <tr> <td>Gymnasium</td> <td>9</td> </tr> <tr> <td>Sports Complex</td> <td>1</td> </tr> </tbody> </table>	Type of Facility	Public	Basketball Court	245	Tennis Court	7	Gymnasium	9	Sports Complex	1	<ul style="list-style-type: none"> <li>• Loss of opportunity for sports enthusiasts in table tennis, tennis, volleyball and others</li> <li>• No standard training center for the athletes</li> <li>• Suspension of classes</li> <li>• Poor sanitation exposed to</li> <li>• possible health hazards</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of City Volleyball court for training center and for public use</li> <li>• City Government to convert the boxing gym (at the back of Almendras gym) into a multi-purpose gymnasium</li> <li>• Construction of athletes' village with complete amenities for all contingency near in the sports complex</li> </ul>
Type of Facility	Public											
Basketball Court	245											
Tennis Court	7											
Gymnasium	9											
Sports Complex	1											
<p><b>Lack of Public Parks</b></p> <ol style="list-style-type: none"> <li>1. Lack of Public parks in the urban area</li> <li>2. Poor Facilities and Amenities in public parks</li> <li>3. Absence of parks and play-grounds for children in some barangays</li> </ol> <p><b>Existing and Area Requirement for Parks</b></p> <table border="1"> <thead> <tr> <th>Parks</th> <th>Area (ha)</th> </tr> </thead> <tbody> <tr> <td>Public</td> <td>14.036</td> </tr> <tr> <td>requirement</td> <td>87.41</td> </tr> <tr> <td>Needed</td> <td>73.38</td> </tr> </tbody> </table>	Parks	Area (ha)	Public	14.036	requirement	87.41	Needed	73.38	<ul style="list-style-type: none"> <li>• Low vegetative cover in major urban centers resulting to urban heat and the same contributes to increase in flood run-off</li> <li>• Poor facilities to sports and recreational services</li> <li>• Low health well-being of communities</li> </ul>	<ul style="list-style-type: none"> <li>• Increase spatial targets in CLUP guidelines (standard ratio)</li> <li>• Construction of tree parks/ recreational parks and play-grounds in every district and increase the number of green pocket parks as well as street islands</li> <li>• Identify and develop public parks (soccer fields) in flood plains and near major rivers</li> <li>• Flood prone areas/natural run-off catchments to be developed as water parks</li> </ul>		
Parks	Area (ha)											
Public	14.036											
requirement	87.41											
Needed	73.38											

### Sports and Recreation sub-sector programs/Projects approved/Funded for implementation

Name/Type of Project	Location	Proponent (Government, Private, NGO)	Project Cost	Estimated start Date	Estimated Date of Completion
Construction of Covered Court @ SGR Village, Barangay Cata-lunan Grande.	Talomo District	City Fund	4,000,000.00	29-Nov-17	5-Mar-18
Overlaying of Basketball Court @ Purok 7, Km. 8, Matina Pangi.	Talomo District	Barangay Fund	600,000.00	8-Jan-18	21-Feb-18
Construction of Skate Park at Flyover, Barangay Agdao.	Agdao District	City Fund	6,500,000.00	17-Aug-18	14-Dec-18
Improvement of Multi-Purpose Covered Court (Replacement of Roof Gutter and Installation of Steel Bar Fence), Barangay San Antonio.	Agdao District	Barangay Fund	320,000.00	7-Mar-18	5-Apr-18
Improvement of Covered Court @ Barangay San Antonio.	Agdao District	Barangay Fund	300,000.00	7-Mar-18	5-Apr-18
Construction of Basketball Pavement at Diho Phase II, Barangay Cabantian.	Buhangin District	Barangay Fund	400,000.00	28-Jun-18	24-Jul-18
Construction of Basketball Court at Golden Hills Phase 4, Barangay Panacan.	Bunawan District	Barangay Fund	400,000.00	14-Aug-18	12-Sep-18
Completion of basketball Court at Veterans Village, Barangay Panacan.	Bunawan District	Barangay Fund	200,000.00	14-Aug-18	12-Sep-18
Repair of Barangay Saloy Gymnasium, Barangay Saloy Dist. III-3.	Calinan District	City Fund	100,000.00	9-Mar-18	25-Jun-18
Construction of Covered Court at Barangay Dominga.	Calinan District	City Fund	2,000,000.00	16-Jun-18	13-Jul-18
<b>A.)</b> Improvement of Barangay Tacunan Covered Court. <b>B.)</b> Conversion of Covered Court into Evacuation Center @ Barangay Tacunan.	Tugbok District	Barangay Fund	812,769.80	7-Feb-18	27-Mar-18
Construction of New Covered Court at Purok 2, Brgy. 23-C	Poblacion District	City Fund	2,900,000.00	21-Aug-18	on going
Fencing of S.I.R., phase 1 Covered Court at Brgy. 76-A, Bucana	Poblacion District	City Fund	1,000,000.00	10-Dec-18	on going
Proposed improvement of playground and mini park at NHA, brgy. Buhangin Proper	Buhangin District	Barangay Fund	400,000.00	7-Jul-18	on going
Construction /Overlaying of Basketball Court at Sitio Sodaco, Brgy. Lizada	Toril District	Barangay Fund	450,000.00	16-Nov-18	on going
UP Sports Complex					
Training Gym	Tugbok District	UP Mindanao, Philippine Sports Commission, DPWH	8 billion	2014	Waiting for Turn Over
Football Stadium					
Phase 1				2015	
Phase 2				2016	
football Field and Track Oval				2016	
Aquatics Center				2018	
Parking Areas				2014	On going



## INTEGRATED SOCIAL SECTOR ANALYSIS MATRIX

The implementation of sustainable programs will result to the creation of sustainable communities. These communities maintain progress in their respective villages amid the changing and challenging times. To have these kind of communities, the city ensures to provide programs that would give better quality of life among all populace in the city. Better education, social, health, and protective services, and protection of the environment shall be provided to have sustainable communities. Additional parks and recreation facilities are also needed to maintain having a low-carbon society.

The table on integrated social sector analysis matrix (see next page) is the social sector's identified priority issues and problems. This gives a clear picture of the present situation in the city, which the government should shift its focus to. Furthermore, these are the evolving needs of the people that should be addressed since this will improve the well-being of each and every citizen in society so they can reach their full potential.

One of the issues is the high incidence of lifestyle-related diseases that compel the government to provide easy access to social services through establishing support facilities and efficient infrastructure to further promote health and well-being of the public.

Another is the need to ensure peace and order in the city. While the national government provides and extends its resources, the local government understands better the actual needs in terms of manpower and facilities. The responsibility then falls to the local government to ensure that the people are safe and secured.

Meanwhile, the housing needs of the city correspondingly grow with the population increase. Informal Settler Families (ISF) can be seen in urban areas occupying danger zones are at risk to flooding and landslide. These families should be relocated to safer areas to improve their living conditions. The development of relocation areas in the city has been an on-going endeavor of the city government in partnership with national government agencies, developers, and the private sector.

Although, there have been conversions of land use from agricultural zone to residential, the availability of land for socialized housing purposes in the central business district is still scarce. The recommendation for on-site relocation by way of tenement housing units to optimize the use of available space is a viable option for the city government to resort to so as to allow the people to remain close to their means and sources of livelihood.

The present housing backlog is addressed by the city government in coordination with agencies that extend socialized housing financing thru the forming of community associations among ISFs.



## INTEGRATED SOCIAL SECTOR ANALYSIS MATRIX

Priority Issues/Problems	Possible Intervention (Policies, Programs/ Projects)	Responsibility Center
<p><b>Partial Compliance of the Ecological Solid Waste Management Ordinance</b></p> <ul style="list-style-type: none"> <li>Partial Compliance of waste segregation at source.</li> <li>Sanitary Landfill is almost full.</li> <li>217,922.4 Tons of Solid Waste collected in 2018. Only 112 Barangays are served by CENRO in terms of garbage collection.</li> </ul>	<ul style="list-style-type: none"> <li>Identification of Waste Management Zones for:</li> <li>Junkshops &amp; other areas for Recyclers</li> <li>Establishment of Material Recovery Facilities in every Barangay.</li> <li>Creation of Residual Containment Areas to serve the other 70 Barangays.</li> <li>Establishment of Communal Composting Areas at the Barangay/Community level.</li> </ul>	<ul style="list-style-type: none"> <li>LGU - City Environment and Natural Resources Office (CENRO)</li> <li>LGU – Sangguniang Panlungsod (SP)</li> <li>LGU – Association of Barangay Captains</li> </ul>
<p><b>Partial Compliance of the Septage and Sewerage Management Ordinance</b></p> <ul style="list-style-type: none"> <li>According to DENR-EMB, Domestic wastewater is a major source of pollution.</li> <li>Total Coliform found at the Davao River was estimated at 4,900 to 1,887,000 most probable number (mpn) per 100ml vs. standard 1,000mpn per 100ml. (2014 Water Quality Assessment of DENR-EMB)</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of a Waste to Energy Facility.</li> <li>Installation of a City-owned Facility to handle special wastes from healthcare facilities.</li> <li>Establishment of 2 additional new Sanitary Landfill with the following: <ul style="list-style-type: none"> <li>Gas vent for capturing methane gas emitted from previous controlled dump facility.</li> </ul> </li> <li>Monitoring wells for the underground water monitoring during operation.</li> <li>Waste water treatment facility (WWTF) for the leachate during operation.</li> </ul>	<ul style="list-style-type: none"> <li>LGU - City Environment and Natural Resources Office (CENRO)</li> <li>LGU – City Engineers Office (CEO)</li> <li>Department of Environment and Natural Resources – Environmental Management Bureau (DENR- EMB)</li> </ul>
<p><b>Lack of Public Parks</b></p> <ul style="list-style-type: none"> <li>Lack of Public parks in the urban area</li> <li>Poor Facilities and Amenities in public parks</li> <li>Conversion of Subdivision’s parks into other land –use</li> <li>Absence of parks and playgrounds for children in some barangays</li> </ul>	<ul style="list-style-type: none"> <li>Increase spatial targets in CLUP guidelines (standard ratio)</li> <li>Establishment of tree parks/ recreational parks and playgrounds in every districts and increase the number of green pocket parks street islands</li> <li>Identify and develop public parks (soccer fields) in flood plains and near major rivers</li> <li>Flood prone areas/ natural runoff catchment to be develop as water parks</li> <li>Engage adopt-a-park programs, privately owned publicly-accessible open spaces (P.O.P.O.S.), PPP and establish connector park projects</li> <li>Strict implementation of parks code ordinance (Ordinance no. 0218-09</li> <li>Strict implementation for the subdivision parks in PD1216-E071</li> </ul>	<ul style="list-style-type: none"> <li>LGU - City Environment and Natural Resources Office (CENRO)</li> <li>LGU - Davao City Disaster Risk Reduction and Management Office (CDRRMO)</li> <li>LGU – City Planning and Development Office (CPDO)</li> </ul>
<p><b>Rapid conversions of Agri-land into housing subdivision</b></p>	<ul style="list-style-type: none"> <li>Save agricultural land</li> <li>Regulation/restriction of the conversion of agri-land to housing subdivision (idle &amp; non-productive can be converted socialized housing sites)</li> </ul>	<ul style="list-style-type: none"> <li>LGU - City Planning and Development Office – City Housing and Land Use Regulatory Unit (CPDO-CHLURU)</li> <li>Department of Ag-</li> </ul>

**INTEGRATED SOCIAL SECTOR ANALYSIS MATRIX, cont.**

Priority Issues/Problems	Possible Intervention (Policies, Programs/ Projects)	Responsibility Center
		<ul style="list-style-type: none"> <li>Department of Agrarian Reform (DAR)</li> </ul>
<b>High Incidence of Lifestyle Related Diseases.</b>	<ul style="list-style-type: none"> <li>Establishment of Community Wellness Centers in the Barangays with outdoor fitness parks.</li> <li>Develop more parks and greening of center islands to encourage walking.</li> <li>Revisit the Bicycle Lane Ordinance of Davao City.</li> </ul>	<ul style="list-style-type: none"> <li>LGU - City Environment and Natural Resources Office (CENRO)</li> <li>LGU – City Health Office (CHO)</li> <li>LGU – City Transport and Traffic Management (CTTMO)</li> <li>LGU – Association of Barangay Captains</li> </ul>
<b>School sites are not accessible to school-going population specifically in the rural areas</b>	<ul style="list-style-type: none"> <li>Establishment of Half-way homes/dormitory in GIDAs (Geographically Isolated and Disadvantaged Areas)</li> <li>Establishment of school annexes in far-flung barangays</li> </ul>	<ul style="list-style-type: none"> <li>Department of Education (DepEd)</li> </ul>
<b>Limited kindergarten classrooms</b>	<ul style="list-style-type: none"> <li>Construction of classrooms intended for kindergarten</li> </ul>	<ul style="list-style-type: none"> <li>Department of Education (DepEd)</li> </ul>
<b>Increasing Housing backlog</b> <ul style="list-style-type: none"> <li>Households in hazard areas. Informal settlers along coastal areas, river channel, slope areas (26 coastal barangays, 6 river channel)</li> <li>Flood prone areas/coastal high susceptible area (ISF)</li> </ul>	<ul style="list-style-type: none"> <li>Reclassify idle lands and non-productive agricultural lands to socialized housing</li> <li>Enforcement easement buffer zone</li> <li>Introduce tenement housing (allocate lands, especially in urban areas for tenement housing-widen the classification of R3-socialized housing), save easement as park</li> </ul>	<ul style="list-style-type: none"> <li>LGU - City Planning and Development Office – Housing and Home site Division (CPDO-HHD)</li> <li>City Planning and Development Office – City Housing and Land Use Regulatory Unit (CPDO-CHLURU)</li> <li>LGU – City Assessor’s Office</li> <li>National Housing Authority (NHA)</li> <li>LGU – Association of Barangay Captains</li> </ul>
<b>About 88.19% (254) elementary schools have no special education (SPED) program</b>	<ul style="list-style-type: none"> <li>Establishment of one SPED Center in a public school in every Barangay.</li> </ul>	<ul style="list-style-type: none"> <li>Department of Education (DepEd)</li> </ul>
<b>Prevalence of crime and proliferation of drugs</b> Increasing incidence of drug related cases"	<ul style="list-style-type: none"> <li>Treatment and Rehabilitation of Drug Dependents Surrenderees (Community based, Outpatient and Residential).</li> </ul>	<ul style="list-style-type: none"> <li>LGU - Rehabilitation Center</li> <li>Davao City Anti-Drug Abuse Council (CADAC)</li> <li>Davao City Police Office (DCPO)</li> </ul>
<b>Congestion of Public Cemeteries</b>	Redevelopment of existing public cemeteries that would include the following facilities: <ul style="list-style-type: none"> <li>Spacious Walkways</li> <li>Funeral Chapels</li> <li>Apartment Niches</li> <li>Crematorium</li> <li>Columbarium</li> </ul>	LGU – City Health Office (CHO) LGU – City Economic Enterprise

**INTEGRATED SOCIAL SECTOR ANALYSIS MATRIX, cont.**

Priority Issues/Problems	Possible Intervention (Policies, Programs/ Projects)	Responsibility Center
<b>Inadequate Number of Healthcare Facilities</b>	<ul style="list-style-type: none"> <li>Establishment of Health Stations in every Barangay.</li> <li>Establishment of Urban Health Centers in highly populated districts.</li> <li>Rehabilitation and Improvement of Barangay Health Stations.</li> <li>Establishment of a City Hospital to be located at the 3<sup>rd</sup> Congressional District</li> </ul>	<ul style="list-style-type: none"> <li>LGU – City Health Office (CHO)</li> <li>Department of Health</li> <li></li> </ul>
<p><b>Evident number of children at risk and children in conflict with the law</b></p> <p>- Congested reformatory center for children in conflict with the law (CICL): ideal capacity of Bahay Pag-asa is 60 clients, current number of client served – 115; for boys only</p> <p>- no center for girl CICL</p>	<ul style="list-style-type: none"> <li>Construction of community transformative center for children at risk in 3 congressional districts</li> <li>Expansion of Bahay Pag-asa and its facilities</li> <li>Construction of Bahay Pag-asa for girl children in conflict with the law; identification of area for its establishment</li> </ul>	<ul style="list-style-type: none"> <li>Juvenile Justice Welfare Council</li> <li>LGU - City Social Services and Development Office</li> <li>Department of Social Welfare and Development</li> </ul>
<p><b>Disadvantaged Persons with Disabilities</b></p> <ul style="list-style-type: none"> <li>Limited access of persons with disabilities/lack of information dissemination on Magna Carta for Persons with Disabilities</li> <li>Absence/unavailability of data on children with disabilities</li> </ul>	<ul style="list-style-type: none"> <li>Office of City Building Official must ensure that all establishments conform with the standards set forth by law (non-compliance of Batas Pambansa 344) / strong implementation of Magna Carta for the Persons with Disabilities</li> <li>Establish/construction of center for children with disabilities (based on national standards on accessibility)</li> </ul>	<ul style="list-style-type: none"> <li>LGU – City Engineers Office (CEO)</li> <li>LGU - City Social Services and Development Office</li> <li>LGU - Office of City Building Official</li> </ul>
<b>Absence of state university/city college in District II</b>	<ul style="list-style-type: none"> <li>Establishment of a City College in District II</li> </ul>	<ul style="list-style-type: none"> <li>Department of Education (DepEd)</li> <li>City Government of Davao</li> </ul>

# INFRASTRUCTURE SECTOR

## INFRASTRUCTURE SECTOR

### Overview

The need for network has always been a prerequisite of growth. Connectivity is inclusive of individual and community success stories, which manifests in the efficient delivery of basic services. Access through internal and external linkages assures the exchange of goods and services and perpetuates a well-oiled economy that enables the citizenry to avail of jobs and provide food sustenance. Needless to say, the infrastructure facilities/utilities serve as a pillar of an empowered citizenry. It is a very important factor that defines the communities' future capacity, development and growth.

In the next pages are the detailed analysis of the component sub-sectors namely: transportation, power, water, and information and communication technology. The analysis is undertaken using the steps provided by Housing and Land Use Regulatory Board (HLURB) in each sub-sector.

Hazard susceptibility of facilities is also assessed to guide decision-makers on ways forward. Results of the Climate Disaster Risk Assessment for lifeline utilities are also reflected in each sectoral analysis matrix to identify adaptation and mitigating measures.

The sub-sector analysis employed participatory process to come up with an integrated infrastructure sector analysis matrix. The integrated infrastructure sector analysis highlights the priorities of the city government for the whole planning period.

### Transportation sub-sector

#### Existing Situation

**Accessibility** – At present, Davao City has three (3) major ingress and egress points that link it to other cities and provinces, namely: (a) Davao-Bukidnon Road, the main highway connecting the northern Bukidnon-Cagayan de Oro area; (b) Daang Maharlika Road (Davao-Agusan Road) connecting the northeastern provinces of Davao del Norte and Compostela Valley (now Davao de Oro); and (c) Davao-Cotabato Road, connecting the southern General Santos City, Davao del Sur and Cotabato provinces.

Near these three approaches to the city are interconnecting and bypass roads that lead to the outskirts areas of the city without passing through the downtown area.

Many of the areas connected by these new roads were difficult to reach because of narrow and unpaved roads. Some of these new roads in the countryside have been the result of the outreach program Peace 911.

Along the Davao-Bukidnon road, across the Task Force Davao checkpoint in Barangay Lacson, is a side road that connects Paquibato District through Lamanan, Inayangan, Megkawayan and Barangay Malabog. From Barangay Malabog, it branches to two areas, one road

toward the more interior Barangay Gumitan and the other going toward Paquibato, Paradise Embak, Pañalom and Panabo City of Davao del Norte.

There is another road that takes a short cut route, some 1.73 kilometers before the TFD checkpoint. This road weaves through Gumalang and exiting in Malagos.

In Calinan, motorists may take another route towards downtown through Barangay Talomo River, then Pangyan and crossing through a bridge by the Davao River to Callawa. From here, this goes to Mandug and to Buhangin.

Buhangin is an important intersection along the CP Garcia Highway. This has three directions: 1) one goes down to downtown Davao; 2) one goes left toward the Ulas intersection and to Toril to the west exiting to Santa Cruz in Davao del Sur; and 3) and one goes right towards Panacan, Tibungco, Bunawan and Lasang. Or from Buhangin, one may go another way through Cabantian, Indangan, Acacia, Mahayag and exiting in Bunawan.

In the direction going towards downtown, the national highway from the southern approach in Toril connects to the MacArthur Highway, from Ulas Junction to Bangkal and Matina, and to the Bankerohan Bridge and the downtown area. The MacArthur Highway also connects the downtown area to the northern approach to the city, via the Mintal-Calinan highway which is part of the Davao-Bukidnon Road. The national highway in Toril also connects to the CP Garcia Highway, also called the Diversion Road, which will connect motorists directly to the northern part of the city towards Panacan bypassing the traffic-plagued downtown roads.

This northeastern approach to the city, through Lasang and Bunawan, is part of the Daang Maharlika Highway.

Since 2016, a number of bypass roads have been planned and constructed to become an alternate option to avoid traffic in the southern and northern areas of the city. Among the recently inaugurated and opened are the Ulas-Puan Bypass road part of the CP Garcia (Diversion) extension to connect it to Toril. Another is the Ma-a Slaughterhouse Bypass road, and Laverna Bypass road. The following are the other bypass road projects: Davao Riverside Boulevard (right bank); Davao Riverside Boulevard (left bank); Talomo-Calinan bypass; Buhangin-Bunawan bypass; Toril-Calinan bypass; Marapangi-Sirawan-Tibuloy bypass; Crossing Mahayag Road; Crossing Tibungco Road; Acacia-Ilang Road; Mudiang Road; Malagamot Road; Mintal-Dacudao Road; Matina Biao-Talandang-Calinan Road; Calinan Road; Calinan Missing Link; Calinan Crossing Road-1; Calinan Crossing Road-2; Tugbok Missing Link-1; Tugbok Missing Link-2; Tugbok Missing Link-3; Tugbok Crossing Road; Bankas Heights-Baliok Road; Baliok Road-1; Baliok Road-2; Baliok Road-3; Toril Road 1; Toril Road 2.

Road widening projects are also ongoing to address traffic issues.

## Traffic Volume

According to the 2015 preparatory survey for bypass road of DPWH, Bankerohan Bridge along Mc. Arthur Highway had the highest volume of vehicles with 3,328 vehicles per hour; Bolton Bridge followed with 2,916 vehicles per hour; McArthur Highway (East of Catalunan

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<sup>1</sup> Based on *Infrastructure Modernization 4 Davao (IM4 Davao) Study, 2018*

Grande Road) was the third highest with 2,389 vehicles per hour; C.P Garcia Highway (East of Catalunan Grande Road) was the fourth highest with 1,830 vehicles per hour and Dacudao Avenue Buhangin Road (between C.P. Garcia and J.P. Laurel) was the fifth highest with 1,770 vehicles per hour. It was quite notable that volume of tricycles/motorcycles composed about 35-50% of the entire traffic volume. Furthermore, volume of trucks at the Sasa Port reached an average of 1,414 vehicles/16 hours.

Based on Infrastructure Modernization for Davao (IM4 Davao) Study in 2018, an increase of volume of vehicles passing by the C.P Garcia Highway was noted. This is problematic because C.P Garcia Highway is identified as an alternate thoroughfare that allows transport along Davao-Bukidnon and Davao-Cotabato roads leading to Davao del Norte without passing through the Central Business District of the city. As a result of this increased volume, Panabo City border now registers a large traffic volume. Meanwhile, aside from C.P Garcia Highway, Ulas Junction, where Bukidnon Road and Cotabato Road are intersecting, is also identified as the most congested highway section. The municipality of Sta.Cruz, considered as the city's southern border, also holds large traffic volume. These major bottleneck areas hampering access were being addressed through the creation of bypass roads to give options to motorists to avoid the busy CBD.

**Transportation System** – <sup>1</sup>Davao City has an increasing number of vehicles, which is a trend similar to the other cities in the Philippines. The number of vehicles in the city has increased 1.6 times from 2012 to 2016. The actual numbers are definitely higher as observed during traffic surveys wherein vehicles registered from nearby provinces and even as far as Metro Manila are regularly plying the streets of the city. This is due to economic growth and absence of mass transport system. The mode of public transport system in Davao City consists of utility vehicles that include bus, jeepney, Filcab, van, taxi, tricycle and ferry. Based on the LTRFB 2018 data, there is a total of 14,111 vehicles with franchises plying different routes to, from and within the city. On the same year, the City Government of Davao adapted the High Priority Bus System (HPBS) as the next main public transport system in the city.

The HPBS is a product of three technical studies supported by Asian Development Bank (ADB) and the Department of Transportation (DoTr) since 2011. As an offshoot, the Davao Integrated Bus System (DIBS) has been rationalized. In August 2019, the city began testing the buses initially as augmentation during the rush hours. The City Government identified six (6) specific routes for the DIBS. Of the six (6), two (2) routes are the Catalunan Grande going to downtown Davao City, and Toril to Poblacion are prioritized because of the low number of public utility vehicles servicing the area.

With the Covid-19 pandemic, the timetable has been reconfigured, with implementation phase on 2021-2023 period. This includes the identification and construction of the depot for the designated HPBS buses, signalization program to allow the smooth and unhampered flow of the buses, and the construction of bus stops. At present, a third route is being served, the CP Garcia Highway from Ulas Junction to Junction Panacan.

The city is also firming up plan to construct three bus terminals for interprovincial routes: one in Bunawan to cater to the northeastern Mindanao route going to Butuan City and the

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<sup>1</sup> Based on Infrastructure Modernization 4 Davao (IM4 Davao) Study, 2018



Caraga Region in the northeast or Mati City and Davao Oriental in the eastern coast; another terminal in Toril to cater to the southern and western routes going to Cotabato City and General Santos City, and the Cotabato provinces; and one in Calinan, to cater to the northern areas of Cagayan de Oro and the provinces of Bukidnon, Misamis Oriental and Lanao del Norte.

Sectoral consultations conducted also identified issues linked to traffic gridlock and inefficient transport system. These include illegal parking in the national and city roads, wrong usage of pedestrian sidewalks, indiscriminate loading and unloading by PUJs and even private vehicles.

**Inventory of roads** - The total road network in Davao City spans 3614.48 kilometers (kms.) National roads have a road right of way width of 20 to 30 meters, while city/barangay roads have a right of way of between 10 to 15 meters.

**Table IF-2a Summary of Road Length and Road Right of Way (by kms.),  
2018, Davao City**

Location	Classification	Right of Way (RoW) (meters)	Total Length (km)
<b>District I</b>			
Poblacion District	National	20 to 30	16.50
	City/ Barangay	10 to 15	161.88
Talomo District	National	20 to 30	42.90
	City/ Barangay	10 to 15	768.19
<b>District II</b>			
Agdao District	National	20 to 30	12.67
	City/ Barangay	10 to 15	66.88
Buhangin District	National	20 to 30	19.85
	City/ Barangay	10 to 15	628.86
Bunawan District	National	20 to 30	20.99
	City/ Barangay	10 to 15	234.03
Paquibato District	National	20 to 30	24.97
	City/ Barangay	10 to 15	267.09
<b>District III</b>			
Baguio District	National	20 to 30	22.15
	City/ Barangay	10 to 15	54.78
Calinan District	National	20 to 30	11.23
	City/ Barangay	10 to 15	221.93
Marilog District	National	20 to 30	52.62
	City/ Barangay	10 to 15	254.94
Toril District	National	20 to 30	39.92
	City/ Barangay	10 to 15	303.91
Tugbok District	National	20 to 30	13.98
	City/ Barangay	10 to 15	374.21
<b>Total</b>			<b>3614.48</b>

Source: Department of Public Works and Highways, City Engineer's Office, and OCPDC

**Table of IF-2 Inventory of Roads by System Classification and Type of Surface,  
2018 Davao City**

Classification	Road Surface Type						
	Total Length (km)	Concrete		Asphalt		Gravel	
		L (km)	%	L (km)	%	L (km)	%
National	271.90	142.88	52.5%	127.89	47%	1.13	0.41%
City	1294.78	718.54	55%	155.30	12%	420.95	33%
Barangay	2,041.91	132.17	6%	57.18434589	3%	1,852.56	91%
	<b>3614.48123</b>	<b>979.775865</b>		<b>361.2018441</b>		<b>2273.5083</b>	

Source: CEO and DPWH XI, Davao City

National roads have a total length of 277.79 kms., made up of 46% concrete and 54% asphalt. City roads have a total length of 1294.78 kms., 55% of which are concrete, 12% asphalt and the remaining 33% is still unpaved. Barangay roads have the longest road length at 2,041.91 kilometers, but mainly unpaved at 91%.

### Hazard Susceptibility

The hazard susceptibility map indicates that a total of 405.18 kms. of roads are susceptible to flooding across all districts. A total of 4.84 kms. of roads in Talomo District, Paquibato District, Baguio District, Calinan District, Toril District, and Tugbok District are also found to be susceptible to earthquake. Moreover, a total of 535.71 kms. of road in C.P Garcia Highway is also identified to be highly susceptible to landslide. The major areas highly susceptible to landslide are Paquibato District with 192.05 kms. and Marilog District with 140.44 kms..

For storm surge, the hazard susceptibility, classification are: 2-meter wave, 3-meter wave, 4-meter wave, and 5-meter wave. A total of 59.50 kms. of roads are found to be susceptible to 2-meter wave, 93.19 kms. are susceptible to 3-meter wave, 118.55 kms. are susceptible to 4-meter wave, and 269.13 kms. are susceptible to 5-meter wave. For liquefaction, a total of 562 kms. of roads are highly susceptible to liquefaction. Talomo District has the highest road length highly susceptible to liquefaction with 276.64 kms.

To improve road conditions in the face of these susceptibility to both flood and storm surge, mitigation measures have been done, through the improvement of drainage canal systems in the población, or downtown area, and to the national highways. Construction of floodway projects are also undertaken in identified floodway areas.

Table IF-2b Inventory of Roads Susceptibility (by kms.), 2018, Davao City

District	Flood			EARTH- QUAKE	LANDSLIDE			Storm Surge				LIQUEFACTION		
	HIGH	MODE -RATE	LOW		HIGH	MOD- ERATE	LOW	2m	3m	4m	5m	High	Mod- erate	Low
<b>District I</b>														
Poblacion	40.43	0.41	143.32	-	0.52	-	179.31	7.81	13.73	20.05	58.48	96.60	23.01	
Talomo	120.06	145.66	383.46	0.59	58.97	25.57	738.23	30.34	50.00	51.65	98.26	276.64	101.01	67.83
<b>Sub-Total</b>	<b>160.48</b>	<b>146.07</b>	<b>526.78</b>	<b>0.59</b>	<b>59.49</b>	<b>25.57</b>	<b>917.54</b>	<b>38.15</b>	<b>63.73</b>	<b>71.69</b>	<b>156.74</b>	<b>373.24</b>	<b>124.03</b>	<b>67.83</b>
<b>District II</b>														
Agdao	7.39	27.57					76.50	1.55	5.16	7.47	51.91	60.60	9.29	
Buhangin	51.36	21.60	30.68		32.98	83.18	558.03	4.76	5.08	6.21	16.77	41.19	51.14	23.89
Bunawan	14.26	6.77	16.63		13.54	37.85	204.26	7.40	10.02	21.70	25.11	38.36	41.91	21.33
Paquibato	4.12	1.45		0.68	192.05	113.73	25.83							
<b>Sub-Total</b>	<b>77.13</b>	<b>57.39</b>	<b>47.31</b>	<b>0.68</b>	<b>238.57</b>	<b>234.76</b>	<b>864.61</b>	<b>13.70</b>	<b>20.26</b>	<b>35.37</b>	<b>93.79</b>	<b>140.14</b>	<b>102.34</b>	<b>45.22</b>
<b>District III</b>														
Baguio	5.03	6.82	4.12	0.07	11.09	7.96	68.92							0.98
Calinan	47.54	64.71	33.72	1.27	52.41	41.05	190.97							46.37
Marilog	11.62	3.42		0.03	140.44	159.74	30.04							
Toril	22.12	23.89	119.27	0.60	20.81	99.90	290.35	7.64	9.21	11.48	18.61	49.12	26.13	23.27
Tugbok	81.25	112.51	58.09	1.59	12.90	14.99	370.49					0.39	3.85	28.34
<b>Sub-Total</b>	<b>167.56</b>	<b>211.35</b>	<b>215.20</b>	<b>3.57</b>	<b>237.64</b>	<b>323.64</b>	<b>950.79</b>	<b>7.64</b>	<b>9.21</b>	<b>11.48</b>	<b>18.61</b>	<b>49.50</b>	<b>29.97</b>	<b>98.96</b>
<b>Grand Total</b>	<b>405.18</b>	<b>414.81</b>	<b>789.29</b>	<b>4.84</b>	<b>535.71</b>	<b>583.96</b>	<b>2,732.94</b>	<b>59.50</b>	<b>93.19</b>	<b>118.55</b>	<b>269.13</b>	<b>562.88</b>	<b>256.34</b>	<b>212.00</b>

Source: Office of the City Planning and Development Officer, Davao City

## Inventory of Bridges

Davao City has a total of 168 bridges, 24% of which are national bridges, while the remaining 76% are city bridges. A total of 68 bridges are reinforced concrete deck girder (RCDG), 39 bailey bridges, 28 made of box culverts, three (3) footbridges, three (3) hanging bridges, and eight (8) overflow bridges. These bridges are the primary means of land connectivity in the city from the eight (8) major river systems, with the Davao River as the biggest separator having widths ranging from 68 meters to 156 meters.

As to hazard susceptibility, a total of 101 bridges are highly susceptible to flood, seven (7) bridges are susceptible to earthquake, and 19 bridges are highly susceptible to landslide. A total of four (4) bridges are susceptible to storm surge with 2-meter wave, a total of five (5) bridges are susceptible to storm surge with 3-meter wave, only one (1) bridge is susceptible to storm surge with 4-meter wave, and a total of three (3) bridges are susceptible to storm surge with 5-meter wave. A total of 10 bridges are highly susceptible to liquefaction. (Please refer to Table IF-3.)

**Table IF-3. Inventory of Bridges by Location, Type, Capacity and Condition, 2018**

Bridge	Barangay	Year Constructed	Type	Load Capacity (Tons)	Physical Condition	Hazard Susceptibility (H/M/L)				
						Fl	Eq	Ln	Su	LQ
<b>DISTRICT I</b>										
<b>Poblacion District</b>										
Generoso Br. 1	5-A	-	RCDG	15	Fair	H	-	L		
Generoso Br. 2	5-A	-	RCDG	15	Fair	H	-	L		
<b>Talomo District</b>										
Bago Br.	BAGO APLAYA	1973	RCDG		Fair	H		L	3 m	H
Bago Gallera Bridge	BAGO GALLERA	-	Bailey	5	Fair	M		L		
Baliok Bridge	BALIOK	-	RCDG	15	Fair	L		L		
BC-Santiago Villas	CATALUNAN GRANDE	-	Box Culvert		Fair			L		
Bolton Bridge 1	BUCANA	1976	RCDG	15	Fair	H		L		
Bolton Bridge 2	BUCANA	2000	RCDG	15	Fair	H		L		
Inigo Bridge	MATINA PANGI	-	Bailey		Fair	H		L		M
Libby BC	BAGO GALLERA	-	Box Culvert		Fair	L		L		
Libby Br.	BAGO GALLERA	2006	RCDG	15	Fair	M		L		
Nalum Br.	BAGO GALLERA	2006	RCDG	15	Fair	L		L		
Lopez Bailey Bridge	MATINA CROSSING	-	Bailey	5	Fair	H		L	5 m	H
Ma-a Jail Bridge	MA-A	-	Bailey	5	Fair	H		L		L
Davao River Br.	MA-A	1970	RCDG	15	Fair	H		L		
Matina Aplaya Bridge	MATINA APLAYA	-	Bailey	7.8	Fair	H		L		H
Matina Br.	MATINA CROSSING	1978	RCDG	15	Fair					
Matina Bridge	MATINA CROSSING	-	RCDG	15	Fair	H		L		H
Matina Bridge Footbridge	MATINA PANGI	-	Hanging Bridge	5	Fair	H		L		M

Source: DPWH XI, City Engineer's Office

Legend: Fl- Flood; Eq-Earthquake; Ln-Landslide; Su-Storm Surge; Lq-Liquefaction  
H-High, M-Moderate, L-Low, 1m- 1 meter, 2m- 2 meter, 3m- 3 meter, 4m- 4 meter

**Table IF-3. Inventory of Bridges by Location, Type, Capacity and Condition, 2018, cont.**

Bridge	Barangay	Year Constructed	Type	Load Capacity (Tons)	Physical Condition	Hazard Susceptibility (H/M/L)				
						Fl	Eq	Ln	Su	LQ
Pangi Br.	MATINA CROSSING	1978	RCDG	15	Fair					
Matina Pangi Bridge I	MATINA CROSSING	-	Bailey		Fair	H		L		M
Matina Pangi Bridge II	MATINA PANGI	-	Bailey		Fair	H		L		
Matina Pangi Bridge III	MATINA PANGI	-	RCDG	15	Fair	H		L		
Matina Pangi Hanging Bridge	MATINA PANGI	-	Hanging Bridge	5	Fair	H		L		M
Matina Pangi Overflow	MATINA PANGI	-	Overflow		Fair	H		L		M
Matina River Overflow	MATINA PANGI	-	Overflow		Fair	H		H		
Saavedra Bridge	CATALUNAN GRANDE	-	Bailey	5	Fair	H		L		
San Rafael Bridge	MA-A	-	RCDG	15	Fair	H		L		
Talomo BC	BAGO APLAYA	-	Box Culvert		Fair	M		L	4 m	H
Talomom Br. 1	TALOMO	1968	RCDG	15	Fair					
Talomom Br. 2	TALOMO	2001	RCDG	15	Fair					
Talomo Br. 1	TALOMO	-	RCDG	15	Fair	H		L	3 m	
Talomo Br. 2	TALOMO	-	RCDG	15	Fair	H		L	3 m	
Ulas Bridge 3	TALOMO	-	RCDG	15	Fair	H		L	5 m	
<b>Talomo District</b>										
Agdao Flyover	AGDAO PROPER	-	RCDG		Fair	M		L	2 m	H
Buhangin Flyover	PACIANO BANGGOY	1996	RCDG		Fair	L		L		
<b>DISTRICT II</b>										
<b>Buhangin District</b>										
Callawa Bridge	CALLAWA	-	RCDG	15	Fair	H		L		
Communal Bridge	CABANTIAN	-	Bailey	5	Fair			L		
Mamay Box Culvert	A. ANGLI-ONGTO	-	Box Culvert		Fair	H		L		
Sasa Br.	SASA	1971	RCDG	15	Fair					
Waan Bridge	WAAN	-	RCDG	15	Fair	H		L		
<b>Bunawan District</b>										
Bunawan Br. 1	BUNAWAN	2012	RCDG	15	Fair	H		L	2 m	H
Bunawan Br. 2	BUNAWAN	2012	RCDG	15	Fair	H		L	2 m	H
Gatangan Bridge	GATUNGAN	-			Fair			M		
Ilang Br.	ILANG	1976	RCDG	15	Fair			L	3 m	M

Source: DPWH XI, City Engineer's Office

**Table IF-3. Inventory of Bridges by Location, Type, Capacity and Condition, 2018, cont.**

Bridge	Barangay	Year Constructed	Type	Load Capacity (Tons)	Physical Condition	Hazard Susceptibility (H/M/L)				
						Fl	Eq	Ln	Su	LQ
Ilang Bridge	ILANG	-	RCDG	15	Fair			L	3m	M
Katipunan Bridge	SAN ISIDRO	-	Bailey		Fair			L		M
Lasang Bridge	LASANG	-	RCDG	15	Fair	H		L		
Lasang-San Isidro Bridge	SAN ISIDRO	-			Fair	H		L		H
Licanan Bridge	SAN ISIDRO	-	Bailey	5	Fair	H		L		M
Madua Bridge	LASANG	-	Bailey	5	Fair			L		M
Mudiang Bridge	MUDIANG	-	Bailey	5	Fair			H		
Panacan Br.	PANACAN	1976	RCDG	15	Fair					
Panacan Br.	PANACAN	-	RCDG	15	Fair	H		L	2m	H
Panacan Bridge I	PANACAN	-	Bailey	30	Fair	H		L		
Panacan Bridge II	PANACAN	-	Bailey	30	Fair	H		L		L
Panacan Valley Bridge	PANACAN	-	Bailey	25	Fair			M		
Sta. Cruz Bridge	GATUNGAN	-			Fair	H		M		
Upper Ilang Bridge	ILANG	-	Bailey	5	Fair			L		L
<b>Paquibato District</b>					Fair					
Crossing Malabog Br.	MALABOG	-	RCDG	15	Fair			M		
Crossing Malabog Bridge	MALABOG	-	RCDG	15	Fair			M		
Fatima Bridge	FATIMA	-	RCDG	15	Fair			M		
KULBA BRIDGE	FATIMA	-			Fair	H		L		
Lumiad-Pañalum Bridge No.1	PAQUIBATO	-	Bailey		Fair			L		
Lumiad-Pañalum Bridge No.2	PAQUIBATO	-	Bailey		Fair			L		
Malabog-Megkawayan Bridge No.2	MALABOG	-	Bailey	5	Fair			M		
Malabog-Paquibato Bridge No.1	PAQUIBATO	-	Bailey	5	Fair			H		
Malabog-Paquibato Bridge No.2	MALABOG	-	Bailey	5	Fair			M		
Pañalum Br.	PAÑALUM	2006	Steel		Fair					
Pañalum Bridge	PAÑALUM	-	Bailey		Fair			L		
Paquibato Proper Bridge	PAQUIBATO	-	Bailey		Fair			L		
Tibungol Bridge	PANDAITAN	-	Bailey	5	Fair			H		

Source: DPWH XI, City Engineer's Office

Legend: Fl– Flood; Eq–Earthquake; Ln–Landslide; Su–Storm Surge; Lq–Liquefaction

H–High, M–Moderate, L–Low, 1m– 1 meter, 2m– 2 meter, 3m– 3 meter, 4m– 4 meter

**Table IF-3. Inventory of Bridges by Location, Type, Capacity and Condition, 2018, cont.**

Bridge	Barangay	Year Constructed	Type	Load Capacity (Tons)	Physical Condition	Hazard Susceptibility (H/M/L)				
						Fl	Eq	Ln	Su	LQ
<b>DISTRICT III</b>					Fair					
<b>Baguio District</b>					Fair					
BC-Ong Village	GUMALANG	-	Box Culvert		Fair	H		L		
BC-Gumalang	GUMALANG	-	Box Culvert		Fair	H	☒	L		
BC-1	MALAGOS	-	Box Culvert		Fair	H		L		
Makatuno Foot-bridge	GUMALANG	-	Foot-bridge		Fair	H		L		
Tambobong Overflow Bridge	TAMBOBONG	-	Overflow		Fair	H		H		
Wines Bridge	WINES	-	RCDG	30	Fair	H		L		
<b>Calinan District</b>					Fair					
BC-Cawayan	CAWAYAN	-	Box Culvert		Fair	H		L		
BC-Cogon	SUBASTA	-	Box Culvert		Fair	M		L		
Brgy. Riverside Bridge I	RIVERSIDE	-	Bailey	5	Fair	H		L		L
Calinan-Riverside Bridge II	CALINAN	-	RCDG	5	Fair	H		L		L
Callawa Hanging Bridge	LAMPIANAO	-	Hanging Bridge	5	Fair	H		L		
Dacudao Bridge	DACUDAO	-	RCDG	15	Fair	H		L		
Dalagdag Bridge	DALAGDAG	-	RCDG	15	Fair	H		L		
Dalagdag Foot-bridge	DALAGDAG	-	Hanging Bridge	5	Fair	H		L		
Dominga Bridge	DOMINGA	-			Fair	H		L		
Lacson Bridge	LACSON	-	RCDG	15	Fair	H		L		
Lamanan Bridge	LAMANAN	-	Bailey	25	Fair	H		M		
Lampianao Bridge	LAMPIANAO	-	RCDG	15	Fair	H		L		
Riverside Foot-bridge	RIVERSIDE	-	Foot-bridge		Fair	H		L		L
Saloy Bridge	SALOY	-	Culvert		Fair	H		L		
Subasta Bridge	SUBASTA	-	Bailey	5	Fair	M		L		
Sumimao Bridge	MEGKAWAYAN	-	Overflow		Fair	H		H		
Tagakpan Bridge	SUBASTA	-	Bailey	5	Fair	H		L		
Tamayong Overflow I	TAMAYONG	-	Overflow		Fair			L		
Tamayong Overflow II	TAMAYONG	-			Fair			L		
Vinzon Bridge	SIRIB	-	Bailey	30	Fair	H		L		
Wangan Bridge	CALINAN	-	RCDG	15	Fair	H		L		L
Wangan-Calinan Bridge	CALINAN	-	RCDG	30	Fair	H		L		L

Source: DPWH XI, City Engineer's Office



**Table IF-3. Inventory of Bridges by Location, Type, Capacity and Condition, 2018, cont.**

Bridge	Barangay	Year Constructed	Type	Load Capacity (Tons)	Physical Condition	Hazard Susceptibility (H/M/L)				
						Fl	Eq	Ln	Su	LQ
<b>Marilog District</b>		-			Fair					
Bantol Foot-bridge	BANTOL	-	Foot-bridge		Fair			L		
Simod Br. I	BUDA	-	RCDG	15	Fair					
Simod Br. II	BUDA	-	RCDG	15	Fair					
Magsaysay Bridge	MAGSAYSAY	-	Overflow		Fair			H		
Malapangi Bridge	MARILOG	-	RCDG	15	Fair			H		
Malapangi Bridge II	SALAYSAY	-	RCDG	15	Fair	H		H		
Marahan Bridge	MARILOG	-	Bailey		Fair			H		
Masawang Bridge	SALAYSAY	-	Bailey		Fair			M		
New Sabang Footbridge	TAMUGAN	-	Hanging Bridge	5	Fair	H		L		
Pagan-Grande	TAMUGAN	-	RCDG	15	Fair	H		L		
Pagan-Pequeño	SUAWAN	-	RCDG	20	Fair	H		L		
Purok 5 Bridge	BUDA	-	Overflow		Fair					
Suawan Br.	SUAWAN	-	RCDG	15	Fair	H		L		
Suawan Bridge III	SUAWAN	-	RCDG	15	Fair			L		
Tamugan Br.	TAMUGAN	-	RCDG	15	Fair	H		L		
<b>Toril District</b>		-			Fair					
Atan-awe BC	ATAN-AWE	-	Box Cul-vert		Fair			M		
Baracatan Br.	SIBULAN	-						H		
Baracatan BC I	BARACATAN	-	Box Cul-vert		Fair			M		
Baracatan BC II	BARACATAN	-	Box Cul-vert		Fair	H		M		
Baracatan BC III	ATAN-AWE	-	Box Cul-vert		Fair			M		
Baracatan-Sibulan Bridge	SIBULAN	-	Bailey	5	Fair			M		
Bato-Toril Overflow	BATO	-	Overflow		Fair	H		L		
Binugao BC I	BINUGAO	-	Box Cul-vert		Fair	H	☒	L		M
Binugao BC II	BINUGAO	-	Box Cul-vert		Fair	H	☒	L	5m	M
Binugao BC III	BINUGAO	-	Box Cul-vert		Fair			L		M
Binugao BC IV	BINUGAO	-	Box Cul-vert		Fair		☒	L		M
Binugao Bridge	BINUGAO	-	RCDG	15	Fair	H		L		L
Eden BC	EDEN	-	Box Cul-vert		Fair	H		M		
Eden BC II	EDEN	-	Box Cul-vert		Fair			L		
Tagurano Br.	EDEN	-	RCDG	15	Fair	H		H		
Bato Br.	MARAPANGI	-	RCDG	15	Fair	H		L		
Marapangi Bridge I	MARAPANGI	-	RCDG	30	Fair	L		L		L

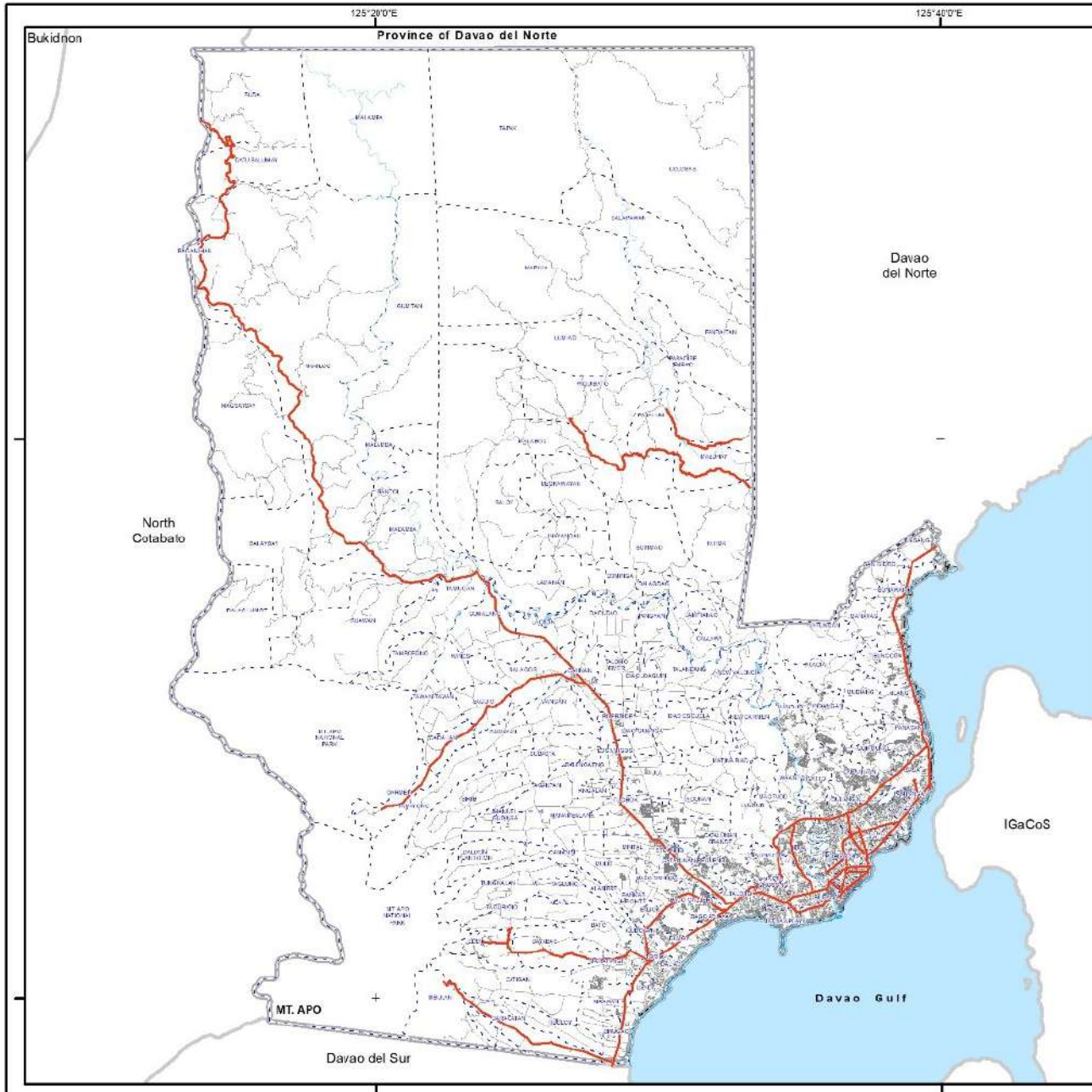
Source: DPWH XI, City Engineer's Office

**Table IF-3. Inventory of Bridges by Location, Type, Capacity and Condition, 2018, cont.**

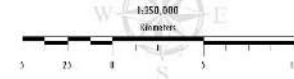
Bridge	Barangay	Year Constructed	Type	Load Capacity (Tons)	Physical Condition	Hazard Susceptibility (H/M/L)				
						Fl	Eq	Ln	Su	LQ
Marapangi BC	MARAPANGI	-	Box Culvert		Fair	H		L		
Piedad Br.	CROSSING BAY-ABAS	-	RCDG	15	Fair	M		L		L
Lipadas Br. I	SIRAWAN	-	RCDG	15	Fair	M		L		M
Lipadas Br. II	SIRAWAN	-	RCDG	15	Fair	M		L		M
Tagluno Bridge	TAGLUNO	-	Bailey	5	Fair	H		H		
Tagurano BC	TAGURANO	-	Box Culvert		Fair	H		H		
Tagurano BC II	TAGURANO	-	Box Culvert		Fair			H		
Tungkalan Bridge	CAMANSI	-	Bailey	5	Fair			H		
<b>Tugbok District</b>					Fair					
Angalan Br. I	LOS AMIGOS	-	RCDG	15	Fair	H		L		L
Angalan Br. II	TUGBOK	-	RCDG	15	Fair	H		L		L
Angalan Br. III	TUGBOK	-	RCDG	15	Fair	H		L		L
Angalan Br. IV	LOS AMIGOS	-	RCDG	15	Fair	H		L		L
Angalan Br. V	TUGBOK	-	RCDG	15	Fair	H		L		L
Angalan Br. VI	TUGBOK	-	RCDG	15	Fair	H		L		L
Balengaeng Bridge	BALENGAENG	-	RCDG	15	Fair	H		L		
BC-Balengaeng crossing	LOS AMIGOS	-	Box Culvert		Fair	H		L		L
BC-Mintal	MINTAL	-	Box Culvert		Fair	H		L		
BC-Talandang	TALANDANG	-	Box Culvert		Fair			L		
BC-Pangyan	TALANDANG	-	Box Culvert		Fair	H		H		
BC on-going	NEW VALENCIA	-	Box Culvert		Fair	H		H		
Catalunan Grande Bridge	TACUNAN	-	Bailey	5	Fair	H		L		
Los Amigos Bridge	LOS AMIGOS	-	RCDG	30	Fair	H		L		L
Manambulan Bridge	MANAMBULAN	-	Bailey	5	Fair	H		L		
Matina Biao Bridge I	MATINA BIAO	-	RCDG	15	Fair	H		L		
Matina Biao Bridge II	MATINA BIAO	-			Fair	H		L		
Mintal-Tacunan Bridge I	MINTAL	-	RCDG	15	Fair	H	☒	L		
Mintal-Tacunan Bridge II	MINTAL	-	RCDG	15	Fair	H	☒	L		
Pangyan Bridge	TALANDANG	-	Bailey	5	Fair			H		
Small Tacunan Bridge	ULA	-	Culvert		Fair	H	☒	L		
Tacunan Overflow Bridge	TUGBOK	On-going	RCDG	15	Fair	H		L		
Tugbok Quarry Bridge	TUGBOK	2010	RCDG	15	Fair	H		L		
Tugbok-Tacunan Bridge	ULA	-	Hanging Bridge	5	Fair	H		L		L
Twin River Manuel Guinga	MANUEL GUI-ANGA	-	Bailey	5	Fair	H		L		

Source: DPWH XI, City Engineer's Office

# Road Network Map



**CITY OF DAVAO**  
DAVAO REGION



## ROAD NETWORK MAP

### LEGEND

- City/Barangay Road
- National Road
- Shreline
- River System
- Barangay Boundary
- Davao City Boundary

### RESERVATION:

To avoid any conflict in the interpretation of this map and/or protect the same from any technical alteration, this map is considered unofficial, hence all information contained herein shall all be subject to verification from the OCPDC.

### SOURCE:

City Engineer's Office (CEO)  
Department of Public Works and Highways (DPWH)

### PREPARED BY:



OFFICE OF THE CITY PLANNING AND  
DEVELOPMENT COORDINATOR  
with the technical assistance of the  
DEPARTMENT OF HUMAN SETTLEMENTS  
AND URBAN DEVELOPMENT Region XI

## Drainage

Davao City's rapid urbanization brought increased commercial and trade activities, which likewise brought the problem of clogged drainage system and flooding to some areas within the city's central district. C.P Garcia Highway- La Verna Subdivision portion is among the identified areas perpetually flooded during heavy downpour due to drainage problem leaving the vehicles stranded during heavy rains. This is being addressed with an ongoing drainage project, from La Verna to the airport junction. This is part of the drainage system along the Sasa Creek. Also identified as flood prone road portion is the NCCC Mall Victoria Plaza, J.P Laurel Avenue. All in all, a total of 75 road portions in the central business districts of the city are identified by the DPWH as flood-prone areas.

Some of the identified issues on drainage of the city are the lack of updating of the 1998 Drainage Master Plan, no-regular monitoring of drainage as monitoring are done upon flood complaint, lack catchment facilities for run-off water, and lack of sewerage system of the city .

One identified issue on drainage is that some private land owners are altering use of waterways, which hampers natural flow of water and could cause flooding in the immediate environment.

The table below shows the flood prone areas, existing drainage lines on-site and the recommendations for improvement. (insert discussion on natural waterways) discuss further

- Some private land owners are altering use of waterways, which hampers natural flow of water and could cause flooding in the immediate environment

**Flood Prone Areas, Existing Drainage Lines, 2018**

Areas	Existing Drainage Line On- Site	Recommendation
Davao City Diversion Road (Laverna Section) K1501+870	36" diameter RCCP	Project: FY 2019 Construction of Pumping Station, Box Culvert Cross Drain, Retarding Basin
Davao City Diversion Road (Jct. Spring Valley) K1505+110	36" diameter RCCP	Project: FY 2019 Construction of Main Drain to Lad- islawa to Outfall
Davao City Diversion Road (Along South Villa Country Subd.) K1507+790	36" diameter RCCP	
Maa Road (Jct. Fatima School) K1511+010	36" diameter RCCP	
Maa Road (along Forest Lake) K1511+500	36" diameter RCCP	
Maa Road (Jct. to UM Campus) K1512+450	48" diameter RCCP	
Davao City Diversion Road (Hill Crest Subd.) K1514+450	36" diameter RCCP	

Source: Department of Public Works and Highways, Region XI

### Flood Prone Areas, Existing Drainage Lines, 2018, Cont.

Areas	Existing Drainage Line On- Site	Recommendation
Daang Maharlika (Bunawan section) K1487+250	24" diameter RCCP	Replacement of RCCP from 24" diameter to 36" diameter -Cannot Propose project due to No established outfall, Natural waterway is condemned by lot owner
Daang Maharlika (Calderon Section) K1489+300		
Daang Maharlika (Tibungco Section) K1492+600	36" diameter RCCP	
Daang Maharlika (Tibungco Section) K1493+100	36" diameter RCCP	
Daang Maharlika (Tibungco Section) K1493+400	48" diameter RCCP	
Daang Maharlika (Jct. Malagamot Section) K1496+400	48" diameter RCCP	
Daang Maharlika (Jct. Diversion Road) K1497+600	36" diameter RCCP	Install Pumping Station
Daang Maharlika (Jct. Panacan Avenue) K1498+300		Project: FY 2019 -Improvement of Existing Drainage
R. Magsaysay Avenue (Jct. D. Suazo St.) K1510+300	36" diameter RCCP	Project: FY 2020 -Improvement of Existing Drainage
Quimpo Boulevard Div. Road (Along Indonesian Embassy) K1512+600	36" diameter RCCP	Improvement of Existing Drainage On-going Drainage Project by DPWH RO XI, Problems encountered: Negotiation with informal settlers along Existing Creek
Quimpo Boulevard Div. Road (Along Pag-ibig Fund) K1513+000	36" diameter RCCP	
Quimpo Boulevard Div. Road (Along Citi Hardware) K1514+600	36" diameter RCCP	Project: FY 2019 -Construction of Maindrain Outfall
Daang Maharlika Road (Along Central Bank) K1510+(-550)	36" diameter RCCP	
Daang Maharlika Road (Along Jct. F. Torres St.) K1508+(-500)	36" diameter RCCP	
Daang Maharlika Road (Along Jacinto Ext.) K1510+(-600)	36" diameter RCCP	
Quimpo Boulevard Div. Road (Along Tulip Drive) K1513+550	36" diameter RCCP	
Davao Cotabato Road (Jct. Sandawa) K1512+600	36" diameter RCCP	
Davao Cotabato Road (along Tulip Drive) K1513+700	36" diameter RCCP	

Source: Department of Public Works and Highways, Region XI

### Flood Prone Areas, Existing Drainage Lines, 2018, Cont.

Areas	Existing Drainage Line On- Site	Recommendation
Davao Cotabato Road (along Davao Memorial Park) K1513+200	36" diameter RCCP	
Davao Cotabato Road (along Mabini Elementary School) K1517+020	Covered Canal	Existing Cross Drain 1.20m dia. RCCP
Davao Cotabato Road (Jct. Talomo Road) K1519+450	36" diameter RCCP	Existing Drainage 0.90m dia. RCCP, Existing Cross Drain 1.20m dia. RCCP
Davao Cotabato Road (Along Pepsi Cola Bottling Corp.) K1523+650	36" diameter RCCP	Existing Drainage 0.90m dia. RCCP
Daang Maharlika Road (Mamay Creek) K1504+750		Install Pumping Station
Daang Maharlika Road (Davao Light) K1506+973	36" diameter RCCP	
Daang Maharlika Road (Victoria Plaza) K1508+005	36" diameter RCCP	Project: FY 2018 -Construction of Maindrain, Project Suspended due to ROW Problem
Daang Maharlika Road (Gaisano Mall) K1509+132	36" diameter RCCP	Project: FY 2019 -Improvement of Existing Drainage
Daang Maharlika Road (Jct. Damosa) K1504+653	36" diameter RCCP	Project: FY 2019 -Improvement of Existing Drainage
F. Torres Street (Davao Convention Center) K1509+(-132)	36" diameter RCCP	

Source: Department of Public Works and Highways, Region XI

## Ancillary Roads Facilities

Ancillary road facilities are the facilities that assure proper flow of motor vehicles and pedestrians within and across the thoroughfares of the city. The highest number of ancillary road facilities are found in Davao-Cotabato Road with 16 pedestrian crossings, four (4) traffic lights, five (5) pedestrian overpass, and five (5) road signages.

**Table IF-4 Inventory of Ancillary Road Facilities, 2018, Davao City**

Road name		Ancillary Road Facilities	No.	Condition
<b>National Road</b>				
1	Daang Maharlika Road/ Davao Agusan Road	Pedestrian Crossing	8	Fair
		Traffic Light	2	Fair
		Overpass	7	Fair
		Road signages	5	Fair
2	Davao City Diversion Road	Pedestrian Crossing	15	Fair
		Traffic Light	4	Fair
		Overpass	1	Fair
		Road signages	6	Fair
3	Pakiputan Wharf Road/ Sasa Port Road	Pedestrian Crossing	2	Fair
		Road signages	1	Fair
4	Catitipan Old Airport	Pedestrian Crossing	1	Fair
		Road signages	1	Fair
5	Rafael Castillo Street	Pedestrian Crossing	8	Fair
		Traffic Light	2	Fair
		Road signages	2	Fair
6	Davao Regional Medical Training Center	Pedestrian Crossing	2	Fair
		Traffic Light	1	Fair
		Road signages	1	Fair
7	Buhangin-Lapanday Road	Pedestrian Crossing	5	Fair
		Traffic Light	2	Fair
		Road signages	5	Fair
8	Florentino Torres Street	Pedestrian Crossing	5	Fair
		Traffic Light	2	Fair
		Road signages	3	Fair
9.	5th Avenue (Santa Ana Wharf)	Pedestrian Crossing	4	Fair
		Traffic Light	2	Fair
		Road signages	2	Fair
10.	10. J.P. Cabaguio Avenue	Pedestrian Crossing	3	Fair
		Traffic Light	1	Fair
		Overpass	1	Fair
11.	Marginal Street ( known as J. Fernandez near 5 <sup>th</sup> Avenue)	Pedestrian Crossing	1	Fair
		Road signages	1	Fair
12	Leon Garcia Street	Pedestrian Crossing	4	Fair
		Traffic Light	1	Fair
		Road signages	2	Fair

Source: Department of Public Works and Highways, Region XI



**Table IF-4 Inventory of Ancillary Road Facilities, 2018, Davao City, cont.**

Road name		Ancillary Road Facilities	No.	Condition
13	ABS-CBN Quimpo Boulevard Diversion Road	Pedestrian Crossing	10	Fair
		Traffic Light	4	Fair
		Overpass	1	Fair
		Road signages	2	Fair
14	Quezon Boulevard Avenue	Pedestrian Crossing	12	Fair
		Traffic Light	1	Fair
		Road signages	2	Fair
15	Davao Cotabato Road	Pedestrian Crossing	16	Fair
		Traffic Light	4	Fair
		Overpass	5	Fair
		Road signages	5	Fair
16	Ma-a Road Radio Station (DSWD & CITY JAIL)	Pedestrian Crossing	2	Fair
		Road signages	2	Fair
17	Ma-a Road	Pedestrian Crossing	13	Fair
		Traffic Light	1	Fair
		Road signages	6	Fair
18	Fatima-Malabog Road	Pedestrian Crossing	2	Fair
		Road signages	2	Fair
19	Elpidio Quirino Avenue	Pedestrian Crossing	5	Fair
		Traffic Light	3	Fair
		Road signages	8	Fair
20	Davao Cotabato Old Road	Pedestrian Crossing	10	Fair
		Traffic Light	1	Fair
		Road signages	7	Fair
21	Mabuhay Pañalum-Paquibato Road	Pedestrian Crossing	2	Fair
		Road signages	2	Fair
22	Davao Bukidnon Road	Pedestrian Crossing	5	Fair
		Traffic Light	2	Fair
		Overpass	1	Fair
23	Magsaysay Avenue	Pedestrian Crossing	6	Fair
		Traffic Light	3	Fair
		Road signages	2	Fair
24	Dacudao Road	Pedestrian Crossing	3	Fair
		Traffic Light	1	Fair
		Road signages	1	Fair

Source: Department of Public Works and Highways, Region XI

## Terminals

### ***Land Transport***

Davao City has a total of five (5) terminals, with the biggest located in Ecoland. The Davao City Overland Transport Terminal, is a 1.7 hectare facility that services inbound and out-bound passengers for nearby provinces of Davao City. The facilities of DCOTT include the following: parking areas for both outgoing and waiting bus units, waiting area for passengers, comfort rooms and public assistance counter. As of 2018, DCOTT serves to 700-800 passengers per day. Supplementary to this terminal are utility van terminals operating near the big shopping malls within the city namely: Gmall, Abreeza, SM Ecoland, and Victoria Plaza.

The current problem faced by the city is the congestion of existing terminal facility of DCOTT. Such problem cause overcrowding of the terminal, proliferation of colorum vehicles which target passengers near DCOTT and traffic congestion in the terminal vicinity. DCOTT is also highly susceptible to liquefaction and storm surge with 2-meter wave. All other satellite van terminals are also susceptible to liquefaction and storm surge.

### ***Water Transport***

The city has two publicly-owned and operated ports and 13 private ports. There are also four (4) ports that are turned over and leased back to the Philippine Ports Authority (PPA).

Sasa Port is managed by PPA. However, Sta. Ana Port is operated by the city under a 25-year usufruct agreement, that would end in June 2025. As of 2018, identified problems affecting these ports, primarily the Sasa Port, are the ease of ingress and egress, mobility to and from the terminals, the presence of informal settlers at the periphery of the port area, and the lack of improved port facilities.

The two ports mentioned are highly susceptible to liquefaction and storm surge with 2-meter wave. However, they differ on flood susceptibility as the Sasa Port is highly susceptible to flood while Santa Ana Port is moderately susceptible to flood. Also, two ports which are turned over to Philippine Ports Authority (PPA) and leased back are also highly susceptible to flood.

Among the identified problem regarding water transport is that waterways are not utilized for intra-city transportation.

### ***Air Transport***

The city has one airport, the Davao International Airport. It caters to an average of 92 flights daily. The airport passenger terminal building has a capacity of 1,200 passengers capacity during peak hours. Its cargo terminal building also has a capacity of 80,000 tons per annum during normal operation and it operates 16 hours per day. The airport's Control Tower, Central Plant Building, and Maintenance & Flight Service Station (FSS) Building are operational for 24 hours, while its Airfield Maintenance Building operates for eight (8) hours daily. The airport is served by several jeepneys and buses, including those plying the interprovincial routes because they traverse the CP Garcia Highway, along which the airport road is connected to.

Observed problems in the air transportation are the inadequacy of disaster and emergency response in airport and lack of improved modernized airport facilities to keep up with the modern demand.

Table IF-7 Transportation Terminals by Location and Condition, 2018, Davao City

Name of Terminal	Area Occupied (ha)	Barangay	Year Constructed	Physical Condition	Owner/Operator	Type of Terminal	Terminal Facilities	Hazard Susceptibility (H/M/L)							
								FI	Tc	Eq	Vo	Ln	Ts	Su	Lq
<b>LAND</b>															
Davao City Overland Transport Terminal (DCOTT)	1.7	Bucana, Brgy. 76-A	1984	Fair	LGU-DC	Bus-LTT	- 24 Northbound Bus Bays - 21 southbound bus bays - Passenger lounge - Comfort rooms -CCTV - Breastfeeding and diaper changing room - Food Stalls	L				L		2m	H
Small Sxatellite Van Terminal	0.15	Brgy. 19-B	1998	Fair	Coop	Van-LTT	-Terminal Bays -Comfort Room -CCTV -Waiting Area	L				L		3m	H
Abreeza Terminal	0.09	Brgy. 20-B	2013	Fair	Coop	Van-LTT	-Terminal Bays -CCTV	L				L			M
SM Satellite Van	0.2	Brgy. 76-A	2001	Fair	Private	Van-LTT	-Terminal Bays -Waiting area -Parking Area -CCTV -Food Carts	L				L		4M	H
Victoria Satellite Van	0.1	Brgy. 20-B	1996		Coop	Van-LTT	-Terminal Bays -CCTV -Waiting Area	L				L		5m	
Tulip Drive Satellite Van	0.12	Brgy. 74-C	-	Fair	Coop	Van-LTT	-Terminal Bays -CCTV -Waiting Area	L				L			M

Source: DCOTT, PPA, CAAP, City Economic Enterprises-Santa Ana

Table IF-7 Transportation Terminals by Location and Condition, 2018, Davao City, cont.

Name of Terminal	Area Occupied (ha)	Barangay	Year Constructed	Physical Condition	Owner/ Operator	Type of Terminal	Terminal Facilities	Hazard Susceptibility (H/M/L)							
								FI	Tc	Eq	Vo	Ln	Ts	Su	Lq
Water															
Government port															
STA. ANA PORT	10.3	Brgy. 27-C	-	Pier 1- Critical Pier 2- Poor	PPA/ LGU	Port	Pier 1 Pier 2	H				L		2m	H
SASA BASEPORT	18,127 ha	Sasa, Davao City		Fair	Philippine Ports Authority	Seaport Containerized (Bulk and Break-bulk Cargoes) & Passenger	Berth Length, 1093 meters ; Draft 10.5 m MLLW; Transit Shed 1,920 sq.m.; Container Yard/Open Storage 63, 250 sq.m.; Passenger Terminal Building 613 sq.m. ; 130 passengers, Comfort Rooms 47.41 sq.m. ( Male, Female and PWDs), Playroom 16.16 sq.m., Clinic 5.93 sq.m., Family Room 11.10 sq.m., Prayer Room 18 sq.m., Modular Shed 162 passengers; Security Building 60 sq.m., Bahay Silungan 108.8 sq.m. Warehouse 600 sq.m., Ground Slots (TEU) 1, 578, Reefer Outlets 288 outlets with back-up genset operated and managed by DIPSSCOR, Weighbridge Facility Owned and Operated by FILPORT	M				L		2m	H
NON-COMMERCIAL PORT (PRIVATE)															
International Copra Exports Corp. (INTERCO) – Davao	9 ha.	Sasa, Davao City		Fair	International Copra Exports Corp.	Coco Oil Port- Seaport	Concrete warehouse 2,268 sq. m.; 8" diam. crude oil pipelines; 4 units crude coco oil storage tank; 10m x 20m Timber marginal Wharf; 42.0 m x 54.0 m concrete warehouse for palletized copra meal.					L		3m	H

Source: DCOTT, PPA, CAAP, City Economic Enterprises-Santa Ana

Table IF-7 Transportation Terminals by Location and Condition, 2018, Davao City, cont.

Name of Terminal	Area Occupied (ha)	Barangay	Year Constructed	Physical Condition	Owner/ Operator	Type of Terminal	Terminal Facilities	Hazard Susceptibility (H/M/L)							
								FI	Tc	Eq	Vo	Ln	Ts	Su	Lq
Davao Bay Coconut Oil Mills, Inc. (DBCOM)		Km. 14, Barangay Panacan, Davao City		Fair	Davao Bay Coconut Oil Mills, Inc. (DBCOM)	Coco Oil Port- Sea-port	One (1) Pier head with 4 breasting dolphins; 13.6m Pierhead x 80.30m Causeway x 120 m. overall length; one (1) 8" diam. pipeline and one (1) set 600mm wide x 600mm Height Conveying system;					L		2m	H
New Davao Oil Mills, Inc. (NDOM)		Km. 14, Barangay Ilang, Panacan, Davao City		Fair	New Davao Oil Mills, Inc. (NDOM)	Coco Oil Port- Sea-port	Breasting Dolphins 4 units (1.5m x 5m x 8m); Causeway (7.00m x 110m); Loading Deck (15m x 20m); Mooring bollard 2 units; Mooring buoy 2 units; Pipeline (9" diameter x 320m).					L		2m	M
Insular Oil Corporation (formerly Mobil Oil Jetty)		Km. 10, Sasa, Davao City		Fair	Insular Oil Corporation (formerly Mobil Oil Jetty)	Petroleum Jetty Port	Causeway pier 6m x 115m, 54m Pier head width; 2 units Breasting Dolphins; 2 units Mooring Dolphins; Loading Platform; Pipelines 23.45m Li capacity; Storage Tanks 6.					L		2m	H
Petron Corporation		Bo. Pampanga, Km. 9, Sasa, Davao City		Fair	Petron Corporation	Petroleum Jetty Port	4-point mooring system; Above water pipelines; 3x8 white oil lines; 8" diam. black oil lines; submarine LPG vapor; 4" diam. LPG liquid line; 2" diam. LPG vapor line; Reinforced concrete pier.	M				L		2m	H

Source: DCOTT, PPA, CAAP, City Economic Enterprises-Santa Ana

Table IF-7 Transportation Terminals by Location and Condition, 2018, Davao City, cont.

Name of Terminal	Area Occupied (ha)	Barangay	Year Constructed	Physical Condition	Owner/ Operator	Type of Terminal	Terminal Facilities	Hazard Susceptibility (H/M/L)							
								FI	Tc	Eq	Vo	Ln	Ts	Su	Lq
HOLCIM Philippines, Inc.		Ilang, Tibunungco, Davao City		Fair	HOLCIM Philippines, Inc.	Cement Port	100m x 30m rectangular shaped wharf; 70m x 25m: 60m x 35m: 60m x 32m covered warehouse; Berth 1: 142 m x 30m ; Berth 2: 131 m x 15m.; Warehouses 1,750 sq. m. and 1,920 sq. m.;					L		5m	M
AJMR Port Services Corporation		Km. 20, Tibunungco, Davao City		Fair	AJMR Port Services Corporation		Berth 300 meters x 40m ; Loading Shed 100,770 x 13,458; Cold Storage 6,944.61 sq. m.; Plastic Plant 4,675 sq. m.; Bonded Warehouse 4,675 sq. m.; VHT Building= 3,807.00 sq.m.;								
Chevron Philippines, Inc.		Bo. Pampang, Km. 9, Sasa, Davao City		Fair	Chevron Philippines, Inc.	Petroleum Jetty Port	Wharf 3.5m x 66.28m; Jetty, Black Oil and LPG Pipelines; Warehouse steel frames.	H				L		2m	H
First Coconut Manufacturing, Inc. (formerly Legaspi Oil Company, nc.)	24,000 sq.m.	Km. 10, Sasa, Davao City		Fair	First Coconut Manufacturing, Inc.	Coco Oil Port	Finger pier 9m x 58m, 71m x 10m; marginal wharf 139m x 17m;	M				L		2m	H
Phoenix Petroleum Philippines, Inc.		Stella Hizon Rd., Pampang, Davao City		Fair	Phoenix Petroleum Philippines, Inc.	Petroleum Jetty Port	Breasting dolphin 2 units; Trestle and pipe support; Walking bridge and railings; Loading platform; Causeway/ Breakwater; Pipeline 6" diameter;	H				L		2m	H

Source: DCOTT, PPA, CAAP, City Economic Enterprises-Santa Ana

Table IF-7 Transportation Terminals by Location and Condition, 2018, Davao City, cont.

Name of Terminal	Area Occupied (ha)	Barangay	Year Constructed	Physical Condition	Owner/Operator	Type of Terminal	Terminal Facilities	Hazard Susceptibility (H/M/L)								
								FI	Tc	Eq	Vo	Ln	Ts	Su	Lq	
Universal Robina Corporation (URC)	627.8 sq.m.	Km. 10, Sasa		Fair	Universal Robina Corporation (URC)	Wheat Port	Wharf 43m x 14.6m, concrete decks on prestressed piles; Silos for grains and Warehouse 2,730 sq.m.; 1-unit un-loader (25m height).	H							2m	H
Therma South Inc.		Binugao, Toril, Davao City		Fair	Aboitiz Power Corporation	Coal Plant	Jetty 12m W x 60m L with 200mm R.C. slab; Causeway road 10.2m W x 150m L x 200mm thick; Sheet piles supported by the tie rods; loading/unloading ramp; Mooring bollards & fenders and rock armour as embarkment material.	H				L			2m	H
Unifruitti Tropical Philippines, Inc. (formerly Craft Haven International Services Inc.)	7.10 ha	Km. 15 Panacan, Davao City		Fair	Unifruitti Tropical Philippines, Inc.	Fresh Produce (Banana, etc.) / Gen. Cargo	Berth 12m x 277 meters; Cold Storage 11,254 sq. m.; wharf 167 meters; wharf extension 110 meters; extension and mooring dolphin.					L			3m	H
<b>TURNED OVER TO PPA &amp; LEASED BACK</b>																
Isla LPG Corporation (formerly Shell Gas(LPG) Philippines, Inc.)	30,744 sq.m.	Km. 10, Sasa, Davao City		Fair	Isla LPG Corporation	LPG Port	R.C. Pier 38m x 5m; Pier Head over 12 R.C. piles 6.4m x 4.6m; Breasting dolphin 6.7m x 7.6m with concrete copping on 14 pcs RC piles aligned with the pier head about 25m distance on both sides.	M					L		4m	M

Source: DCOTT, PPA, CAAP, City Economic Enterprises-Santa Ana



Table IF-7 Transportation Terminals by Location and Condition, 2018, Davao City, cont.

Name of Terminal	Area Occupied (ha)	Barangay	Year Constructed	Physical Condition	Owner/Operator	Type of Terminal	Terminal Facilities	Hazard Susceptibility (H/M/L)								
								FI	Tc	Eq	Vo	Ln	Ts	Su	Lq	
Kudos Trucking Corporation	4,379 sq.m.	Km. 13, Brgy. Panacan, Davao City		Fair	Kudos Trucking Corporation	RORO/ Ferry, Containerized & Gen. Cargo Port	4,379 sq. m. 12.00m x 60.00m jetty with 200mm thick; R.C. concrete slab; 10.00m x 10.00m landing ramp; 60.00m x 12.00m Maintenance/Repair Shop, 4m x 9m car/ boat shed.					L				
KTC Container Terminal Corporation	2,163 sq.m.	Brgy. Buhisan, Tibungco, Davao City		Fair	KTC Container Terminal Corporation	General Cargo	10.50m x 30.00m R.C. Causeway; 13.50m x 103.00m R.C. Pier Deck; 1 unit Breasting Dolphin; 2 units Mooring Dolphin: 2-14" daim. S60 pipelines &; lightings at Causeway & R.C Pier Deck	H								
Terminal Facilities & Services Corp.	83,000.00 sq.m. ( more or less)	Barrio Ilang, Tibungco. Davao City		Fair	Terminal Facilities & Services Corp.	General Cargo	4 berthing facilities Berth Length 547 m; Container Yard 13,316. sq.m. ; 2 ship to shore cranes; 3 Warehouses; Reefer Facilities; Open Space 29,686 sq. m.(1st); Open Space 38,443.40 sq. m. (2nd).	H				L	2m	H		

Source: DCOTT, PPA, CAAP, City Economic Enterprises-Santa Ana

**Table IF-7 Transportation Terminals by Location and Condition, 2018, Davao City, cont.**

Name of Terminal	Area Occupied (ha)	Barangay	Year Constructed	Physical Condition	Owner/Operator	Type of Terminal	Terminal Facilities	Hazard Susceptibility (H/M/L)								
								FI	Tc	Eq	Vo	Ln	Ts	Su	Lq	
AIR																
F. Bangoy International Airport		Daang Maharlika Highway, Buhangin, Davao City	2000		Civil Aviation Authority of the Philippines	Airport	-Cargo Terminal Building -Crash Fire Rescue Building -Control Tower -Airfield Maintenance Building -Central Plant Building -Maintenance & FSS Building -Medical Clinic -Perimeter Access Road -Runway -Apron -Navigational Aids / Instrument Landing System (ILS) -Aircraft Rescue and Fire Fighting Services									

Source: DCOTT, PPA, CAAP, City Economic Enterprises-Santa Ana

## Inventory of Public Utility Vehicles and Service Routes

There are approximately 14,111 public utility vehicles based on the 2018 data from Land Transportation Franchising and Regulatory Board (LTFRB). The 2018 data show 207 service routes within the city and distributed as follows: (a) nine (9) mini-buses plying within the city, particularly bound to Calinan District and 816 provincial buses with 50 routes plying to nearby cities and municipalities; (b) 6,984 units of registered jeepneys and Filcabs servicing 18 routes within the city center, and 104 routes from barangay to city center while there are some 119 northbound and southbound units plying to 5 routes from Davao City to the provinces of Davao del Norte and Davao del Sur, respectively; (c) 5,444 taxi units and (d) 1,001 vans that serve the transport requirements within the Davao Region, SOCCKSARGEN, Caraga Region, and Northern Mindanao Region.

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/ Destination
		Within Baran-gay	Barangay to Barangay	Barangay to City/ Center	City/ Center		
City Buses	9	-	-	Calinan	-	-	-
<b>Sub-total</b>	<b>9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Provincial Buses	-	-	-	-	-	23	Warf Kinawitnon
Provincial Buses	-	-	-	-	-	1	Awao Monkayo
Provincial Buses	-	-	-	-	-	1	Baganga via Compostela
Provincial Buses	-	-	-	-	-	5	Baganga via Mati
Provincial Buses	-	-	-	-	-	1	Boston via Compostela
Provincial Buses	-	-	-	-	-	54	Butuan City via Tagum
Provincial Buses	-	-	-	-	-	40	Cagayan de Oro via Butuan
Provincial Buses	-	-	-	-	-	4	Caraga
Provincial Buses	-	-	-	-	-	3	Cateel via Comval Province
Provincial Buses	-	-	-	-	-	40	Cateel via Tagum/ Mati
Provincial Buses	-	-	-	-	-	6	Compostela
Provincial Buses	-	-	-	-	-	36	Cotabato City
Provincial Buses	-	-	-	-	-	19	Digos City
Provincial Buses	-	-	-	-	-	14	Don Marcelino, Davao del Sur
Provincial Buses	-	-	-	-	-	6	Kapalong, Davao del Norte

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination			City/ Center	Total No.	Route/ Destination
Within Baran-gay		Barangay to Barangay	Barangay to City/ Center				
Provincial Buses	-	-	-	-	-	10	Kidapawan City
Provincial Buses	-	-	-	-	-	16	Laak (San Vicente)
Provincial Buses	-	-	-	-	-	12	Laak via Sto. Tomas/ Kapalong
Provincial Buses	-	-	-	-	-	30	Malita
Provincial Buses	-	-	-	-	-	26	Mangagoy
Provincial Buses	-	-	-	-	-	1	Maniki via Sto. Tomas
Provincial Buses	-	-	-	-	-	15	Maragusan
Provincial Buses	-	-	-	-	-	16	Maragusan Via Camanlangan
Provincial Buses	-	-	-	-	-	12	Marbel
Provincial Buses	-	-	-	-	-	2	Masara
Provincial Buses	-	-	-	-	-	94	Mati
Provincial Buses	-	-	-	-	-	14	Mati via Boston
Provincial Buses	-	-	-	-	-	1	Monkayo via Awao
Provincial Buses	-	-	-	-	-	9	Monkayo
Provincial Buses	-	-	-	-	-	14	Nasipit
Provincial Buses	-	-	-	-	-	45	New Bataan
Provincial Buses	-	-	-	-	-	1	New Corella
Provincial Buses	-	-	-	-	-	17	Ormoc
Provincial Buses	-	-	-	-	-	3	Padada
Provincial Buses	-	-	-	-	-	10	Pundaguitan
Provincial Buses	-	-	-	-	-	1	San Mariano
Provincial Buses	-	-	-	-	-	1	San Vicente
Provincial Buses	-	-	-	-	-	4	Sigaboy
Provincial Buses	-	-	-	-	-	3	Sta. Josefa

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/Destination
Within Baran-gay		Barangay to Barangay	Barangay to City/ Center	City/ Center			
Provincial Buses	-	-	-	-	-	9	Sto. Tomas
Provincial Buses	-	-	-	-	-	6	Surigao City via Butuan
Provincial Buses	-	-	-	-	-	25	Tacloban City
Provincial Buses	-	-	-	-	-	2	Tagbilaran
Provincial Buses	-	-	-	-	-	112	Tagum City via Panabo City
Provincial Buses	-	-	-	-	-	27	Tagum City via Kinamayan
Provincial Buses	-	-	-	-	-	2	Talaingod via Kapitalong
Provincial Buses	-	-	-	-	-	8	Talaingod via Sto. Tomas
Provincial Buses	-	-	-	-	-	7	Tandag, Surigao via Kapitalong
Provincial Buses	-	-	-	-	-	6	Veruela
Provincial Buses	-	-	-	-	-	1	Wao Lanao Sur
Provincial Buses	-	-	-	-	-	1	Brgy. Gupitian Kapitalong
<b>Sub-total</b>	-	-	-	-	-	<b>816</b>	-
Jeepney (PUJ/FILCAB)	61	-	-	Acacia	-	-	-
Jeepney (PUJ/FILCAB)	9	-	-	Alambre	-	-	-
Jeepney (PUJ/FILCAB)	55	-	-	Bago Aplaya	-	-	-
Jeepney (PUJ/FILCAB)	3	-	-	Bago Gallera	-	-	-
Jeepney (PUJ/FILCAB)	2	-	-	Bago Oshiro	-	-	-
Jeepney (PUJ/FILCAB)	48	-	-	Baguio District	-	-	-
Jeepney (PUJ/FILCAB)	3	-	-	Baliok (Toril)	-	-	-
Jeepney (PUJ/FILCAB)	125	-	-	Bangkal	-	-	-
Jeepney (PUJ/FILCAB)	2	-	-	Bangkas Heights	-	-	-
Jeepney (PUJ/FILCAB)	31	-	-	Baracatan	-	-	-
Jeepney (PUJ/FILCAB)	4	-	-	Biao, Tugbok	-	-	-

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/Municipality	
	Total No.	Route/Destination				Total No.	Route/Destination
		Within Baran-gay	Barangay to Barangay	Barangay to City/Center	City/Center		
Jeepney (PUJ/FILCAB)	12	-	-	Binugao	-	-	-
Jeepney (PUJ/FILCAB)	72	-	-	Bo. Obrero	-	-	-
Jeepney (PUJ/FILCAB)	23	-	-	Brgy. Communal	-	-	-
Jeepney (PUJ/FILCAB)	45	-	-	Buhangin via Dacudao	-	-	-
Jeepney (PUJ/FILCAB)	327	-	-	Buhangin via J.P. Laurel	-	-	-
Jeepney (PUJ/FILCAB)	58	-	-	Bunawan via Buhangin	-	-	-
Jeepney (PUJ/FILCAB)	54	-	-	Bunawan via Sasa	-	-	-
Jeepney (PUJ/FILCAB)	50	-	-	Cabantian via J.P. Laurel	-	-	-
Jeepney (PUJ/FILCAB)	126	-	-	Calinan	-	-	-
Jeepney (PUJ/FILCAB)	13	-	-	Callawa	-	-	-
Jeepney(PUJ/FILCAB)	43	-	-	Camp Cati-tipan via Dacudao Avenue	-	-	-
Jeepney(PUJ/FILCAB)	123	-	-	Carmen, Baguio District	-	-	-
Jeepney(PUJ/FILCAB)	2	-	-	Catalunan Grande	-	-	-
Jeepney(PUJ/FILCAB)	44	-	-	Catigan	-	-	-
Jeepney(PUJ/FILCAB)	27	-	-	-	Circula-tion Route 1 (Coming fr. Cir. 1A)	-	-
Jeepney(PUJ/FILCAB)	56	-	-	-	Circula-tion Route 2 (Coming fr. Cir. 2A)	-	-
Jeepney(PUJ/FILCAB)	115	-	-	-	Circula-tion Route 3 (Coming fr. Cir. 3B)	-	-
Jeepney(PUJ/FILCAB)	49	-	-	-	Circula-tion Route 4	-	-

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/Destination
Within Baran-gay		Barangay to Barangay	Barangay to City/ Center	City/ Center			
Jeepney (PUJ/FILCAB)	200	-	-	-	Circula-tion Route 5 (Coming fr. Cir. 5A)	Jeepn ey (PUJ/ FILCAB )	200
Jeepney (PUJ/FILCAB)	78	-	-	-	Circula-tion Route 6 (Coming fr. Cir. 1B/6)	Jeepn ey (PUJ/ FILCAB )	78
Jeepney (PUJ/FILCAB)	112	-	-	-	Circula-tion Route 7(Coming fr. Cir. 5B)	Jeepn ey (PUJ/ FILCAB )	112
Jeepney (PUJ/FILCAB)	11	-	-	-	Circula-tion Route 8(Coming fr. Cir. 3A/1A/8)	Jeepn ey (PUJ/ FILCAB )	11
Jeepney (PUJ/FILCAB)	48	-	-	-	Circula-tion Route 9 (Coming fr. Cir. 9/12)	Jeepn ey (PUJ/ FILCAB )	48
Jeepney (PUJ/FILCAB)	3	-	-	-	Circula-tion Route 10	Jeepn ey (PUJ/ FILCAB )	3
Jeepney (PUJ/FILCAB)	182	-	-	-	Circula-tion Route 10-A	Jeepn ey (PUJ/ FILCAB )	182
Jeepney (PUJ/FILCAB)	1	-	-	-	Circula-tion Route 10-B	Jeepn ey (PUJ/ FILCAB )	1
Jeepney (PUJ/FILCAB)	50	-	-	-	Circula-tion Route 11 (Coming fr. Cir. 11/14/15)	Jeepn ey (PUJ/ FILCAB )	50

Source: Land Transportation Franchising and Regulatory Board



**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/ Destination
Within Baran-gay		Barangay to Barangay	Barangay to City/ Center	City/ Center			
Jeepney (PUJ/FILCAB)	79	-	-	-	Circula-tion Route 12 (Coming fr. Cir. 2B)	Jeepn ey (PUJ/ FILCAB )	79
Jeepney (PUJ/FILCAB)	11	-	-	-	Circula-tion Route 13 (Coming fr. Cir. 3A)	Jeepn ey (PUJ/ FILCAB )	11
Jeepney (PUJ/FILCAB)	65	-	-	-	Circula-tion Route 14	Jeepn ey (PUJ/ FILCAB )	65
Jeepney( PUJ/FILCAB)	1	-	-	-	Circula-tion Route 15	Jeepn ey (PUJ/ FILCAB )	1
Jeepney (PUJ/FILCAB)	5	-	-	Country Homes	-	Jeepn ey (PUJ/ FILCAB )	5
Jeepney (PUJ/FILCAB)	10	-	-	Dacoville Subdivision	-	Jeepn ey (PUJ/ FILCAB )	10
Jeepney (PUJ/FILCAB)	11	-	-	Daliaon	-	Jeepn ey (PUJ/ FILCAB )	11
Jeepney (PUJ/FILCAB)	3	-	-	Daliao/Toril	-	Jeepn ey (PUJ/ FILCAB )	3
Jeepney (PUJ/FILCAB)	22	-	-	Darong	-	Jeepn ey (PUJ/ FILCAB )	22

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/ Destination
		Within Baran-gay	Barangay to Barangay	Barangay to City/ Center	City/ Center		
Jeepney (PUJ/FILCAB)	3	-	-	Davao Int'l Airport up to Garcia Hts.	-	Jeepney (PUJ/FILCAB)	3
Jeepney (PUJ/FILCAB)	29	-	-	Doña Pilar	-	Jeepney (PUJ/FILCAB)	29
Jeepney (PUJ/FILCAB)	243	-	-	Ecoland Subd (Sm City Davao)	-	Jeepney (PUJ/FILCAB)	243
Jeepney (PUJ/FILCAB)	14	-	-	Elenita Heights via Catalunan Grande	-	-	-
Jeepney (PUJ/FILCAB)	20	-	-	Elenita Heights via Mintal	-	-	-
Jeepney (PUJ/FILCAB)	84	-	-	El Rio Vista	-	-	-
Jeepney (PUJ/FILCAB)	43	-	-	Emily Homes	-	-	-
Jeepney (PUJ/FILCAB)	28	-	-	Inawayan	-	-	-
Jeepney (PUJ/FILCAB)	71	-	-	Indangan	-	-	-
Jeepney(PUJ/FILCAB)	4	-	-	Indangan-NCCC Pana-can	-	-	-
Jeepney (PUJ/FILCAB)	30	-	-	Jade Valley-Bankerohan	-	-	-
Jeepney (PUJ/FILCAB)	6	-	-	Jade Valley (EO)-Buhangin	-	-	-
Jeepney (PUJ/FILCAB)	20	-	-	Juliville	-	-	-
Jeepney (PUJ/FILCAB)	6	-	-	Lamanan	-	-	-
Jeepney (PUJ/FILCAB)	30	-	-	Land Mark III	-	-	-

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/ Destination
		Within Baran-gay	Barangay to Barangay	Barangay to City/ Center	City/ Center		
Jeepney (PUJ/FILCAB)	10	-	-	Langub	-	-	-
Jeepney (PUJ/FILCAB)	58	-	-	Lasang VIA Buhangin	-	-	-
Jeepney (PUJ/FILCAB)	32	-	-	Lasang VIA Sasa	-	-	-
Jeepney (PUJ/FILCAB)	4	-	-	Lubogan	-	-	-
Jeepney (PUJ/FILCAB)	198	-	-	Maa - Ag-dao	-	-	-
Jeepney (PUJ/FILCAB)	60	-	-	Maa - Bankerohan	-	-	-
Jeepney (PUJ/FILCAB)	38	-	-	Magtuod	-	-	-
Jeepney (PUJ/FILCAB)	15	-	-	Mahayag	-	-	-
Jeepney (PUJ/FILCAB)	5	-	-	Malabog VIA Buhangin	-	-	-
Jeepney (PUJ/FILCAB)	2	-	-	Manambu-lan	-	-	-
Jeepney (PUJ/FILCAB)	54	-	-	Mandug	-	-	-
Jeepney (PUJ/FILCAB)	29	-	-	Manuel Guianga	-	-	-
Jeepney (PUJ/FILCAB)	71	-	-	Marahan	-	-	-
Jeepney (PUJ/FILCAB)	20	-	-	Marilog	-	-	-
Jeepney (PUJ/FILCAB)	146	-	-	Matina	-	-	-
Jeepney (PUJ/FILCAB)	277	-	-	Matina Aplaya	-	-	-
Jeepney (PUJ/FILCAB)	27	-	-	Matina Crossing	-	-	-
Jeepney (PUJ/FILCAB)	4	-	-	Matina Biao	-	-	-
Jeepney (PUJ/FILCAB)	112	-	-	Matina Pangi	-	-	-
Jeepney (PUJ/FILCAB)	124	-	-	Mintal	-	-	-
Jeepney (PUJ/FILCAB)	2	-	-	Mintal -UP Campus	-	-	-
Jeepney (PUJ/FILCAB)	130	-	-	Mulig	-	-	-
Jeepney (PUJ/FILCAB)	184	-	-	Panabo - Davao City	-	-	-

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/ Destination
		Within Baran-gay	Barangay to Barangay	Barangay to City/ Center	City/ Center		
Jeepney (PUJ/FILCAB)	5	-	-	Panabo Via Buhangin	-	-	-
Jeepney (PUJ/FILCAB)	78	-	-	Panacan Via Buhangin/ Ilustre	-	-	-
Jeepney (PUJ/FILCAB)	37	-	-	Panacan Via Cabaguio	-	-	-
Jeepney (PUJ/FILCAB)	176	-	-	Panacan Via JP Laurel	-	-	-
Jeepney (PUJ/FILCAB)	85	-	-	Panacan - SM City Davao	-	-	-
Jeepney (PUJ/FILCAB)	95	-	-	Puan	-	-	-
Jeepney (PUJ/FILCAB)	28	-	-	Rosalina 3	-	-	-
Jeepney (PUJ/FILCAB)	15	-	-	Rosalina 1	-	-	-
Jeepney (PUJ/FILCAB)	3	-	-	Saloy	-	-	-
Jeepney (PUJ/FILCAB)	10	-	-	Santiago Villas	-	-	-
Jeepney (PUJ/FILCAB)	452	-	-	Sasa VIA JP Laurel Ave	-	-	-
Jeepney (PUJ/FILCAB)	229	-	-	Sasa VIA R. Castillo	-	-	-
Jeepney (PUJ/FILCAB)	65	-	-	Sasa VIA Cabaguio	-	-	-
Jeepney (PUJ/FILCAB)	3	-	-	Sibulan	-	-	-
Jeepney (PUJ/FILCAB)	21	-	-	Sirawan	-	-	-
Jeepney (PUJ/FILCAB)	15	-	-	Sirib	-	-	-
Jeepney (PUJ/FILCAB)	25	-	-	Suraya Homes	-	-	-
Jeepney (PUJ/FILCAB)	17	-	-	Tagakpan	-	-	-
Jeepney (PUJ/FILCAB)	4	-	-	Tagluno	-	-	-
Jeepney (PUJ/FILCAB)	33	-	-	Tagurano	-	-	-
Jeepney (PUJ/FILCAB)	100	-	-	Talomo	-	-	-
Jeepney (PUJ/FILCAB)	11	-	-	Tamayong	-	-	-
Jeepney (PUJ/FILCAB)	1	-	-	Tambobong	-	-	-

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/ Destination
		Within Baran-gay	Barangay to Barangay	Barangay to City/ Center	City/ Center		
Jeepney (PUJ/FILCAB)	5	-	-	Tamugan	-	-	-
Jeepney(PUJ/FILCAB)	5	-	-	Tibuloy	-	-	-
Jeepney (PUJ/FILCAB)	104	-	-	Tibungco VIA R. Cas-tillo	-	-	-
Jeepney (PUJ/FILCAB)	64	-	-	Tibungco VIA Buhangin	-	-	-
Jeepney (PUJ/FILCAB)	41	-	-	Tibungco VIA Caba-guio	-	-	-
Jeepney (PUJ/FILCAB)	70	-	-	Tigatto	-	-	-
Jeepney (PUJ/FILCAB)	180	-	-	Toril	-	-	-
Jeepney (PUJ/FILCAB)	52	-	-	Toril - As-torga	-	-	-
Jeepney (PUJ/FILCAB)	7	-	-	Toril - Da-rong	-	-	-
Jeepney (PUJ/FILCAB)	54	-	-	Tugbok	-	-	-
Jeepney (PUJ/FILCAB)	10	-	-	Tungkalan	-	-	-
Jeepney (PUJ/FILCAB)	167	-	-	Ulas	-	-	-
Jeepney (PUJ/FILCAB)	10	-	-	Waan	-	-	-
Jeepney (PUJ/FILCAB)	-	-	-	-	-	27	Bansalan - Davao City
Jeepney (PUJ/FILCAB)	-	-	-	-	-	2	Digos City - Davao City
Jeepney (PUJ/FILCAB)	-	-	-	-	-	37	Kiblawan - Davao City
Jeepney (PUJ/FILCAB)	-	-	-	-	-	50	Magsaysay - Davao City
Jeepney (PUJ/FILCAB)	-	-	-	-	-	3	Matanao - Davao City
<b>Sub-total</b>	<b>6,984</b>	-	-	-	-	<b>119</b>	-

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/ Municipality	
	Total No.	Route/Destination				Total No.	Route/Destination
		Within Baran-gay	Barangay to Barangay	Barangay to City/ Center	City/ Center		
UV EXPRESS	-	-	-	-	-	147	Davao City-Baganga
UV EXPRESS	-	-	-	-	-	181	Davao City-Bansalan
UV EXPRESS	-	-	-	-	-	1	Davao City-Boston
UV EXPRESS	-	-	-	-	-	1	Davao City-Buda Bukidnon
UV EXPRESS	-	-	-	-	-	11	Davao City-Butuan City
UV EXPRESS	-	-	-	-	-	2	Davao City-Cateel VIA COMVAL
UV EXPRESS	-	-	-	-	-	140	Davao City-Cateel VIA MATI
UV EXPRESS	-	-	-	-	-	43	Davao City-Cotabato City
UV EXPRESS	-	-	-	-	-	11	Davao City-General Santos City
UV EXPRESS	-	-	-	-	-	4	Davao City-Gov. Generoso
UV EXPRESS	-	-	-	-	-	21	Davao City-Jose Abad Santos
UV EXPRESS	-	-	-	-	-	21	Davao City-Kabacan
UV EXPRESS	-	-	-	-	-	14	Davao City-Kiblawan
UV EXPRESS	-	-	-	-	-	14	Davao City-Kidapawan
UV EXPRESS	-	-	-	-	-	34	Davao City-Laak
UV EXPRESS	-	-	-	-	-	19	Davao City-Magsaysay, DS
UV EXPRESS	-	-	-	-	-	8	Davao City-Malita
UV EXPRESS	-	-	-	-	-	1	Davao City-Manay (DO)
UV EXPRESS	-	-	-	-	-	12	Davao City-Mangagoy
UV EXPRESS	-	-	-	-	-	44	Davao City-Maragusan
UV EXPRESS	-	-	-	-	-	28	Davao City-Mati City
UV EXPRESS	-	-	-	-	-	30	Davao City-Midsayap
UV EXPRESS	-	-	-	-	-	162	Davao City-Monkayo

Source: Land Transportation Franchising and Regulatory Board

**Table IF-8 Inventory of Public Land Transportation Vehicles by Type and Service Routes, 2018, cont.**

Type of Public Utility Vehicle	Registered in City					From Other City/Municipality	
	Total No.	Route/Destination				Total No.	Route/Destination
		Within Barangay	Barangay to Barangay	Barangay to City/Center	City/Center		
UV EXPRESS	-	-	-	-	-	16	Davao City-Nasipit
UV EXPRESS	-	-	-	-	-	7	Davao City-San Francisco
UV EXPRESS	-	-	-	-	-	8	Davao City-San Isidro
UV EXPRESS	-	-	-	-	-	1	Davao City-Talaingud
<b>Sub-total</b>	-	-	-	-	-	<b>1,001</b>	-
Taxi/FX	5,444	-	-	-	Any point in Region XI	-	Any point in Region XI
<b>Sub-total</b>	<b>5,444</b>	-	-	-	-	-	-
<b>Grand Total</b>	<b>12,437</b>	-	-	-	-	<b>1,674</b>	-

Source: Land Transportation Franchising and Regulatory Board

## Road Accidents

During the 2014-2018 period, the city recorded a total of 1,204 accidents. The highest number was recorded along McArthur Highway-Ulas with a total of 1,053 accidents, or 211 accidents per year. This was followed by McArthur Highway, Matina with 834 accidents, or 167 accidents/year. The third highest number was recorded along CP Garcia Highway with a total of 530 accidents, or 106 accidents/year. The most common nature of road accident was head on collision, and rear end collision.

As to the number of cases filed in court during the 2015-2018 period, cases of reckless imprudence resulting to serious injury, and homicide/fatal top the list. On the other hand, there is a downward trend of reckless imprudence cases resulting to minor injury and damage to property. The table below reflects the 20 areas where accidents frequently occur.



**Table IF-9 Road Accidents by Location, Nature and Frequency for the Past Five Years**

Name of Road	Barangay	Nature of Accident	No. of Accidents					Total
			2014	2015	2016	2017	2018	
McArthur Highway-Matina	Brgy. 74-A	Head On	35	15	67	381	336	<b>834</b>
McArthur Highway-Km. 7	Brgy. Talomo	Head On	20	10	8	90	111	<b>239</b>
McArthur Highway- Ulas	Brgy. Talomo	Head On	119	73	101	390	370	<b>1053</b>
McArthur Highway-Dumoy	Brgy. Dumoy	Head On	8	7	8	260	143	<b>426</b>
McArthur Highway- Bago Aplaya	Bago Aplaya	Head On	7	18	16	132	85	<b>258</b>
Matina Pangi road, Km. 5	Matina Pangi	Head On	1	2	3	145	165	<b>316</b>
Matina Aplaya Road	Brgy. 75-A	Head On	32	4	17	73	95	<b>221</b>
Dumalag, Matina Aplaya	Brgy. 75-A	Head On	14	2	5	76	120	<b>217</b>
Cabantian Road	Brgy. Cabantian	Hit Pedestrian/ Head Collision/ Fell Downside Swipe/Bump from Behind/Hit Parked Vehicle/ Rear End Collision/MV Crash/ Right Angle/ Hit Object Off Road	65	50	35	45	55	<b>250</b>
CP Garcia Heights Diversion Road	Brgy. Buhangin	Hit Pedestrian/ Head Collision/ Fell Downside Swipe/Bump from Behind/Hit Parked Vehicle/ Rear End Collision/MV Crash/ Right Angle/ Hit Object Off Road	90	95	115	125	105	<b>530</b>
Pres. Carlos P. Garcia Highway, Balusong, Matina, D.C	Brgy. 74-A	Rear End	7	5	4	76	98	<b>190</b>
Mc- Arthur Highway, Matina, Davao City	Brgy. 74-A	Rear End	50	40	16	175	208	<b>489</b>
Auarious St, GSIS Hts, Matina, DC	Brgy. 74-A	Rear End	3	12	16	221	243	<b>495</b>
Mc Arthur highway, Bangkal, DC	Brgy. Talomo	Rear End	15	5	4	121	150	<b>295</b>
Mc- Arthur Highway/ Carlos P. Garcia Highway Bangkal, Davao City	Brgy. Talomo	Rear End	5	7	12	90	87	<b>201</b>
Mc Arthur Highway Ulas Davao City	Brgy. Talomo	Rear End	7	8	5	177	200	<b>397</b>
Mc Arthur H-way, Near Ulas Bridge, D.C	Brgy. Talomo	Rear End	26	141	8	35	41	<b>251</b>

Source: Davao City Police Office

**Table IF-9 Road Accidents by Location, Nature and Frequency  
for the Past Five Years, cont.**

Name of Road	Barangay	Nature of Accident	No. of Accidents					Total
			2014	2015	2016	2017	2018	
Ideal main road, fronting Villa Mercedita Subd.DAVAO CITY	Brgy. Bago Aplaya	Rear End	1	5	7	97	130	<b>240</b>
Artic St, Gulf View, Bago Aaplay, DC	Brgy. Bago Aplaya	Rear End	4	7	7	92	78	<b>188</b>
Green Hills, Catalunan Pequeño, D.C	Brgy. Cat. Pequeno	Rear End	23	13	8	197	168	<b>409</b>

Source: Davao City Police Office

**Table IF-10 Number of Accidents According to Offense/Violation, 2015-2018, Davao City**

Offense/ Violation Reckless Imprudence Resulting to:	No. of Accidents per year			
	2015	2016	2017	2018
Minor Injury	1782	1511	1375	1281
Serious Injury	304	219	308	348
Homicide/ Fatal	112	69	82	414
Damage Property	5388	4533	4712	1631
<b>Total</b>	<b>7586</b>	<b>6332</b>	<b>6477</b>	<b>3674</b>

Source: City Transport and Traffic Management Office

## Capacity of the existing road network

The 2018 IM4 Davao team study found that the current traffic volume exceeded the current capacity of the two trunk roads (i.e., Davao-Cotabato Road and Davao Panabo Road). Meanwhile, Davao Bukidnon Road and C.P Garcia has yet to exceed its capacity. Smooth traffic flows are still observed in both roads.

In the 2030 projection, the current volume in the two trunk roads mentioned is expected to become severe. Daily congestion and inter-city traffic movement is also expected to affect Davao Bukidnon Road. By year 2045, C.P Garcia Highway is also projected to become more congested.

These issues on road congestion is expected to be addressed by the ongoing trunk road projects within the city which are the Davao City Coastal Road Project and the Davao City JICA-DPWH Bypass Road Project.

## Current and Projected Road Transport Requirements

The city has an existing urban network of 2,156.60 kilometers. However the city needs a 1,064.97 kms. of road to meet the standard of 2.4 kms. per 1000 population current urban requirement. By year 2028 the city would need 834.62 kilometers of road to meet such standard. (Table IF-11 )

On the other hand, the city has an existing rural road network of 147.77 kilometers. Majority or 45 out of 85 barangays have adequate rural roads however, the remaining 40 barangays needs a total of 139.28 kilometers of rural road to meet the standard of 1.5 kilometers of rural road per 100 hectares of arable land. If divided by political district, Calinan District needs 42.64 kms., Paquibato District needs 27.406 kms., Tugbok District needs 24.31 kms., Toril District needs 20.86 kms., Baguio District needs 13.63 kms., and Bunawan District needs 8.60 kilometers. By year 2028 the city would need no expansion for rural roads, once the current rural road requirements are met. However, while that is the case, road surface condition is a concern that needs to be addressed to ensure the efficient and smooth delivery of goods and services.

Table IF-11 Projected Urban Road Requirement from 2018-2028

Location	Population (2018)	Population (2028)	URBAN Road Length (Km)	Current Urban Requirement	Projected Urban Requirement
<b>District I</b>					
<b>Talomo District</b>					-
Bago Aplaya	17,042	21,393	31.32	9.58	10.44
Bago Gallera	18,605	23,355	60.10	(15.45)	11.40
Baliok	17,279	21,691	32.69	8.78	10.59
Bucana	89,892	112,843	71.44	144.30	55.08
Catalunan Grande	34,753	43,626	110.94	(27.53)	21.30
Catalunan Pequeño	24,419	30,654	61.44	(2.84)	14.96
Dumoy	19,937	25,027	46.55	1.30	12.22
Ma-a	64,025	80,372	138.83	14.83	39.23
Matina Aplaya	35,741	44,866	46.33	39.45	21.90
Matina Crossing	34,726	43,592	65.43	17.91	21.28
Matina Pangi	19,358	24,300	36.81	9.65	11.86
Talomo	63,891	80,204	76.96	76.38	39.15
<b>Poblacion District</b>					-
Brgy. 1-A	3,322	4,170	0.76	7.21	2.04
Brgy. 2-A	3,842	4,823	1.93	7.29	2.35
Brgy. 3-A	396	497	3.27	(2.32)	0.24
Brgy. 4-A	1,802	2,262	2.23	2.10	1.10
Brgy. 5-A	12,243	15,369	7.02	22.36	7.50
Brgy. 6-A	2,231	2,801	1.47	3.88	1.37
Brgy. 7-A	4,265	5,354	3.65	6.59	2.61
Brgy. 8-A	11,857	14,884	22.41	6.04	7.26
Brgy. 9-A	6,100	7,658	4.60	10.04	3.74
Brgy.10-A	7,242	9,090	4.27	13.11	4.44
Brgy.11-B	2,035	2,555	0.35	4.53	1.25
Brgy.12-B	899	1,129	1.47	0.69	0.55
Brgy.13-B	457	574	1.08	0.02	0.28
Brgy.14-B	1,258	1,579	1.71	1.31	0.77
Brgy.15-B	3,095	3,885	3.96	3.46	1.90
Brgy.16-B	899	1,129	1.47	0.68	0.55
Brgy.17-B	867	1,089	1.33	0.76	0.53
Brgy.18-B	1,961	2,462	3.64	1.07	1.20
Brgy.19-B	34,009	42,692	52.97	28.65	20.84
Brgy.20-B	899	6,157	8.34	(6.18)	12.62
Brgy.21-C	8,006	10,050	3.04	16.18	4.91
Brgy.22-C	7,102	8,916	3.39	13.65	4.35
Brgy.23-C	17,653	22,160	4.78	37.59	10.82
Brgy.24-C	2,786	3,497	0.68	6.01	1.71
Brgy.25-C	2,106	2,644	0.91	4.14	1.29
Brgy.26-C	2,687	3,373	1.44	5.01	1.65
Brgy.27-C	2,304	2,892	3.71	1.82	1.41
Brgy.28-C	2,430	3,051	2.64	3.19	1.49
Brgy.29-C	1,667	2,093	1.21	2.79	1.02
Brgy.30-D	1,722	2,161	4.14	(0.01)	1.05
Brgy.31-D	8,908	11,183	6.98	14.40	5.46
Brgy.32-D	2,125	2,668	4.21	0.89	1.30
Brgy.33-D	2,177	2,732	0.86	4.36	1.33
Brgy.34-D	1,801	2,261	1.91	2.41	1.10
Brgy.35-D	619	777	0.96	0.53	0.38

Current Urban Requirement= [Urban Population X Std. Road Population Ratio]-Existing Urban Road Length

Projected Urban Requirement= [Projected Population X Std. Road Population Ratio]-[Existing Urban Road Length + Additional Urban Road Requirement]

Table IF-11 Projected Urban Road Requirement from 2018-2028

Location	Population (2018)	Population (2028)	URBAN Road Length (Km)	Current Urban Requirement	Projected Urban Requirement
Brgy.36-D	1,693	2,125	1.03	3.03	1.04
Brgy.37-D	7,216	9,058	3.50	13.81	4.42
Brgy.38-D	1,611	2,023	1.61	2.26	0.99
Brgy.39-D	5,506	6,912	2.14	11.08	3.37
Brgy.40-D	2,609	3,275	1.29	4.97	1.60
<b>District II</b>					-
<b>Agdao District</b>					-
Agdao Proper	9,525	11,957	6.19	16.67	5.84
Centro (San Juan)	16,686	20,947	6.53	33.52	10.23
Gov. P. Bangoy	9,438	11,848	13.67	8.99	5.78
Gov. V. Duterte	9,533	11,967	5.85	17.03	5.84
Kap. T. Monteverde Sr.	6,120	7,682	2.80	11.89	3.75
Lapu Lapu	12,567	15,775	8.51	21.65	7.70
Leon Garcia Sr.	14,616	18,348	2.40	32.68	8.96
Rafael Castillo	6,191	7,772	7.12	7.74	3.79
San Antonio	11,034	13,851	8.95	17.53	6.76
Ubalde	3,175	3,986	3.14	4.48	1.95
Wilfredo Aquino	10,602	13,309	14.40	11.05	6.50
<b>Buhangin District</b>					-
Buhangin	70,082	87,976	89.40	78.80	42.95
Cabantian	46,847	58,809	114.20	(1.77)	28.71
Indangan	15,917	19,981	68.66	(30.46)	9.75
Mandug	14,554	18,270	47.29	(12.36)	8.92
Pampang	15,396	19,327	20.75	16.20	9.43
Angliongto	14,495	18,196	49.89	(15.10)	8.88
Vicente Hizon, Sr.	12,060	15,140	34.17	(5.23)	7.39
Sasa	56,084	70,404	73.98	60.62	34.37
Tigatto	38,956	48,902	68.59	24.90	23.87
<b>Bunawan District</b>					-
Alejandro Navarro (Lasang)	10,945	13,739	19.20	7.06	6.71
Bunawan (Pob.)	25,154	31,576	28.41	31.96	15.41
Ilang	26,708	33,528	31.91	32.19	16.37
Mahayag	6,752	8,476	18.32	(2.11)	4.14
Panacan	38,334	48,121	78.59	13.41	23.49
Tibungco	44,820	56,263	41.50	66.07	27.46
<b>District III</b>					-
<b>Baguio District</b>					-
Baguio	4,984	6,256	8.06	3.90	3.05
<b>Calinan District</b>					-
Calinan	24,679	30,981	31.03	28.20	15.12
Riverside	5,835	7,325	18.78	(4.78)	3.58
<b>Toril District</b>					-
Crossing Bayabas	12,301	15,442	16.94	12.58	7.54
Lizada	21,532	27,030	29.53	22.14	13.20
Lubogan	13,014	16,337	13.97	17.26	7.98
Toril (Pob.)	12,997	16,316	14.69	16.51	7.97
<b>Tugbok District</b>					-
Bago Oshiro	12,774	16,036	30.95	(0.29)	7.83
Mintal	14,161	17,776	37.32	(3.34)	8.68
Santo Niño	21,522	27,017	39.44	12.21	13.19
Tacunan	13,675	17,166	31.34	1.48	8.38
Tugbok	16,182	20,314	62.92	(24.08)	9.92
<b>TOTAL</b>					<b>834.62</b>

**Current Urban Requirement**= [Urban Population X Std. Road Population Ratio]-Existing Urban Road Length

**Projected Urban Requirement**= [Projected Population X Std. Road Population Ratio]-[Existing Urban Road Length + Additional Urban Road Requirement]

Table IF-12 Projected Rural Road Requirement from 2018-2028

District and Barangay	Total Population 2018	Total Population 2028	Arable Lnd (Hectares)	RURAL Road Length (Km)	Current Rural Requirement	Projected Rural Requirement
<b>Talomo District</b>	<b>8,502</b>	<b>10,672</b>				
Langub	3,087	3,875	351.112	9.796	-4.529	-9.796
Magtuod	5,415	6,798	249.474	22.357	-18.615	-22.357
<b>DISTRICT 2</b>						
<b>Buhangin District</b>	<b>29,420</b>	<b>36,932</b>				
Acacia	3,492	4,384	541.792	13.572	-5.445	-13.572
Callawa	3,804	4,775	923.445	11.852	2.000	-11.852
Communal	17,922	22,498	90.374	45.629	-44.273	-45.629
Waan	4,202	5,275	344.364	10.724	-5.559	-10.724
<b>Bunawan District</b>	<b>10,128</b>	<b>12,714</b>				
Gatungan	1,274	1,599	1185.952	9.198	8.591	-9.198
Mudiang	3,144	3,947	277.408	16.654	-12.493	-16.654
San Isidro (Licanan)	5,710	7,167	492.613	11.229	-3.839	-11.229
<b>Paquibato District</b>	<b>47,923</b>	<b>60,159</b>				
Colosas	5,065	6,358	3940.237	46.079	13.024	-46.079
Fatima (Benawang)	3,749	4,707	2349.762	26.039	9.208	-26.039
Lumiad	1,663	2,087	26.001	13.547	-13.157	-13.547
Mabuhay	1,137	1,427	883.309	12.581	0.669	-12.581
Malabog	11,580	14,536	882.219	55.342	-42.109	-55.342
Mapula	3,079	3,865	402.608	27.601	-21.562	-27.601
Panalum	1,960	2,461	1111.285	11.495	5.174	-11.495
Pandaitan	4,322	5,426	160.572	10.854	-8.446	-10.854
Paquibato (Pop.)	2,671	3,353	504.214	42.248	-34.685	-42.248
Paradise Embak	2,841	3,567	1057.728	17.568	-1.702	-17.568
Salapawan	2,443	3,067	-	8.551		
Sumimao	1,784	2,239	900.213	13.303	0.200	-13.303
Tapak	5,629	7,066	141.335	6.850	-4.730	-6.850
<b>DISTRICT 3</b>						
<b>Baguio District</b>	<b>31,281</b>	<b>39,268</b>			-	-
Cadalian	2,619	3,287	476.899	7.490	-0.336	-7.490
Carmen	2,308	2,898	200.853	7.476	-4.463	-7.476
Gumalang	5,440	6,829	1198.223	15.312	2.661	-15.312
Malagos	6,985	8,768	861.797	13.965	-1.038	-13.965
Tambobong	6,416	8,054	977.668	8.425	6.240	-8.425
Tawan-tawan	4,164	5,227	694.192	9.321	1.091	-9.321
Wines	3,350	4,205	700.832	6.879	3.633	-6.879
<b>Calinan District</b>	<b>68,061</b>	<b>85,439</b>				
Biao Joaquin	2,451	3,076	491.682	10.778	-3.403	-10.778
Cawayan	2,457	3,084	641.182	6.484	3.134	-6.484
Dacudao	4,730	5,938	906.373	10.944	2.651	-10.944
Dalagdag	1,000	1,255	312.523	3.489	1.199	-3.489
Dominga	1,720	2,160	400.087	5.884	0.118	-5.884
Inayangan	5,173	6,494	1222.362	11.687	6.649	-11.687
Lacson	6,288	7,893	718.246	10.914	-0.140	-10.914
Lamanan	4,858	6,099	1287.530	14.652	4.661	-14.652
Lampianao	905	1,136	716.246	10.024	0.720	-10.024
Megkawayan	3,228	4,052	1402.504	14.028	7.009	-14.028
Pangyan	2,179	2,735	552.078	7.697	0.584	-7.697
Saloy	2,261	2,838	948.866	11.191	3.042	-11.191
Sirib	5,566	6,987	1708.491	23.019	2.608	-23.019
Subasta	3,898	4,893	1016.037	11.554	3.687	-11.554
Talomo River	7,329	9,201	661.069	8.189	1.727	-8.189
Tamayong	7,786	9,775	846.280	7.719	4.975	-7.719
Wangan	6,232	7,823	933.073	15.100	-1.104	-15.100

Current Rural Requirement= [Arable Land Area X Std. Road to Area Ratio]-Existing Urban Road Length

Projected Rural Requirement= [Total Area intended for Agriculture X Std. Road to Area Ratio]-[Existing Rural Road Length + Additional Current Requirement]

Table IF-12 Projected Rural Road Requirement from 2019-2028, cont.

District and Barangay	Total Population 2018	Total Population 2028	Arable Land (Hectares)	RURAL Road Length (Km)	Current Rural Requirement	Projected Rural Requirement
<b>Marilog District</b>	<b>55,886</b>	<b>70,156</b>				
Baganihan	1,386	1,740	-	10.627		
Bantol	2,488	3,123	290.990	2.237	<b>2.128</b>	<b>-2.237</b>
Buda	2,018	2,533	-	19.484		
Dalag Lumot	1,996	2,505	37.065	8.373	<b>-7.817</b>	<b>-8.373</b>
Datu Salumay	2,390	3,000	-	9.162		
Gumitan	1,880	2,360	-	13.024		
Magsaysay	2,596	3,259	-	35.256		
Malamba	5,207	6,537	359.817	11.024	<b>-5.627</b>	<b>-11.024</b>
Marilog	17,331	21,756	264.942	115.126	<b>-111.152</b>	<b>-115.126</b>
Salaysay	4,744	5,955	762.036	21.673	<b>-10.242</b>	<b>-21.673</b>
Suawan (Tuli)	4,910	6,163	1838.307	45.619	<b>-18.045</b>	<b>-45.619</b>
Tamugan	8,941	11,223	1130.687	15.954	<b>1.006</b>	<b>-15.954</b>
<b>Toril District</b>	<b>76,548</b>	<b>96,092</b>				
Alambre	2,152	2,701	129.519	5.985	<b>-4.042</b>	<b>-5.985</b>
Atan-Awe	1,198	1,504	251.095	1.309	<b>2.458</b>	<b>-1.309</b>
Bangkas Heights	8,213	10,309	3.897	9.141	<b>-9.083</b>	<b>-9.141</b>
Baracatan	3,099	3,891	915.039	15.979	<b>-2.254</b>	<b>-15.979</b>
Bato	10,713	13,449	379.149	11.158	<b>-5.471</b>	<b>-11.158</b>
Bayabas	3,200	4,017	888.032	11.744	<b>1.576</b>	<b>-11.744</b>
Binugao	7,424	9,319	19.306	19.457	<b>-19.167</b>	<b>-19.457</b>
Camansi	1,273	1,598	275.995	5.845	<b>-1.705</b>	<b>-5.845</b>
Catigan	3,259	4,091	1781.398	19.401	<b>7.320</b>	<b>-19.401</b>
Daliaon Plantation	3,441	4,319	355.103	11.965	<b>-6.638</b>	<b>-11.965</b>
Eden	2,553	3,205	301.565	20.206	<b>-15.683</b>	<b>-20.206</b>
Kilate	1,401	1,759	505.596	4.169	<b>3.415</b>	<b>-4.169</b>
Marapangi	7,375	9,258	107.666	33.623	<b>-32.008</b>	<b>-33.623</b>
Mulig	2,652	3,329	446.225	22.772	<b>-16.078</b>	<b>-22.772</b>
Sibulan	2,654	3,332	536.662	9.175	<b>-1.125</b>	<b>-9.175</b>
Sirawan	7,644	9,596	157.002	34.063	<b>-31.708</b>	<b>-34.063</b>
Tagluno	1,489	1,869	460.569	2.884	<b>4.025</b>	<b>-2.884</b>
Tagurano	1,317	1,653	431.232	7.546	<b>-1.077</b>	<b>-7.546</b>
Tibuloy	2,375	2,981	636.359	7.464	<b>2.081</b>	<b>-7.464</b>
Tungkalan	3,115	3,911	1034.766	14.810	<b>0.712</b>	<b>-14.810</b>
<b>Tugbok District</b>	<b>51,586</b>	<b>64,757</b>				
Angalan	2,650	3,326	397.533	11.472	<b>-5.509</b>	<b>-11.472</b>
Balengaeng	2,233	2,803	382.895	36.130	<b>-30.386</b>	<b>-36.130</b>
Biao Escuela	3,527	4,427	1260.961	8.686	<b>10.228</b>	<b>-8.686</b>
Biao Guianga	3,923	4,924	434.033	8.686	<b>-2.176</b>	<b>-8.686</b>
Los Amigos	10,408	13,066	82.689	17.301	<b>-16.060</b>	<b>-17.301</b>
Manambulan	2,849	3,576	634.472	6.250	<b>3.267</b>	<b>-6.250</b>
Manuel Guianga	6,890	8,650	729.669	17.680	<b>-6.735</b>	<b>-17.680</b>
Matina Biao	1,939	2,434	986.945	13.958	<b>0.846</b>	<b>-13.958</b>
New Carmen	2,811	3,529	903.269	14.688	<b>-1.139</b>	<b>-14.688</b>
New Valencia	1,798	2,256	850.390	9.627	<b>3.129</b>	<b>-9.627</b>
Tagakpan	4,505	5,655	615.492	7.799	<b>1.434</b>	<b>-7.799</b>
Talandang	3,631	4,559	1283.113	13.840	<b>5.407</b>	<b>-13.840</b>
Ula	4,422	5,551	610.351	20.110	<b>-10.955</b>	<b>-20.110</b>

**Current Rural Requirement**= [Arable Land Area X Std. Road to Area Ratio]-Existing Urban Road Length

**Projected Rural Requirement**= [Total Area intended for Agriculture X Std. Road to Area Ratio]-[Existing Rural Road Length + Additional Current Requirement]

## IM4 Davao Road Network and Road Transport Plan

The planning area of the IM4 Davao Project covering Davao City is a hierarchical 5-7 functional road network plan produced for the city to connect to other areas in Mindanao.

A new highway that will help mitigate congestion in existing national roads is needed. This role will be played by the ongoing JICA-DPWH Bypass Road project. The extension of CP Garcia Highway is a significant long-term project to meet the same objective. The increasing population is escalating urbanization in Davao City. The CBD of Davao City covers the area of Poblacion, Talomo, Buhangin and Agdao Districts. It is necessary to avoid traffic to the CBD and to redesign the road space for pedestrians and public transport.

### Development Plan 1

#### Short-Term Development Plan (Until 2022):

The two ongoing trunk road projects, JICA-DPWH Bypass Road project and Davao City Coastal Road project, will be completed in the next four years (Table 5.3). To meet strong development needs in the suburbs, secondary roads will be developed particularly between the bypass road and the Davao City Diversion Road.

In order to cope with traffic congestions at peak hours, a traffic control center will be established to manage traffic flows along roads as well as at major intersections. This will further provide road traffic information to the road users in real time.

#### Medium-Term Development Plan (2023-2030):

The triple-ladder shape road concept will be completed once there would be extension of CP Garcia Highway up to Toril. Another plan is to establish Davao Riverside Boulevard to link coastal road and inland roads. Secondary roads will be also developed to support sub-urban development.

#### Long-Term Development Plan (2031-2045):

Two (2) new road projects will be developed during this period, namely: Talomo-Calinan Bypass Road and Bunawan-Buhangin Bypass Road. Both roads will provide new frontiers for urban development in the districts of Buhangin, Bunawan, Tugbok and Calinan. Related secondary roads will be constructed.

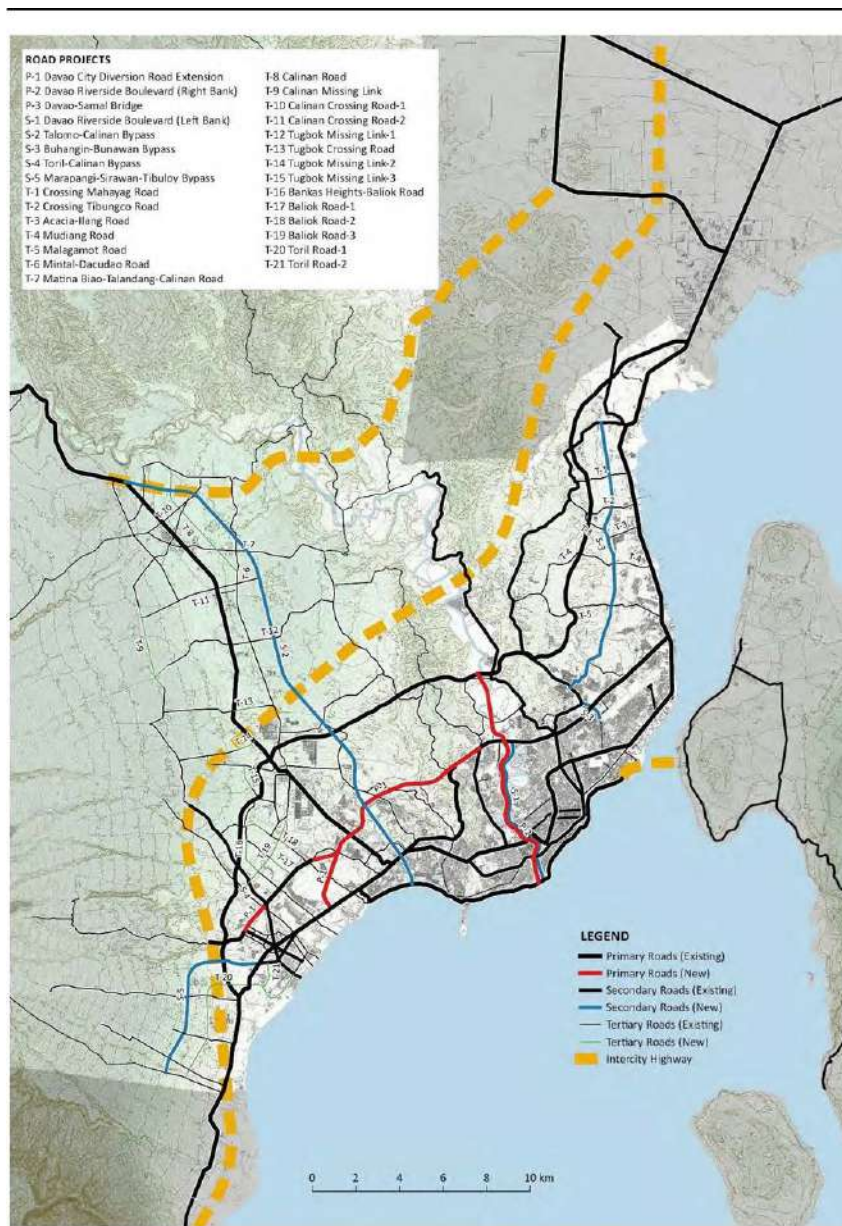
The project has also taken note of three (3) identified inter-city infrastructure projects by the regional and national governments that will have profound impact on the city when implemented. They are (i) Metro Davao Expressway, which will stretch from Tagum to Digos as an access control toll road, (ii) Calinan-Panabo Highway, which will take a shortcut between Calinan and the Panabo circumferential road, and (iii) Davao City-Samal Bridge, connecting with the Davao City Coastal Road.



**Table 5.3 Development Plan for Road Network and Road Transport**

Planning Term	Projects, Programs and Activities
Short-Term (until 2022)	<ul style="list-style-type: none"> <li>• Completion of Davao City Bypass Road</li> <li>• Completion of Davao City Coastal Road</li> <li>• Secondary routes between Davao City Bypass Road and Davao City Diversion Road</li> <li>• Establishment and operationalization of Davao City Traffic Control Center</li> </ul>
Medium-Term (2023-2030)	<ul style="list-style-type: none"> <li>• Extension of Davao City Diversion Road to Toril</li> <li>• Construction of Davao Riverside Boulevard together with river improvement</li> <li>• Secondary roads to serve newly urbanized areas</li> </ul>
Long-Term (2031-2045)	<ul style="list-style-type: none"> <li>• Construction of Buhangin – Bunawan Bypass Road</li> <li>• Construction of Talomo – Calinan Bypass Road</li> <li>• Continuous secondary road development</li> </ul>

Source: IM4Davao Team



Source: IM4Davao Team

**Figure 5.8 Future Road Network for Davao City**

## Feasibility Study for Davao City Expressway Project

In 2018, Davao City, in partnership with Government of the People's Republic of China, embarked on a feasibility study for Davao City Expressway Project. This expressway project will be divided into three (3) phases.

- The Phase-1 is proposed to have a total alignment about 6.77 km, and the entire phase is a viaduct type. It would start about 750 meter east of Davao River estuary, connected to the Davao City Coastal Road, and it will have its endpoint at the west side of Ma-a Bridge.
- The Phase 2 is a T-type interchange with a total length of 9.615 km. It would start from Davao-Agusan National Highway near Panacan Crossing, and will be routed westward along the existing Davao City Diversion Road in the form of viaducts. The alignment will be folded south near Ma-a bridge as a new road, connecting with Phase-1 at the intersection of Davao City Diversion Road and Countryside Road by a T-type interchange.
- The Phase 3 consists of 12.821 km viaduct. It will start at the end point of the Phase 2. The alignment goes to the southwest along the Davao City Diversion Road. After the 260m-long tunnel set up near Vista View Resto, it will route westward, crossing the Matina River and the Talomo River. The end point is connected with Davao-Cotabato National Highway near Dumoy via a T-type interchange.
- As of August 2019, the Department of Public Works and Highways together with China Communications Construction Company (CCCC) Highway Consultants Co., Ltd and another counterpart has conducted a series of public consultation for the Road Right of Way Acquisition. The same team previously identified structures that will be affected by the development.

## High Priority Bus System (HPBS)

The HPBS is a product of three technical studies supported by Asian Development Bank (ADB) and the Department of Transportation (DOTR) since 2011. As an offshoot, the Davao Integrated Bus System (DIBS) has been rationalized. In August 2019, the city began testing the buses initially as augmentation during the rush hours. The city government identified six (6) specific routes for the DIBS, among the six (6), two (2) routes are the Catalunan Grande going to downtown Davao City, and Toril to Poblacion area route. This project aims to efficiently transport passengers and also to decongest city roads.

## Airport and seaports

Davao International Airport will be expanded to meet the increasing air traffic demand in the short to medium-term. The initiative includes the expansion of the existing passenger terminal, construction of another terminal, and extension of the existing taxiway. In the long-term, the second regional airport will be selected and its role demarcation with Davao International Airport will be adequately set.

<sup>2</sup><https://business.inquirer.net/279111/chinese-eye-mindanao-rail>

<sup>3</sup><https://www.mindanews.com/top-stories/2019/07/davao-biz-leaders-hail-new-design-for-mindanao-railway-project/>

In 2019, transition of the airport's administration and management from Civil Aviation Authority of the Philippines (CAAP) to the Davao International Airport Authority (DIAA) was proposed.

Sasa Port will serve mainly for domestic shipping with necessary management improvement and equipment installation. Since Davao City has no suitable candidate sites for a new gateway airport and seaport, unless large-scale reclamation is allowed, a long-term gateway development agenda must be elaborated under the context of Metro Davao.

### **Risk Management Options**

In order to pursue sustainable connectivity and curb the degree of impact and severity of consequence in transportation facilities in times of disaster occurrence, there is a need to retrofit a total of three main road networks which are moderately at risk to flood, two main road networks highly and moderately at risk of landslide occurrence, and 14 existing national bridges at high risk to flood and landslide. Rationalization of invert elevations in relation to the main drains of drainage systems must be done through drainage improvement projects for areas with high flood risk. Retrofitting and rehabilitation of bridges at high risk to hazards is also a must. Slope protection and other mitigating measures must also be in place for areas with high landslide risk. Over-all, parallel roads near the major roads with high risk/vulnerability across all hazards is needed and alternate roads should be established. Further, future road and bridge construction must possess features with strong adaptive capacity.

Apart from interventions for flood and landslide risk, crafting of contingency plans for emergency situation, and re-routing scheme in emergency situation for affected area is also necessary for roads, bridges, and other lifeline utilities which are vulnerable to fault line, storm surge and liquefaction.

### **Transport Related Projects**

As observed in the table below, Table IF-13, majority of the transport related projects are road concreting to address the bad road conditions, other projects also include the rehabilitation of the drainage system to address flooding. One important aspect of these projects though, is the alternative access they provide to the traffic-hounded national highways, especially in the Talomo and Matina Crossing intersections, in crowded Agdao, in the Damosa-Angliongto-CP Garcia Highway, and in the Maa-CP Garcia Highway. While they impede traffic in the short-term for the duration of their construction, their improvement will be immediately felt as soon as they are opened to public conveyance.

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation, 2019**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropri- ation	Estimated Start Date	Estimated Date of Comple- tion
Road concreting	Purok 17-A, Baran- gay 5-A, Poblacion District	168.70	LGU	1,200,000	July 30, 2019	September 12, 2019
Road concreting with drainage	Alvarez St. be- tween Monteverde and Uyanguren St., Barangay 27-C, Poblacion District	100.00	LGU	1,680,000	March 11, 2020	July 20, 2020
Road con- creting (from asphalt to gravel) with construction of drainage system	S. Artiaga St. to Aurora Quezon St., Brgy. 36-D, Poblacion District	240.67	LGU	1,200,000	July 29, 2019	September 11, 2019
Road con- creting	Diamond St., Caflor Village, Catalunan Grande, Talomo District	219.80	LGU	1,176,000	September 09, 2019	November 11, 2019
Construction of Pathway with Drainage	Purok 3, Barangay 5-A, Poblacion Dis- trict	56.00	LGU	350,000	June 5, 2019	July 19, 2019
Road Con- creting with Drainage at Purok 3, Ba- rangay 5-A, Poblacion District	Purok 3, Barangay 5-A, Poblacion Dis- trict	87.80	LGU	1,200,000	August 15, 2019	October 28, 2019
Road Con- creting w/ Drainage	Upper Kamuning St., and its inter- connecting roads , PH.4-A, El Rio Vista Village,Barangay 19 -B, Poblacion Dis- trict	257.70	LGU	6,000,000	July 1, 2019	October 28, 2019
Road Con- creting	Oplimo Road, Brgy. Baliok, Talomo Dis- trict	154.40	LGU	2,940,000	July 15, 2019	October 22, 2019
Road Con- creting	Camasura Road from SGR Village to San Miguel Over- view, Sitio Awa, Brgy. Catalunan Grande, Talomo District		LGU	6,384,000		
Road Con- creting	Tangerine St., Ba- rangay Dumoy, Talomo District	251.13	LGU	3,000,000	July 3, 2019	November 22, 2019
Road Con- creting	Acacia Street, Purok 47 Roldan Village, Brgy. Maa, Talomo District	55.20	LGU	1,000,000	August 28, 2019	September 23, 2019

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation, 2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropri- ation	Estimated Start Date	Estimated Date of Comple- tion
Concreting of Road w/ Drainage	Curadang St. to Subli St., Brgy. Matina Aplaya, Talomo District	419.00	LGU	4,512,000	July 21, 2019	November 27, 2019
Road Concreting	Teachers Village Entrance Phase 1, Blk. 1 (main road) to Phase 2, Blk. 8, Brgy. Talomo Proper, Talomo District	141.00	LGU	1,200,000	August 30, 2019	September 28, 2019
Concreting of road	Sta. Maria Street, La Verna Hills Subd., Phase II, Brgy. Angliongto, Buhangin District	150.00	LGU	1,700,000	August 30, 2019	September 28, 2019
Road concreting with drainage system	Cinnamon Bread St., Bread Village, Brgy. Buhangin Proper, Buhangin District	105.70	LGU	1,000,000	July 23, 2019	September 5, 2019
Concreting of road	Purok Taurus, Sitio Tambongon, Lasang, Bunawan District	219.30	LGU	2,000,000	June 13, 2019	August 11, 2019
Road Concreting	from National Highway to Datu Salumay Elementary to High School of Agriculture, Brgy. Datu Salumay, Marilog District	186.50	LGU	5,565,000	September 26, 2019	December 14, 2019
Concreting of Farm to Market Road	Sitio Lower Titugop, Brgy. Malamba, Marilog District	3,000.00	LGU	44,744,224	February 03, 2020	July 03, 2020
Road Concreting	from Purok 10 going to Cabagtukan Elementary School, Brgy. Dominga, Calinan District	740.49	LGU	13,000,000	November 04, 2019	January 29, 2021
Road Concreting	Purok 33 to Purok 30 Bagong Silang, Brgy. Inayangan, Calinan District	3,000.00	LGU	21,280,000	March 19, 2020	February 11, 2021
Road Concreting	Purok Sany 6, Brgy. Pangyan, Calinan District	645.00	LGU	10,667,216	November 01, 2019	May 25, 2019
Road Concreting with Drainage	Purok 1A Brgy. Biao Joaquin to Brgy. Talomo River, Calinan District	850.00	LGU	11,504,528	November 04, 2019	October 15, 2020

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation, 2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropri- ation	Estimated Start Date	Estimated Date of Comple- tion
Concreting of Road	Purok 3 Cogon, Brgy. Bato, Toril District		LGU	25,420,000	December 03, 2019	January 18, 2021
Road Concreting	Purok 7 and 8, Barangay Marapangi, Toril District	362.00	LGU	5,969,000	July 8, 2019	September 25, 2019
Concreting of Road	Purok 7, Brgy. Sirawan, Toril District	288.00	LGU	4,080,000	July 22, 2019	September 23, 2019
Improvement of Road with Drainage System	Mandaue Drive and Lulu Village, Brgy. R. Castillo, Agdao District	224.60	LGU	2,676,000	November 06, 2019	March 13, 2020
Rehabilita- tion/ Improvement of Road with Drainage System	Ricardo Cajoles St., Belisario Village, Brgy. San Antonio, Agdao District	115.50	LGU	1,440,000	October 15, 2019	November 28, 2019
Rehabilita- tion/ Improvement of Road	Cadena de Amor St., Brgy. Ubalde, Agdao District		LGU	2,476,000	August 29, 2019	November 26, 2019
Concreting of Road with Drainage System	5th, 6th, 7th Avenue and Alley Road, Fortune Executive Homes, Brgy. V. Hizon Sr., Buhangin District	659.40	LGU	7,728,000	August 16, 2019	January 22, 2020
Road Opening	Purok 6 Sitio San Isidro to Purok 5 Banban, Brgy. Lumiad, Paquibato District	2,990.00	LGU	23,760,000	June 19, 2020	February 03, 2021
Road Concreting	Paradise Embac to Malag, Brgy. Paradise Embac, Paquibato District	1,680.00	LGU	26,101,320	October 21, 2019	December 18, 2020
Road concreting	going to Balay Pasi-lungan, Purok 2, Brgy. Datu Salumay, Marilog District	186.50	LGU	1,905,000	December 05, 2019	February 17, 2020
Road Con- creting	Purok 1, Brgy. Bago Oshiro, Tugbok District	569.00	LGU	4,596,000	September 02, 2019	November 29, 2019
Rehabilitation of Drainage	Gempesaw St., Purok 3, Brgy. 28-C, Poblacion District	156.60	LGU	1,050,000	July 08, 2019	March 10, 2020

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation,  
2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropri- ation	Estimated Start Date	Estimated Date of Comple- tion
Construction of Main Drainage	El Rio Vista Village, Phase 5, Barangay 19-B, Poblacion District	86.60	LGU	1,848,000	July 24, 2019	March 18, 2020
Outfall for the Main Drain- age with Road Concreting	El Rio Vista Village, Phase 5, Barangay 19-B, Poblacion District	340.00	LGU	5,600,000	September 19, 2019	February 17, 2020
Construction of Drainage System	Burgos St., Baran- gay 20-B, Poblacion District	160.00	LGU	581,000	June 26, 2019	August 14, 2019
Construction of Drainage System	Damaso Suazo St., Brgy. 25-C, Poblacion District	93.00	LGU	679,000	July 02, 2019	October 25, 2019
Elevation of Drainage System	Alley Pusong Bakal St., Brgy. 25 -C, Poblacion D istrict	93.00	LGU	315,000	July 02, 2019	October 25, 2019
Construction of Drainage System	Purok 3-A, Brgy. 25 -C, Poblacion District	93.00	LGU	533,000	July 02, 2019	October 25, 2019
Rehabilitation of Drainage	Juan Luna St., Purok 5, Barangay 28-C, Poblacion District	83.00	LGU	350,000	June 25, 2019	October 31, 2019
Construction of Drainage System	Purok 7, Artiaga Extension, Brgy. 37 -D, Poblacion District	12.00	LGU	357,000	June 13, 2019	October 5, 2019
Construction of Drainage System	Purok 7, Renters Village, Brgy. 37-D, Poblacion District	24.00	LGU	214,000	June 13, 2019	October 5, 2019
Construction of Drainage System	Purok 2, San Juan, near Angelo's Shoes, Brgy. 37-D, Poblacion District	136.10	LGU	525,000	June 13, 2019	October 5, 2019
Construction of Drainage System	Rizal St., from Purok 1,2 and 4, Barangay 38-D, Poblacion District	140.00	LGU	980,000	August 22, 2019	October 05, 2019
Construction of Drainage System	EcoCity Heights, Purok 4, Brgy. Bali- ok, Talomo District	610.00	LGU	3,984,000	February 06, 2020	September 05, 2020
Construction of CHB Line Canal with Steel Gates	Kabacan Element- ary School, Cande- laria St, Ecoland, Brgy. Bucana 76-A, Talomo District	241.15	LGU	1,545,000	November 01, 2019	January 19, 2020

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation, 2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropri- ation	Estimated Start Date	Estimated Date of Comple- tion
Construction of Drainage System	infront of San Vicente Ferrer Chapel, Savina going to Davao River, Barangay 76-A, Bucana, Talomo District	117.00	LGU	1,400,000	March 27, 2019	December 16, 2019
Line canal with steel gates	New Matina Grava-han, Brgy. Matina Crossing, Talomo District	85.00	LGU	400,000	June 04, 2019	July 10, 2019
Concreting of Drainage Canal	San Francisco De Asis Vill., Tinikling St., Brgy. 74-A Matina Crossing, Talomo District	24.50	LGU	105,000	June 11, 2019	October 28, 2019
Construction of Cross-Drainage Canal	Tinikling St., Lower ABS-CBN, Brgy. 74-A Matina Crossing, Talomo District	15.40	LGU	135,000	June 11, 2019	October 28, 2019
Construction of Drainage System	from Malagueña to Curadang St. to Habanera St., Lanzona Subd., Brgy. Matina Aplaya, Talomo District	240.00	LGU	1,250,000	June 24, 2019	August 16, 2019
Construction of Drainage System	Shanghai Village-Urban, Brgy. Matina Aplaya, Talomo District	592.00	LGU	2,223,000	August 13, 2019	December 10, 2019
Construction of Drainage	Subli St., Lanzona Subdivision, Barangay Matina Aplaya, Talomo District	120.20	LGU	490,000	June 11, 2019	October 28, 2019
Construction of Drainage	Curadang St., Lanzona Subdivi-sion, Barangay Matina Aplaya, Talomo District	168.00	LGU	578,000	June 21, 2019	November 27, 2019
Continuation of Construc-tion of Drain- age System	Sitio Bulusan, Brgy. Talomo Proper, Talomo District	74.00	LGU	4,305,000	March 19, 2020	January 27, 2021
Repair/ Reha- bilitation of Drainage sys- tem	from Crossing Puan fronting INC to Purok 12, Brgy. Talomo Proper, Talomo District	269.00	LGU	1,548,000	July 22, 2019	January 24, 2020
Construction of Drainage System	Central Park Ave- nue, Barangay Talomo Proper, Talomo District	132.00	LGU	1,645,000	August 22, 2019	November 13, 2019



**Table IF-13 Transport Related Projects, Approved/Funded for Implementation, 2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropriation	Estimated Start Date	Estimated Date of Comple tion
Rehabilita- tion/ Improvement of Main Drainage	along Narra St. beside Mabini Elem. School, Talomo District	203.40	LGU	1,800,000	July 3, 2019	September 28, 2019
Rehabilitation of Drainage System with canal cover	Del Rosario St., Brgy. R. Castillo, Agdao District	257.50	LGU	1,984,000	July 31, 2019	October 18, 2019
Improvement of Drainage System both side with cover	Maya-Maya St., Brgy. Lapu-Lapu, Agdao District	705.00	LGU	4,230,000	January 01, 2020	December 30, 2020
Rehabilitation of Drainage System with canal cover	Salindatu St., Brgy. R. Castillo, Agdao District	231.00	LGU	1,928,000	July 22, 2019	November 8, 2019
Rehabilitation of Drainage System	Lulu Village and Lanang Executive Homes Phase 2, Brgy. R. Castillo, Agdao District	209.10	LGU	2,048,000	June 09, 2020	November 13, 2020
Rehabilita- tion/ Improvement of canal	from corner Cajoles and Jayme St., to corner Waling- Waling and Tulip St., Belisario Vil- lage, Brgy. San An- tonio, Agdao Dis- trict	251.60	LGU	2,800,000	October 23, 2020	October 23, 2019
Improvement of Drainage System	Purok 2, Brgy. Riverside, Calinan District		LGU	1,400,000	January 14, 2020	March 13, 2020
Riprapping of canal/ Drainage System	boundary of Brgy. Lubogan and Brgy. Crossing Bayabas at Purok 1, Toril District	341.00	LGU	1,626,000	October 01, 2019	November 29, 2019
Riprapping of canal both sides	Purok 8, Brgy. Toril Proper, Toril District	397.00	LGU	1,482,000	September 19, 2019	January 07, 2020
Improvement of Drainage System with Culvert	Purok 2 Catleya, Brgy. Riverside, Calinan District	398.10	LGU	2,520,000	October 31, 2019	February 24, 2019
Improvement of Drainage System (both side)	Purok 2 San Fran- cisco, Brgy. River- side, Calinan Dis- trict	220.10	LGU	1,080,000	September 09, 2019	November 20, 2019

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation, 2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropriation	Estimated Start Date	Estimated Date of Comple- tion
Improvement of Drainage System	Purok 1 San Francisco, Brgy. Riverside, Calinan District	92.40	LGU	300,000	May 21, 2019	September 06, 2019
Improvement of Drainage System	Purok 5 Sampagui- ta St., Brgy. Riverside, Calinan District	92.40	LGU	240,000	May 21, 2019	September 06, 2019
Improvement of Drainage System (both side)	Purok 1, Brgy. Riverside, Calinan District	260.00	LGU	1,560,000	August 09, 2019	September 17, 2019
Installation of Single Barrel Box Culvert	Purok Pakisama, Brgy. Saloy, Calinan District	7.50	LGU	1,200,000	November 14, 2019	January 10, 2020
Installation of Single Barrel Box Culvert	Purok Kaunlaran, Brgy. Saloy, Calinan District	7.50	LGU	1,200,000	September 12, 2019	January 10, 2020
Riprapping of Canal/ Drainage System	Purok 3 Neptune St., Brgy. Crossing Bayabas, Toril District	74.30	LGU	690,000	August 22, 2019	September 06, 2019
Construction and Rehabilitation of Drainage Canal	Purok 3 Venus St., Brgy. Crossing Bay- abas, Toril District	86.60	LGU	760,000	September 09, 2019	October 23, 2019
Riprapping of Canal/ Drainage System	St. Peter Street, Brgy. Crossing Bayabas, Toril District	376.00	LGU	2,316,000	August 22, 2019	November 04, 2019
Drainage System	Purok 2 and Purok 4, Brgy. Tagurano, Toril District	1,953.77	LGU	16,000,000	July 21, 2020	
Rehabilita- tion/ Improvement of Drainage System	Don Juan Dela Cruz Elementary School going to R. Mag- saysay Elementary School, Toril Prop- er, Toril District	410.00	LGU	8,896,000	December 06, 2019	August 16, 2020
Construction of Drainage System	Doña Rosa Phase 2, Brgy. Lizada, Toril District	380.00	LGU	3,080,000	July 16, 2019	December 02, 2019
Construction of Footbridge	Puroks 12,13 and 16, Brgy. Tibungco, Bunawan District	90.90	LGU	800,000	June 5, 2019	August 8, 2019
Construction of Footbridge	Purok 6, Muslim Village, Brgy. Ilang, Bunawan District	33.00	LGU	300,000	July 20, 2020	September 03, 2020

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation,  
2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropriation	Estimated Start Date	Estimated Date of Comple tion
Const. of Hanging Bridge	at the back River- side Elem. School, Brgy. Riverside, Calinan District	40.00	LGU	3,200,000	October 30, 2019	April 03, 2020
Mindanao Rail Project	Tagum-Davao- Digos	105,00 0.00	DOTR	81,700,000,00 0.00	1st Quarter 2020	Last Quar- ter 2025
Construction of By-Pass and Diversion Roads	Alternate Road from Region XI to Region X, Package 3A, Davao City	1,050.0 0	DPWH	158,325,000	January 01, 2019	December 31, 2019
Construction of By-Pass and Diversion Roads	Alternate Road from Region XI to Region X, Package 3B, Davao City	6,170.0 0	DPWH	133,425,000	January 01, 2019	December 31, 2019
Construction of By-Pass and Diversion Roads	Jct. Davao- Cotabato Road (Bangkal Section)- Catalunan Grande Road-Jct. Davao- Bukidnon Road (Mintal Section), Davao City, Davao City	690.00	DPWH	134,502,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Jct. Davao - Bukid- non Road (Datu Salumay Section) to Sitio Patag lead- ing to Hill's View Mountain Resort, Marilog District, Davao City	1,800.0 0	DPWH	18,000,000	January 01, 2019	December 31, 2019
Reconstruc- tion to Concrete Pavement	Jct. Davao - Bukid- non Road (Highway Tugbok Proper) to Tacunan leading to DECA Wakeboard, incl. Bridge, Brgy. Tugbok, Davao City	600.00	DPWH	15,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Jct. Davao - Bukid- non Road (Lacson Section) through Dacudao - Talomo River - Riverside - Los Amigos - Ula Road to Tacunan leading to DECA Wakeboard, Cali- nan and Tugbok Districts, Davao City	1,200.0 0	DPWH	12,000,000	January 01, 2019	December 31, 2019

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation,  
2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropri- ation	Estimated Start Date	Estimated Date of Comple- tion
Construction of Concrete Road	Jct. Davao - Bukid- non Road (Lacson Section) through Gumalang - Mala- gos Road leading to Philippine Eagle Sanctuary, Calinan and Baguio Dis- tricts, Davao City	1,500.0 0	DPWH	15,000,000	January 01, 2019	December 31, 2019
Reconstruc- tion to Con- crete Pave- ment	Jct. Davao - Bukid- non Road (Marahan, Marilog Proper Section) leading to D.A. Stockfarm, Brgy. Marilog, Marilog District, Davao City	1,500.0 0	DPWH	15,000,000	January 01, 2019	December 31, 2019
Reconstruc- tion to Con- crete Pave- ment	Manambulan- UP Mindanao Road, Tugbok District, Davao City	1,240.0 0	DPWH	15,540,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Brgy. Tagluno - Brgy. Tungkalan Road connecting to Coco Coir Facility in support to Coco Coir Industry, Toril District, Davao City, Davao del Sur	1,480.0 0	DPWH	15,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Sitio Baracayo-Sitio San Agustin Road connecting to Ba- nana Processing area and Veggie Noodle Processing Facility in support to Banana and Veg- etables Industries, toril District, Davao City, Davao del Sur	2,500.0 0	DPWH	25,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Concreting of Sitio Maharlika, Pinangudlutan- Putting Bato, Baganihan Road, Phase III, Marilog District, Davao City	3,200.0 0	DPWH	30,000,000	January 01, 2019	December 31, 2019

**Table IF-13 Transport Related Projects, Approved/Funded for Implementation,  
2019 Cont.**

Name/ Location of Project	Location	Length (m)	Proponent (Governme nt, Private, Other)	Estimated Appropri- ation	Estimated Start Date	Estimated Date of Comple- tion
Construction of Concrete Road	Concreting of Sitio Brgy. Proper to Sitio Maharlika, Baganihan Road, Marilog District, Davao City	3,200.0 0	DPWH	30,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Brgy. Malamba, Marilog District, Davao City	210.00	DPWH	2,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Brgy. Santo Niño, Tugbok District, Davao City	210.00	DPWH	4,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Brgy. Tacunan, Tug- bok District, Davao City	430.00	DPWH	3,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Brgy. Tagluno, Toril District, Davao City	320.00	DPWH	2,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Dominga Village, Brgy. Calinan Prop- er, Calinan District, Davao City	210.00	DPWH	2,000,000	January 01, 2019	December 31, 2019
Construction of Concrete Road	Sitio Malinan, Brgy. Catigan, Toril Dis- trict, Davao City	160.00	DPWH	1,500,000	January 01, 2019	December 31, 2019

Table IF-13 Transportation Sector Analysis Matrix, 2018

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<b>LAND</b>		
<ul style="list-style-type: none"> <li>Lack of towing capacity of the CTTMO, like lack of towing vehicles and impounding area</li> </ul>	<ul style="list-style-type: none"> <li>Illegal parking/ Unattended vehicles that cause traffic congestion</li> </ul>	<ul style="list-style-type: none"> <li>Accreditation of private towing companies to augment the CTTMO's towing capacity</li> <li>Fund allocation for the provision of more towing vehicles</li> <li>Additional towing impound areas</li> </ul>
<ul style="list-style-type: none"> <li>Designated pedestrian sidewalks are being used by business establishments, sidewalk vendors</li> </ul>	<ul style="list-style-type: none"> <li>Hazard to human life</li> <li>Causes traffic congestion</li> <li>Impedes pedestrian mobility</li> </ul>	<ul style="list-style-type: none"> <li>Strict implementation/revision of City Ordinance No. 0334-12, Comprehensive Transport and Traffic Code of Davao City</li> <li>Sidewalk Development Plan</li> </ul>
<ul style="list-style-type: none"> <li>Illegal parking on National and City Roads</li> </ul>	<ul style="list-style-type: none"> <li>Reduced road width resulting to traffic congestion</li> <li>Damage to government properties</li> </ul>	<ul style="list-style-type: none"> <li>Strict implementation of JAO (Joint Administrative Order) 2014-01) which provide penalties for illegal parking</li> <li>Construction of Logistical Hub in strategic areas leading to Davao City</li> <li>Encourage private sector to construct / set up rest areas, park buildings</li> </ul>
<ul style="list-style-type: none"> <li>Indiscriminate Loading/ Unloading by PUJ's and some private vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Limits mobility and safety for pedestrian and bikers</li> <li>Accidents most likely to happen</li> </ul>	<ul style="list-style-type: none"> <li>Highly Priority Bus System</li> <li>Strict implementation of Traffic Law</li> <li>Provisions of bike lanes</li> </ul>
<ul style="list-style-type: none"> <li>Presence of Informal Settlers along national highways</li> </ul>	<ul style="list-style-type: none"> <li>Delayed implementation of projects</li> </ul>	<ul style="list-style-type: none"> <li>Interventions of different government agencies concerned</li> </ul>
<ul style="list-style-type: none"> <li>Not all roads have proper drainage</li> </ul>	<ul style="list-style-type: none"> <li>Flooding</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation of existing drainage system</li> <li>Crafting of Drainage Master Plan</li> <li>Proposed Projects for Drainage System</li> </ul>
<ul style="list-style-type: none"> <li>Delays in some road infra projects due to peace and order condition in Paquibato District</li> </ul>	<ul style="list-style-type: none"> <li>Delayed road development and delayed barangay development (i.e. Agricultural products)</li> </ul>	<ul style="list-style-type: none"> <li>Increase the visibility of law enforcers</li> <li>Sustain Peace 911 programs / projects</li> </ul>
<ul style="list-style-type: none"> <li>Streamlining of authority in approval of bus terminals</li> </ul>	<ul style="list-style-type: none"> <li>Some transport operators are not legally operating (colorum)</li> </ul>	<ul style="list-style-type: none"> <li>Support the IACT (Inter-Agency Council for Traffic)</li> <li>Creation of New terminals (North/ South)</li> </ul>

Table IF-13 Transportation Sector Analysis Matrix, 2018, cont.

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>Some private land owners are altering use of waterways, which hampers natural flow of water and could cause flooding in the immediate environment</li> </ul>	<ul style="list-style-type: none"> <li>Drainage problems are not solved</li> </ul>	<ul style="list-style-type: none"> <li>Declaration of natural waterways in the titling of lands c/o Bureau of Lands</li> <li>Require Drainage Impact Assessment Study in new developments</li> </ul>
<ul style="list-style-type: none"> <li>Congestion of existing terminal facility of the city</li> </ul>	<ul style="list-style-type: none"> <li>Some transport operators are not legally operating (colorum)</li> <li>Traffic congestion</li> <li>Economic loss</li> <li>Overcrowding of terminals</li> </ul>	<ul style="list-style-type: none"> <li>Support the IACT (Inter-Agency Council for Traffic)</li> <li>Build new terminals outside the CBD (North/ South)</li> <li>Streamlining of authority in approval of bus terminals.</li> </ul>
<ul style="list-style-type: none"> <li>Heavy traffic congestion in identified bottle necks in the city</li> </ul>	<ul style="list-style-type: none"> <li>Decrease economic productivity</li> <li>Air pollution in bottle neck areas</li> <li>Increasing incidence of road rage</li> </ul>	<ul style="list-style-type: none"> <li>Opening of Roads especially in heavy traffic area (malls, schools)</li> <li>Policy formulation on big SUV's entering CBD</li> <li>Construction of pedestrian overpasses</li> <li>Implementation of Public Mass Transport (High Priority Bus System)</li> <li>Implementation of IM4 Davao (Infrastructure Modernization Plan for Davao)</li> </ul>
<ul style="list-style-type: none"> <li>Bad road conditions in some rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Decrease economic productivity</li> </ul>	<ul style="list-style-type: none"> <li>Road Development Program (development or concreting, and opening Farm to Market Roads)</li> </ul>
<ul style="list-style-type: none"> <li>14 existing national bridges are vulnerable/high risk to potential hazards <ul style="list-style-type: none"> <li>* High risk of flood ( Matina-Bridge, Pagan Grande, Pangí Bridge, Tamugan Bridge)</li> <li>* Highly vulnerable to flood (Davao River Bridge)</li> <li>* Moderately vulnerable (Agdao flyover, Angalan Bridge III, Angalan Bridge VI, Bato Bridge, Bolton Bridge 2, Generoso Bridge 1, Generoso Bridge 2</li> <li>* Piedad Bridge, Talomo Bridge I, Talomo Bridge II</li> <li>* Moderately Vulnerable to earthquake (Lipadas Br 1, and Lipada Bridge 2)</li> <li>* Moderately Vulnerable to landslide (Baracatan Bridge, Crossing Malabog Bridge, Tagurano Bridge)</li> <li>* Moderately Vulnerable to liquefaction ( Agdao Flyover and Pangí Bridge)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Disruption of Traffic, delay of goods and services and economic loss</li> </ul>	<ul style="list-style-type: none"> <li>Hazard retrofitting of existing national bridges</li> <li>Construction of flood resistant river dike systems</li> </ul>

Table IF-13 Transportation Sector Analysis Matrix, 2018, cont.

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>• 14 existing national bridges are vulnerable/high risk to potential hazards               <ul style="list-style-type: none"> <li>* High risk of flood ( Matina-Bridge, Pagan Grande, Pangi Bridge, Tamugan Bridge)</li> <li>* Highly vulnerable to flood (Davao River Bridge)</li> <li>* Moderately vulnerable (Agdao flyover, Angalan Bridge III, Angalan Bridge VI, Bato Bridge, Bolton Bridge 2, Generoso Bridge 1, Generoso Bridge 2</li> <li>* Piedad Bridge, Talomo Bridge I, Talomo Bridge II</li> <li>* Moderately Vulnerable to earthquake (Lipadas Br 1, and Lipada Bridge 2)</li> <li>* Moderately Vulnerable to landslide (Baracatan Bridge, Crossing Malabog Bridge, Tagurano Bridge)</li> <li>* Moderately Vulnerable to liquefaction ( Agdao Flyover and Pangi Bridge)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Disruption of Traffic, delay of goods and services and economic loss</li> </ul>	<ul style="list-style-type: none"> <li>• Hazard retrofitting of existing national bridges</li> <li>• Construction of flood resistant river dike systems</li> </ul>
<ul style="list-style-type: none"> <li>• A total of 6.0784 km road located in Carlos P Garcia Highway, Davao-Bukidnon Road and McArthur Highway are vulnerable/high risk of flooding (For specific barangays, see CDRA)</li> </ul>	<ul style="list-style-type: none"> <li>• Disruption of commute, traffic congestion, delay of delivery of goods and services, and economic loss</li> </ul>	<ul style="list-style-type: none"> <li>• Hazard retrofitting and reinforcement of existing national roads.</li> <li>• Vulnerable roads should have adequate drainage system</li> <li>• Establishment of alternate roads parallel to existing road network</li> </ul>
<ul style="list-style-type: none"> <li>• 12.6707 km road length located in C.P Garcia Highway is moderately at risk of landslide</li> </ul>	<ul style="list-style-type: none"> <li>• Disruption of Traffic, delay of goods and services and economic loss</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of the Davao City Coastal and Bypass road</li> </ul>
<b>AIR TRANSPORT</b>		
<ul style="list-style-type: none"> <li>• Inadequacy of the disaster/emergency response in the airport i.e. cranes, heavy equipment for repairs</li> <li>• Lack of improved and modernized airport facilities for passengers to keep up with growing demand</li> <li>• Limited International Flights for Passenger and Cargo</li> </ul>	<ul style="list-style-type: none"> <li>• Economic losses (Revenues)</li> <li>• Hampered movement of Goods by Air</li> <li>• Inconvenience to the passengers (Delayed-no Flight)</li> <li>• High Transport Cost due to lack of direct flights</li> </ul>	<ul style="list-style-type: none"> <li>• Expedite the operationalization of the Davao International Airport Authority (DIAA)</li> <li>• Fast track the implementation of D.I.A. Modernization Plan</li> </ul>
<ul style="list-style-type: none"> <li>• Inadequate Land Area for additional development/ expansion (requirements up to 30-50 years)</li> </ul>	<ul style="list-style-type: none"> <li>• Congestion of Passengers in the terminals and of Airplanes in the runway after the projected optimum year (30 years)</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the most suitable site for a new International Airport within Metro Davao</li> </ul>



Table IF-13 Transportation Sector Analysis Matrix, 2018, cont.

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<b>WATER TRANSPORT</b>		
<ul style="list-style-type: none"> <li>• Presence of informal settlers within the port area (Sasa Port)</li> </ul>	<ul style="list-style-type: none"> <li>• Hampered implementation of SASA port modernization plan</li> <li>• Inadequate services</li> </ul>	<ul style="list-style-type: none"> <li>• Fast track the implementation on the relocation of the informal settlers within the port area</li> </ul>
<ul style="list-style-type: none"> <li>• Need to improve port facilities at Sta. Ana Wharf</li> </ul>	<ul style="list-style-type: none"> <li>• Port Congestion Inconvenience for the movement of cargos and passengers</li> </ul>	<ul style="list-style-type: none"> <li>• Rehabilitation of Sta. Ana port facilities/structures</li> <li>• Option to transfer ownership of Sta. Ana Wharf to Davao City</li> <li>• Position the area as ecotourism</li> </ul>
<ul style="list-style-type: none"> <li>• Need to improve port facilities at Sasa Port</li> </ul>	<ul style="list-style-type: none"> <li>• to reduce vessel time</li> <li>• to cater large foreign container-ership</li> </ul>	<ul style="list-style-type: none"> <li>• Public-Private Partnership undertaking for the improvement of Sasa Port</li> </ul>
<ul style="list-style-type: none"> <li>• Waterways are not utilized for intra-city transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Limited modes of intra-city transportation</li> </ul>	<ul style="list-style-type: none"> <li>• City Transport and Traffic Management Board to include water transport in their transport modernization plan</li> <li>• Encourage investors in water transport</li> </ul>

## Power Supply System

### Existing Situation

Davao City enjoys energy sufficiency since 2016 with the operation of the Therma South Inc. energy sources. Energy supply in Davao City is generated from eight (8) sources: National Power Corp.- Power Sector Assets and Liabilities Management (NPC-PSALM), Hedcor Inc., San Miguel Consolidated Power Corp., Therma South, Therma Marine Inc., Hedcor Bukidnon Inc., and Southern Philippines Power Corp. Of these, NPC PSALM, and Therma South Inc, both hydro and coal, respectively, are the major suppliers of energy. In 2018 the energy of Davao City constitutes 36.89% coal, 45.89% hydro, and 17.22% diesel. In the same year, power supplied to the city reached 2,240,382 mWh. Consumption was computed at 2, 186.672 mWh, leaving an excess power supply of 273, 710 mWh.

**Distribution of electricity** - The power supply is distributed by the Davao Light and Power Company (DLPC), a distribution utility under Aboitiz Power Corporation. DLPC is the major provider in Davao Region and the third largest privately-owned electric utility company in the Philippines, with 26 substations, 22 of which are located in Davao City. DLPC has an efficient distribution system attributed to the use of the Geographic Information System (GIS) which features an Automated Tool for Locating Assets (ATLAS) and utilizes the Supervisory Control and Data Acquisition (SCADA) systems for the whole franchise, which allows remote control and monitoring of distribution facilities.

As of 2018, the DLPC has 333,246 consumers in varying classifications (residential, commercial, and industrial). According to 2017, Barangay Participatory Resource Appraisal (BPRA) DLPC has declared that 100 percent of all the barangays are energized noting that there are <sup>2</sup>176 barangays have electric power, while the remaining 6 barangays are far flung barangays that use off grid sources.

One challenge of energy distribution is the exposure of the power substations are susceptible to flood, liquefaction, and storm surge. A total of 39 transmission towers are also highly susceptible to flood.

**Households, both served and unserved**- In 2018, the DLPC disclosed it has energized all the 182 barangays in the city. However, there are still 9,075 households, or 2.21 percent, of the total household population with no electric connections owing to their Geographically Isolated and Disadvantaged Areas (GIDAs) locations. The city has 409,951 households based on 2015 data, of which 97.79 percent are already energized. The highest percentage of unserved households are located in Marilog District with the 2,687 households. This is followed by Paquibato District with 2,083 unserved households. Calinan District comes third with 272 unserved households.

<sup>2</sup>Source Davao Light and Power Company, based on 2019 Socio-Economic Indicators (SEI)

**Table IF-14. Households Served and Unserved by Electricity, 2018**

District	Total No. of HH	Served		Unserved	
		No.	%	No.	%
<b>District 1</b>					
Talomo District	108844	108724	99.89%	120	0.11%
Poblacion District	52023	52023	100.00%	0	0.00%
<b>District 2</b>					
Agdao District	25124	25124	100.00%	0	0.00%
Buhangin District	67344	67269	99.89%	75	0.11%
Bunawan District	37314	37229	99.77%	85	0.23%
Paquibato District	10160	7828	77.05%	2332	22.95%
<b>District 3</b>					
Baguio District	7800	7314	93.77%	486	6.23%
Calinan District	22061	20126	91.23%	1935	8.77%
Marilog District	11090	7806	70.39%	3284	29.61%
Toril District	36799	36799	100.00%	0	0.00%
Tugbok District	31392	30634	97.59%	758	2.41%
<b>Total</b>	<b>409951</b>	<b>400876</b>	<b>97.79%</b>	<b>9075</b>	<b>2.21%</b>

Source: Davao Light and Power Company

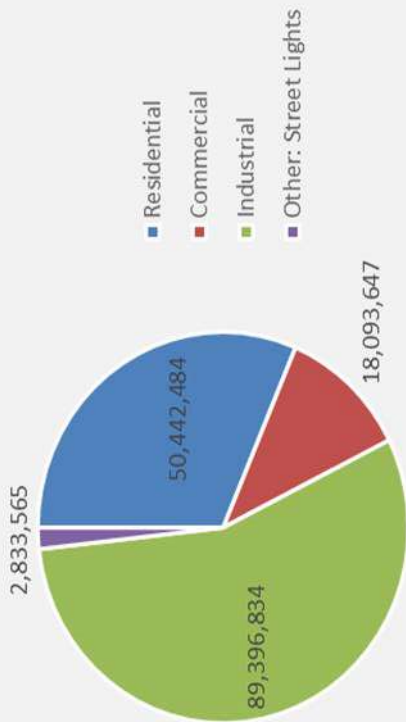
**Connections by type of users and annual average power consumption** – During the period 2016-2018, the total number of customers grew by an annual average of 11% distributed as follows: residential, 86%; commercial, 13%; industrial, 1.2%; and, the balance is shared by street lights. For the same period, average power consumption grew by 13% with industrial customers accounting for more than one-half or 57.37% of the total consumption. The remaining 42.63% of total consumption is shared as follows: residential, 30.32%; commercial, 10.71%; and flat rate and street lights account for the remaining consumption levels at 1.59%.

**Table IF-15. Number of Connections by Type of Users and Average Monthly Consumption for 2016-2018**

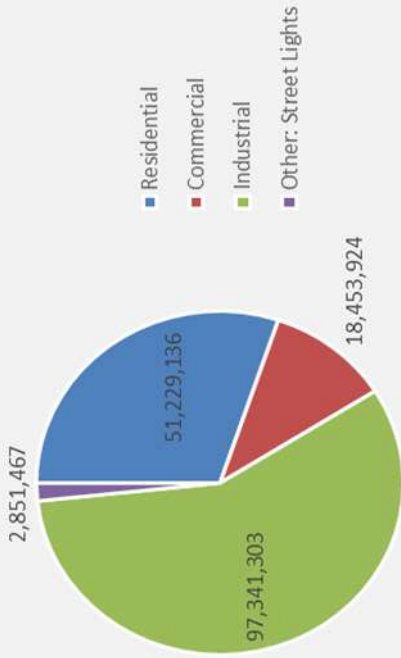
Type of Consumers	2016			2017			2018		
	No. of Connections	kWh	%	No. of Connections	kWh	%	No. of Connections	kWh	%
Residential	257,319	50,442,484	31.38%	270,736	51,229,136	30.16%	285,790	55,258,306	30.32%
Commercial	39,147	18,093,647	11.25%	41,542	18,453,924	10.86%	43,343	19,523,096	10.71%
Industrial	3,671	89,396,834	55.61%	3,065	97,341,303	57.30%	4,239	104,537,266	57.37%
Other: Street Lights	80	2,833,565	1.76%	85	2,851,467	1.68%	81	2,903,979	1.59%
Total	300,217	160,766,530	100%	315,428	169,875,830	100%	333,453	182,222,646	100%

Source: Davao Light and Power Company

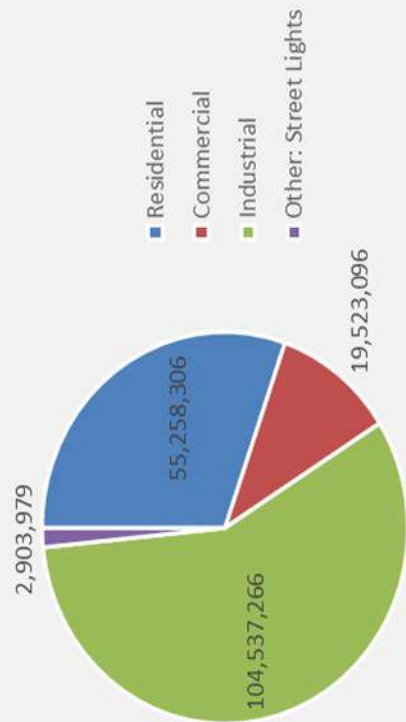
Graph IF-14a. Power Consumption (kW) by Type of Consumers, Year 2016



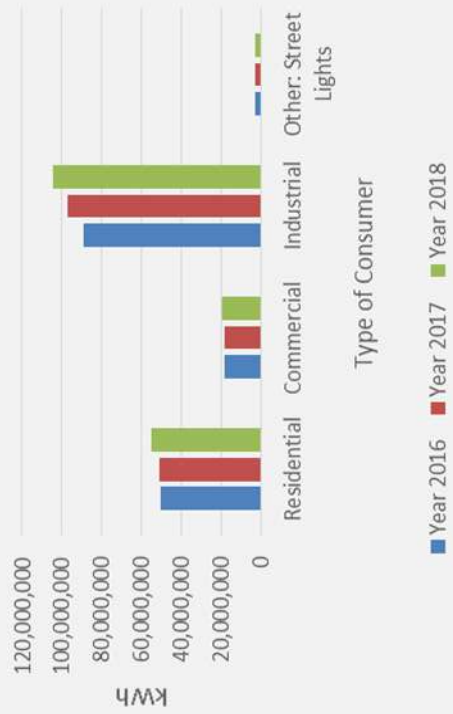
Graph IF-14b. Power Consumption (kW) by Type of Consumers, Year 2017



Graph IF-14c. Power Consumption (kW) by Type of Consumers, Year 2018



Graph IF-14d. Power Consumption by Type of Consumers



## Hazards

Electric energy is delivered from generation plants to consumer households through the grid components of power generation, transmission and distribution. Many of these grid components, however, are vulnerable to natural hazards and adverse effects of climate change. Power plants, transmission lines, and power substations in Davao City are mostly affected by flood, earthquake, landslide, storm surge and liquefaction.

The city has a total of 497 existing transmission towers. There are 404 transmission towers located in rural areas and 93 transmission towers located in urban areas.

Of the existing transmission towers, 39 are located in high flood susceptibility area. These are concentrated in Tugbok District with 19 towers and Marilog District with ten (10) towers. The towers in Calinan District, Buhangin District, Baguio and Bunawan District are also highly susceptible to flood.

A total of ten (10) transmission towers are located in high earthquake susceptibility areas. Five of these are in Marilog District and the remaining five (5) towers are in Tugbok and Calinan Districts.

Also, a total of 94 transmission towers are located in high landslide susceptible areas. Fifty-two (52) of them are in Marilog District and the remaining towers are scattered in Baguio, Buhangin, Bunawan, Calinan, Talomo and Tugbok districts.

Five (5) other towers are located in areas deemed highly susceptible to liquefaction, four of which are in Bunawan District.

For storm surge, only a single transmission tower is highly susceptible to 4-meter wave and that could be found in Toril District. (Table IF-16).

Out of the 22 DLPC substations, eight (8) substations are highly susceptible to liquefaction, four (4) substations are susceptible for storm surge with 2-meter wave, 6 (six) substations are susceptible to storm surge with 3-meter wave, two are susceptible to storm surge with 4-meter wave, and four are susceptible to storm surge with 5-meter wave. Meanwhile, three substations are located in a high flood susceptibility area (Table IF-17). The specific location is lengthily discussed in the Climate and Disaster Risk Assessment (CDRA)

As to the power plants, three power plants in Malagos, Talomo and Mintal are located in high flood susceptibility area naturally because the power source is from run-off river or hydropower. Another power plant, Therma South in Binugao is located in a high liquefaction susceptibility, and storm surge with 3-meter wave.

Table IF-16. Transmission Towers, 2018, Davao City

Administrative District	Hazard Susceptibility (H/M/L)							
	FI	Eq	Ln	Su				Lq
				2m	3m	4m	5m	
Baguio (28)	M-2 H-1	-	L-24 M-3 H-1	-	-	-	-	L-2
Buhangin(22)	H-3	-	L-5 M-12 H-5	-	-	-	-	-
Bunawan (63)	L-1 M-1 H-1	-	L-37 M-13 H-13	-	-	-	-	L-1 M-11 H-4
Calinan (44)	L-10 M-9 H-5	H-2	L-35 M-6 H-3	-	-	-	-	L-6
Marilog (171)	H-5	-	L-17 M-85 H-51	-	-	-	-	-
Paquibato (2)	-	-	L-2	-	-	-	-	-
Talomo (34)	M-2 H-1	-	L-19 M-7 H-8	-	-	-	-	-
Toril (49)	L-5 M-2 H-4	H-5	L-32 M-16 H-1	-	-	2-1	-	L-2 M-5 H-1
Tugbok (84)	L-5 M-25 H-19	H-3	L-64 M-8 H-12	-	-	-	-	-
<b>Total- 497</b>	H-39 M- 41 L-21	H-10	H-94 M-150 L-235			1		H-5 M-16 L-9

Source: City Planning and Development Office

Table IF-17. Power Substations, 2018, Davao City

	Barangay	Area Occupied (ha)	Year Constructed	Voltage (kV)	Hazard Susceptibility (H/M/L)						
					FI	Ln	Su				Lq
							2m	3m	4m	5m	
1	Toril	0.112500	1969	69	L	L	-	-	-	-	L
2	Dumoy	0.132200	2005	69	L	L	-	-	-	✓	H
3	Puan	0.080300	1992	69	L	L	-	-	-	✓	H
4	Calinan	0.100000	1969	69	H	L	-	-	-	-	L
5	Tugbok	0.180900	2015	69	H	L	-	-	-	-	-
6	Talomo Proper	0.114200	1990	69	L	L	-	-	-	-	L
7	Matina Crossing	0.100000	1997	69	H	L	-	-	-	-	M
8	Bucana	0.154700	2002	69	L	L	-	-	-	-	M
9	Maa	0.130800	2016	69	L	L	-	-	-	-	L
10	4-A	0.082586	1997	69	L	L	-	✓	-	-	H

Table IF-17. Power Substations, 2018, Davao City, cont.

	Barangay	Area Occupied (ha)	Year Constructed	Voltage (kV)	Hazard Susceptibility (H/M/L)						
					Fl	Ln	Su				Lq
							2m	3m	4m	5m	
11	13-B	0.045400	1997	69	L	L	-	✓	-	-	H
12	15	0.060700	1986	69	L	L	✓		-	-	H
13	20-B	0.059500	1992	69	L	L	-	✓	-	-	M
14	19-B		1968-76	69	L	L	-	-	-	-	-
15	19-B	2.592600	1996	138	L	L	-	-	-	-	-
16	Cabantian	0.171200	2014	69	-	L	-	-	-	-	-
17	RCastillo	0.085200	1998	69	-	L	✓	-	-	-	H
18	Pampang	0.103100	1976	69	M	L	-	✓	-	-	H
19	Panacan	0.085800	2003	69	-	L	-	✓	-	-	H
20	Tibungco	0.262600	2008	69	-	M	-	-	-	-	-
21	Bunawan	1.554000	2007	138	-	L	-	✓	-	-	M
22	Bunawan	0.108500	1980	69	-	L	-	✓	-	-	M

Source: Davao Light and Power Company

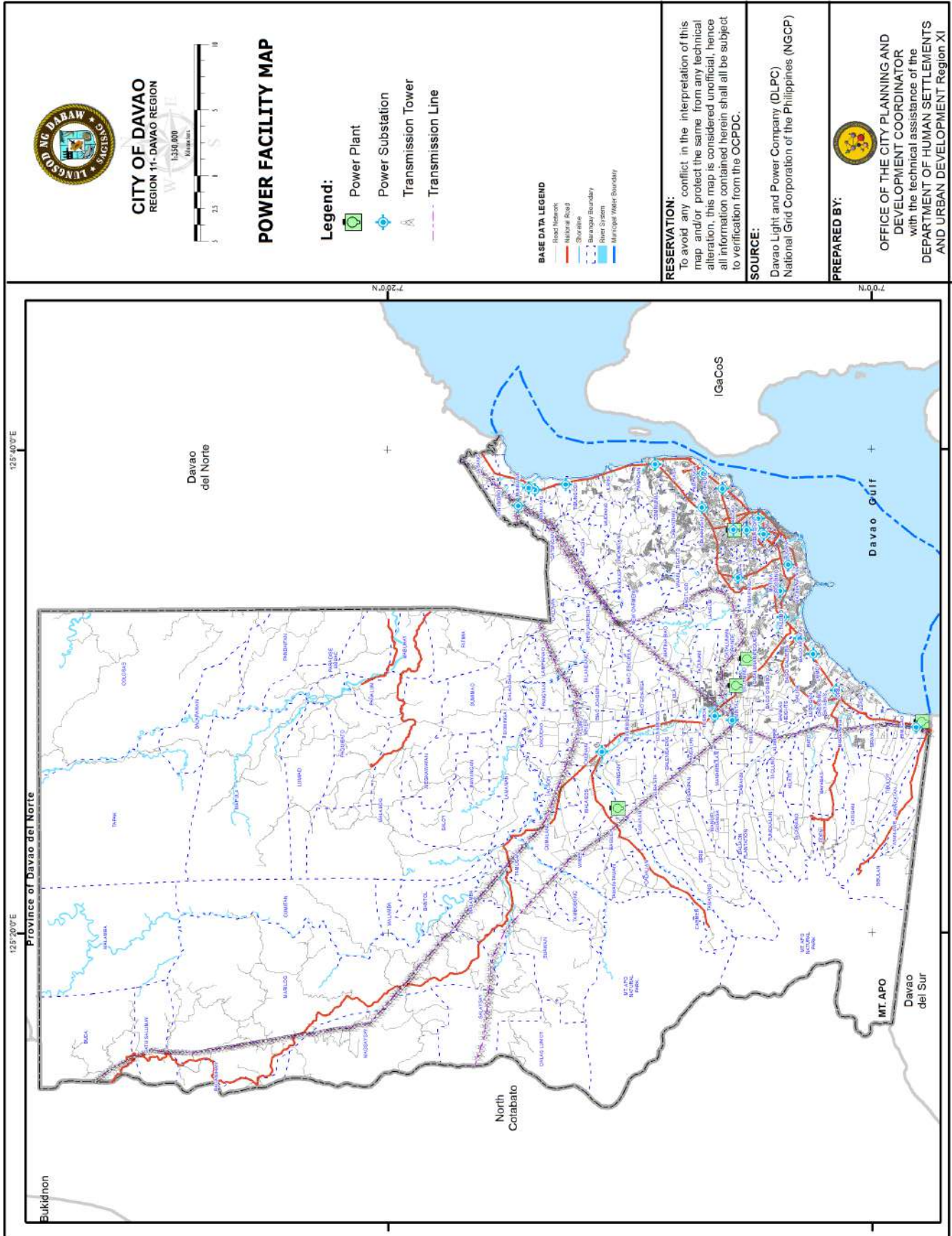


Table IF-18 Power Plants, Davao City, 2016-2018

Name of Power Plant	Barangay	Owner/Operator	Capacity (MW)		Type of Plant	Date of Commission/ Operation	Hazard Susceptibility (H/M/L)							
			Installed	Dependable			Fl	Ln	Su				Lq	
									2m	3m	4m	5m		
1	Therma South	Binugao	Therma South Inc (TSI)	150	130	Circulating Fluidized Bed (CFB) Coal	Unit 1- Sep 2015 Unit 2- Feb 2016	M	L	-	-	H		
2	Bajada Diesel Power Plant	19-B	Davao Light and Power Company	58.7	48	Bunker/ Diesel Internal Combustion Engine	Jun 1995	L	L	-	-	-		
3	HEDCOR Talomo 1 HEP	Malagos	HEDCOR Inc.	4.5	4.4	Run-of-River type HEPP	Oct 1995	H	L	-	-	-		
4	HEDCOR Talomo 1 HEP	Mintal	HEDCOR Inc.	4.5	4.4	Run-of-River type HEPP	Oct 1995	H	L	-	-	-		
5	HEDCOR Talomo 1 HEP	Catalunan Pequeño	HEDCOR Inc.	4.5	4.4	Run-of-River type HEPP	Oct 1995	H	L	-	-	-		

Source: Department of Energy

Power Facility Map



**CITY OF DAVAO**  
REGION 11- DAVAO REGION



**POWER FACILITY MAP**

**Legend:**

- Power Plant
- Power Substation
- Transmission Tower
- Transmission Line

**BASE DATA LEGEND**

- Road Network
- National Road
- Shoreline
- Barangay Boundary
- River System
- Municipal Water Boundary

**RESERVATION:**

To avoid any conflict in the interpretation of this map and/or protect the same from any technical alteration, this map is considered unofficial, hence all information contained herein shall all be subject to verification from the OCPDC.

**SOURCE:**

Davao Light and Power Company (DLPC)  
National Grid Corporation of the Philippines (NGCP)

**PREPARED BY:**



OFFICE OF THE CITY PLANNING AND  
DEVELOPMENT COORDINATOR  
with the technical assistance of the  
DEPARTMENT OF HUMAN SETTLEMENTS  
AND URBAN DEVELOPMENT Region XI

## Current and Future Needs

**Projected power requirements, 2019 to 2028** – Power demand is expected to further rise with the expansion of real estate projects, hotels, malls, resorts, and other industries. The projected average consumption (kW/month) by year 2028 is at 279,230,859 kilowatt hours (kWh). Industrial power consumption accounts for the highest, with growth of 41% by the year 2028. It is followed by residential consumers with 23% projected percent increase, and commercial at the rate of 22 % (Table IF-19).

The average annual growth rate of power consumption from 2019 to 2028 for all types of consumer is 3.9%. Industrial users still has the highest average annual growth rate of 5.07%, followed by 2.44% for streetlights, residential at 2.30%, and commercial, and 2.19%.

The City Planning and Development Office also made its computation for the domestic power requirement by multiplying the average daily consumption derived from the 2018 DLPC data to the projected number of households for the year 2019-2028. Based on such computation, the projected power requirement for domestic is computed at 2,309,878.49 kWh. Two tables, IF-19, and IF-19a varies on the households data used. The Table IF-19 the total type of residential consumers are based on the total appliance load upon application. Residential accounts for those who apply for less than 20 kW, on the other hand, the Table IF-19a uses household data from the projected number of population.

Davao City is part of the Mindanao Grid, and has a huge demand for power in the future due to booming commercial, residential and, industrial growth. This holds true in the Department of Energy Power Outlook 2018-2040 wherein Mindanao is expected to have 10,200 MW additional capacity in 2040. The expected annual growth rate for energy consumption for whole Mindanao is 7.54%.

For the year 2018-2020, the committed power projects of DOE including four coal power plants and one hydro power plant will add 740 kWh to the gross reserve. Efforts in harnessing alternative and renewable energy must be explored to meet the current and potential power demands. It could become a challenge if no alternative power sources that will address increasing demand.

## Risk Management Options

A Climate Disaster Risk Assessment was done by the Office of the City Planning and Development Coordinator by identifying the likelihood of occurrence of the hazard in the barangays within the city, and also factoring in the severity of consequences, meaning number of days of disruption of service once an area is hit by hazard.

For power substations, a total of three (3) are assessed to be under moderate risk for flooding. These are Calinan Substation, Tugbok Substation and Matina Crossing Substation. The likelihood occurrence of flood in the barangays where the substations are located are moderate, frequent, and frequent, respectively. There is moderate likelihood of occurrence when flooding occurs in the area every 4-10 years and frequent likelihood of occurrence when the flooding occurs every 1-3 years. Retrofitting and rehabilitation of these three

power substations is necessary to cope with hazard that will affect the structure.

Future needs of expansion may be determined by the utility owners based on the development direction, population growth, and demand and supply of power services.

## **Renewable energy initiatives**

With increased projected energy consumption, the Energy Regulatory Commission net-metering program provides renewable energy for end-users consuming 100kw and below. Through this program the customers get involved with solar photovoltaic generation and are given opportunity to sell excess power to the distribution system. Davao Light and Power Corp. (DLPC) has active net metering customers. Government and the utilities companies have encouraged institutions with huge excess in power consumption to participate.

In Mindanao, there are areas with committed projects of renewable energy (hydro and solar) that should be operational by 2020. Among these sources, solar energy remain to be the most accessible and affordable for rural electrification. Davao City is one of the areas identified with potential solar electricity production of 4.0-4.5 kWh/kWp based on the Solar and Wind Potential Mapping of the National Renewable Energy Laboratory.

Based on the Davao City Infrastructure Development Plan and Capacity Building Project 2018, solar powered battery charging stations could be developed across the city. This will be important as electric vehicles (EVs) become more popular in Davao. For example, Aboitiz Power Corp and DLPC has tested and promoted in 2021 its BEST Bus Project, an electric-powered bus.

Meanwhile, the city has embarked, on an experimental basis, the use of used cooking oil for biofuel diesel for government vehicles. If proven successful, this initiative should be expanded to large-scale utilization.

**Table IF-19 Projected Average Consumption (kWh/month) by Type of Users by DLPC, 2018-2028**

Type of Consumers	2019		2020		2021		2022		2023		2028	
	kWh	%	kWh	%	kWh	%	kWh	%	kWh	%	kWh	%
Residential	57,775,685	30.00%	59,592,564	29.31%	61,409,582	29.14%	66,399,260	29.82%	70,099,642	30.29%	92,760,818	33.22%
Commercial	19,903,825	10.34%	20,148,654	9.91%	20,655,707	9.80%	21,089,862	9.47%	21,703,317	9.38%	24,189,008	8.66%
Industrial	111,867,959	58.09%	120,458,143	59.25%	125,462,530	59.54%	131,928,250	59.25%	136,293,126	58.89%	158,558,076	56.78%
Other: Street Lights	3,030,512	1.57%	3,107,012	1.53%	3,183,395	1.51%	3,260,242	1.46%	3,337,084	1.44%	3,722,956	1.33%
<b>Total</b>	<b>192,577,980</b>	<b>100.00%</b>	<b>203,306,373</b>	<b>100.00%</b>	<b>210,711,214</b>	<b>100.00%</b>	<b>222,677,614</b>	<b>100.00%</b>	<b>231,433,170</b>	<b>100.00%</b>	<b>279,230,859</b>	<b>100.00%</b>

Source: Davao Light and Power Company

Note: • Type of consumers are based on the total appliance load upon application.

- Lower than 20 kW that are not residential are classified under commercial.

- Larger than 20 kW are classified as industrial.

• % = (kW per type of consumer/Total kW) x 100

**Table IF-19a. Projected Power Requirement for Domestic/ Residential Users, 2019-2028**

Type of Consumers	Projected Power Requirement (kWh)					
	2019	2020	2021	2022	2023	2028
Residential	1,882,834	1,925,679.75	1,969,970.39	2,015,279.71	2,061,631.14	2,309,878.49

Source: Residential is computed by the OCPDC

Note: Power Requirement= Ave. Consumption per HH x Proj. No. of HH

$$\text{Ave. Consumption per HH} = \frac{1841943.53}{437,070} = 4.21$$

## IF-20 Power Analysis Matrix, 2018, Davao City

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>A total of 2,687 households in Marilog District, 2,083 households in Paquibato District, and 272 households in Calinan District remain unserved.</li> </ul>	<ul style="list-style-type: none"> <li>Deprived access to modern conveniences</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of Energy Projects such as ER 1-94, PV Mainstreaming Program, etc. Note: DLPC already applied to ERC for 3 year compliance plan as mandated by DOE</li> <li>Rural Household Electrification project of DOE</li> </ul>
<ul style="list-style-type: none"> <li>Out of 22 existing DLPC Substations 15 are exposed to hazards to wit;               <ul style="list-style-type: none"> <li>- <b>3 substations</b> (<i>Calinan Substation, Tugbok Substation, and Matina Crossing</i>) are located in a high flood susceptibility area;</li> <li>* <b>8 substations</b> (<i>Dumoy Substation, Puan Substation, P. Reyes Substation, Gaisano Substation, Sta. Ana Substation, R. Castillo Substation, Pampanga Substation, and Panacan Substation</i>) are located in a high liquefaction susceptibility area;</li> <li>* <b>4 substations</b> (<i>Dumoy Substation, Bajada Substation, ERA Substation and Don Ramon Substation</i>) are prone to storm surge with 5 meter wave;</li> <li>* 3 power plants (Malagos, Talomo and Mintal power plants are located in the in a high flood susceptibility area</li> <li>* 1 power plant (Therma South Inc) is located in a high liquefaction susceptibility area</li> <li>* <b>1 power plant</b> (Therma South Inc.) is prone to storm surge with 3 meter wave</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Power interruption that would mean loss of income and production dependent on electricity</li> <li>Lessened power supply</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of Business Continuity Plan of DLPC</li> <li>Ensure proper implementation of the disaster resiliency plan</li> </ul>

### IF-20 Power Analysis Matrix, 2018, Davao City

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>• 39 transmission towers are located in a high flood susceptibility area (Tugbok District 19 transmission towers. See Annex);</li> <li>* 10 transmission towers are located in a high earthquake susceptibility area (Marilog District-5, others found in Tugbok and Calinan Districts);</li> <li>* 94 transmission towers are located in a high landslide susceptibility area( Marilog District, Baguio, Buhangin, Bunawan, Calinan, Talomo and Tugbok District) ; 5 transmission towers are located in a high liquefaction susceptibility area;</li> <li>* One transmission tower (Toril District) is prone to 4 storm surge with meter wave.</li> <li>* 3 Power Substations (Calinan Substation, Tugbok Substation and Matina Crossing Substation)</li> </ul>	<ul style="list-style-type: none"> <li>• Power interruption that would mean:               <ul style="list-style-type: none"> <li>* decreased efficiency of services</li> <li>* income losses</li> <li>* higher cost of production when back-up diesel is turned on</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Ensure proper implementation of the disaster resiliency plan.</li> <li>• Rehabilitation of utility infrastructure and facilities</li> <li>• Implementation of Business Continuity Plan</li> <li>• Hazard retrofitting of existing power substations</li> <li>• Formulation of contingency plans for various hazards.</li> </ul>

## Water

### Existing Situation

The water supply in Davao City is adequate as the city have three types of water supply system catering all households of the city. Level III Water System is the dominant water supply system of the city. Davao City Water District as the main provider of Level III water service, catering 112 out of 182 barangays of the city. The remaining barangays unserved by DCWD survive through Level I and Level II water systems.

Davao City mainly depends on groundwater for the water requirements of its growing population. DCWD sources the 99% of its water supply for more than 220,000 service connections from groundwater. Its production wells draws water from extensive, rich and local, or disconnected aquifers.

On the other hand, other than groundwater, some areas of the city also rely on springs that flow by gravity. At present, Toril District is the area with the highest number of spring sources with a total of 47 spring sources. In the same vein, Tugbok, Bunawan and Buhangin district also utilize these kind of source.

Problems being faced by water supply in the city involve the possible depletion of ground water sources due to over extraction of ground water, lack of local monitoring of water permittees granted by the National Water Resource Board, and non-regulation of ground water extraction in private wells.

Contamination of surface water which is the future water source of the city is also feared due to the absence of sewerage system of the city. Apart from that, the full potential of rainwater as alternative source of water for non-drinking purposes is not enjoyed due to the non-regular monitoring of the Rainwater Harvesting System Ordinance.

On the other hand, Geographically Isolated and Disadvantages Areas (GIDAs) of the city is also yet to experience the convenience of having stable water distribution system as the installation of infrastructure for water distribution in these areas remain a challenge for DCWD thereby resulting to loss of economic opportunities.

Also, some DCWD distribution lines primarily those suspended within the bridges are highly susceptible to flood and storm surge. Some main line pipes are also susceptible to fault line, storm surge and liquefaction. Some improved springs are at high risk to flood and landslide, moderately vulnerable to liquefaction, and highly susceptible to storm surge. Some springs by gravity and deep wells are also at high risk to flood, at high risk of landslide, moderately vulnerable to storm surge and highly vulnerable to earthquake.



**Level I Water Supply System-** As of 2018, Davao City has a total of 98 units of Level I Water supply. These are composed of spring sources and deep well. Spring source consist 89.68% of the total Level I Water Supply System of the city while the remaining 10.31% are deep wells. As shown in the table below, Toril District has the highest number of spring sources with 47 units, followed by Bunawan District with 40 units, and lastly Buhangin with five units. Meanwhile, deep wells being having the least number of units for Level I Water Supply System are found in Calinan District and Tugbok District.

As to hazard susceptibility, for spring sources, ten (10) are highly susceptible to flooding, six (6) are moderately susceptible to landslide, 55 are highly susceptible to liquefaction, 61 are susceptible to storm surge with 2-meter wave, 47 are susceptible to storm surge with 3-meter wave, 25 are susceptible to storm surge with 4-meter wave, and 37 are susceptible to storm surge with 5-meter wave. Meanwhile, for deep well, four (4) are moderately susceptible to flooding and two (2) are moderately susceptible to landslide. No deep well is susceptible to liquefaction and storm surge hazard.

**Table IF- 21. Level I Water Supply System by Type and Number of Population Served 2018**

Barangay	No. of Households served	Spring Sources	Deep Well	Hazard Susceptibility (H/M/L)								
				Fl	Ln	Lq	Su					
							2m	3m	4m	5m		
<b>District II</b>												
<b>Buhangin District</b>												
Cabantian	10,940	1			M							
Mandug	3,399	4		L	L	M						
<b>Sub-total</b>	<b>14,339</b>	<b>5</b>										
<b>Bunawan District</b>												
Bunawan Proper	5,874	9		M	L	H	✓	✓				
Ilang	6,237	6			L							
Tibungco	10,466	6		H	L	L	✓	✓				
Panacan	8,952	4		H	L	L						
San Isidro, Bunawan	1,333	2			L							
Mahayag	1,577	1			M							
Gatangan	298	2			M							
<b>Sub-total</b>	<b>34,737</b>	<b>40</b>										

Source: City Engineer's Office (CEO)

**Legend:**

Types of hazards - Flood (Fl), Earthquake (Eq), Landslide (Ln), Liquefaction (Lu), Storm Surge (Su)

Level of susceptibility for all hazards - High (H), Moderate (M), Low (L)

**Table IF- 21. Level I Water Supply System by Type and Number of Population Served 2018, Cont.**

Barangay	No. of Households served	Spring Sources	Deep Well	Hazard Susceptibility (H/M/L)						
				Fl	Ln	Lq	Su			
							2m	3m	4m	5m
<b>District III</b>										
<b>Calinan District</b>										
Talomo River	1,712		1	M	L					
Wangan	1,455		1		L					
Riverside	1,363		1	M	L					
<b>Sub-total</b>	<b>4,530</b>		<b>3</b>							
<b>Toril District</b>										
Daliao	5,281	25		L	L	H	✓	✓	✓	✓
Lizada	5,028	7		L	L	H	✓	✓		
Sirawan	1,785	12		M	L	H	✓			✓
Binugao	1,734	2		H	L	H	✓			
Lubogan	3,039	1		L	L					
<b>Sub-total</b>	<b>16,867</b>	<b>47</b>								
<b>Tugbok District</b>										
Talandang	848		2		M					
Ula	1,033		2	M	L					
<b>Sub-total</b>	<b>1881</b>	<b>47</b>								
<b>Total</b>	<b>55487</b>	<b>87</b>	<b>10</b>							

Source: City Engineer's Office (CEO)

**Legend:**

Types of hazards - Flood (Fl), Earthquake (Eq), Landslide (Ln), Liquefaction (Lq), Storm Surge (Su)

Level of susceptibility for all hazards - High (H), Moderate (M), Low (L)

**Level II Water Supply System** – Level II water supply is sourced from either a spring or a deep well with submersible pump, which is directed to a water reservoir before distributing to the community normally by gravity. Davao City has a total of 232 units of Level II Water Supply System 59.48% or majority of the units are deep well, while the remaining percentage or 40.52% are spring sources.

Majority 20% of Level II water system are found in Tugbok District. This is followed by Calinan District which has 15% of the total number of Level II units, notable is the equal percentage share of Paquibato District and Marilog District of the units at 14% each.

Paquibato Baguio, Calinan and Marilog districts are the only districts which enjoy the use of spring sources.

As to hazard susceptibility for deep well and spring sources, a total of 17 are highly susceptible to flood, 69 are highly susceptible to landslide, a total of four (4) are highly susceptible to liquefaction, and a total of two (2) are susceptible to storm surge with 2-meter wave.

**Table IF - 22. Water Sources of Level II Water Supply System**

Barangay	Number of units	Deep Well	Spring	Hazard Susceptibility			
				Fl	Ln	Lq	Su
<b>District I</b>							
<b>Talomo District</b>	<b>6</b>						
Magtuod	5	5			L/M		
Langub	1	1			M		
<b>District II</b>							
<b>Buhangin District</b>	<b>15</b>						
Acacia	7	7			M/H		
Callawa	2	2			M		
Communal	1	1			M		
Tigatto	2	2		H	L		
Waan	3	3		H	L	H	
<b>Bunawan District</b>							
Gatangan	2	2			M/H		
Mahayag	5	5			L		
Mudiang	5	5			L/M/H		
Panacan	3	3			L		
Tibungco	8	8			L/M		
<b>Paquibato District</b>							
Fatima	1		1		H		
Lumiad	7		7		M/H		
Mabuhay	2	1	1		L		
Malabog	4		4		M/H		
Mapula	1		1		H		
Pañalum	3		3		H		
Pandaitan	3	1	2		H		
Paquibato Proper	3		3		M/H		
Paradise Embac	1	1			H		
Salapawan	1		1		M		
Sumimao	1		1		H		
Tapak	5		5		H		

Source: City Engineer's Office (CEO)

**Table IF - 22. Water Sources of Level II Water Supply System, 2018, Cont.**

Barangay	Number of units	Deep Well	Spring	Hazard Susceptibility			
				Fl	Ln	Lq	Su
<b>District III</b>							
<b>Baguio District</b>							
Baguio Proper	2	1	1	H	L		
Gumalang	5	4	1	M	H/L		
Malagos	3	2	1	H	L		
Tambobong	1		1		H		
Tawan-tawan	2	1	1		L		
Wines	1	1			L		
<b>Calinan District</b>							
Biao Joaquin	4	4		M	L		
Cawayan	4	4		M/H	L		
Lampianao	1	1			H		
Megkawayan	2		2		H		
Pangyan	2	1	1	L	L		
Saloy	2		2		H		
Sirib	3	3		M	L		
Subasta	3	3		H/M/L	L		
Talomo River	9	9		M	L		
Wangan	4	3	1	L	L		
<b>Marilog District</b>							
Baganihan	1		1				
Bantol	2		2		H/M		
Buda	1		1				
Dalag	2		2		H		
Datu Salumay	1		1		H		
Gumitan	2		2		H/M		
Magsaysay	3		3		H		
Malamba	3		3		H/M		
Marilog Proper	7		7		H/M		
Salaysay	3		3	H	H		
Suawan(Tuli)	5		5		H/L		
Tamugan	2		2		L		

Source: City Engineer's Office (CEO)

**Table IF - 22. Water Sources of Level II Water Supply System, 2018, Cont.**

Barangay	Number of units	Deep Well	Spring	Hazard Susceptibility			
				Fl	Ln	Lq	Su
<b>Toril District</b>							
Atan-awe	1		1	H	H		
Alambre	2		2		H		
Baracatan	1		1	H	H		
Bayabas	3		3		M/L		
Binugao	2	1	1	H/M	M/L	M	
Camansi	2	1	1		M		
Catigan	1		1		H		
Daliaon Plantation	1		1	H	H		
Kilate	1		1		H		
Marapangi	3	3		L	L		
Mulig	2	2			L		
Sibulan	1	1			H		
Sirawan	4	3	1	H/M	M/L	H/M	2 meter
Tagluno	1		1		L		
Tagurano	1		1	H	H		
Tibuloy	1		1		H		
Tungkalan	3		3	H	H		
<b>Tugbok District</b>							
Angalan	3	3		M	L		
Bago Oshiro	1	1			L		
Balengaeng	2	2		H/M	L		
Biao Escuela	9	9		M	L		
Biao Guianga	5	5		M/L	L		
Los Amigos	3	3		M	L	L	
Manambulan	7	7			L		
Manuel Guianga	3	2	1	M	L		
Matina Biao	1	1		M	L		
New Carmen	3	1	2		H/M		
New Valencia	1	1			L		
Tagakpan	4	4		M	L		
Talandang	4	4		M	M/L		
<b>Total</b>	<b>232</b>	<b>138</b>	<b>94</b>				

**Table IF-23 Level II Water Supply System by Type and Number of Population Served, 2018, Davao City**

District	Number of units	Type of Water Source	*No. Of HH served	Hazard Suscepibility (H/M/L)			
				Fl	Ln	Lq	Su
TALOMO DISTRICT	6	Deep Well-6	1986		M-2		
<b>DISTRICT II</b>							
BUHANGIN DISTRICT	15	Deep Well -15	3782	H-3	M-7. H-1, L-7	H-2	
BUNAWAN DISTRICT	23	Deep Well-23	22027		H-2, M-5, L-16		
PAQUIBATO DISTRICT	32	Spring Source by Gravity- 29, Deep Well-2, Other-1	10318		H-21 M-5, L-2		
BAGUIO DISTRICT	14	Deep Well-8 Spring Source by Gravity-4	7753	M-19	L-28 H-5		
CALINAN DISTRICT	34	Deep Well-28 Spring Source-6	6999	M-2			
MARILOG DISTRICT	32	Spring Source by Gravity- 30 Level II Deep Well-2	13051		M-7 H-16 L-3 Blank-5		
<b>DISTRICT III</b>							
TUGBOK DISTRICT	46	Deep Well- 43 Spring-4	13712	M-21	H-2 M-1 L-42	L-3	
TORIL DISTRICT	30	Deep Well- 10 Spring Source by Gravity-10	13,984	H-8	M-5 H-13 L-12	H-12 M-2	2m-1

Source: City Engineer's Office (CEO)

\*No of households reflected is based on actual population near the water source.

**Level III Water Supply System Consumer Types and Level of Consumption** - Level III water supply service is defined as a system with a source, a reservoir, and a piped distribution network with adequate treatment facility and household taps. It is generally suited for densely populated urban areas (NEDA Board Resolution No. 12, Series of 1995). DCWD has a total of 222,685 service connections comprising 89.06 percent residential, 10.60 percent commercial and 0.34 percent government. Average monthly water consumption per connection is 24.15 cu.m for residential, 109.72 cu.m for Commercial/Industrial, 35.04 cu.m for Commercial A, 29.90 for Commercial B, 119.35 cu.m for commercial C and 331.60 for Government service connections.

Main DCWD distribution lines has a total length of Transmission and distribution mainlines stretch to 1,765 km. However as it is scattered everywhere in the city these distribution lines are also susceptible to hazard. Based on hazard maps, a total of 52.6 kms are susceptible to flood, 18 kms is susceptible to landslide, 65.9 kms is susceptible to liquefaction, 33.59 kms is susceptible to storm surge with 2-meter wave, 27.7 kms is susceptible to storm surge with 3-meter wave, 34.32 kms. is susceptible to storm surge with 4-meter wave and 28.67 kms is susceptible to storm surge with 5-meter wave. Only 1 well located is susceptible to faultline.

**DCWD wells-** currently extracts water through 68 production wells, 33 of which are using vertical turbines, while the remaining 35 are using submersible pumps. These wells extract water within Malagos Watershed. Six wells are in areas within high flood susceptibility; one well is under high landslide susceptibility; six wells are under high liquefaction susceptibility. One well is also susceptible to storm surge with 2-meter wave, one well is susceptible to storm surge with 3-meter wave, five (5) wells are prone to storm surge with 4-meter wave, and seven wells are susceptible to storm surge with 5-meter wave.

**Table IF-26 Level III Water Supply System Customer Types and Level of Consumption, 2018, Davao City**

District (Number of Barangays Served)	Type of Connection											
	Domestic/Residential		Commercial/Industrial (2)		Commercial A (1.75)		Commercial B (1.50)		Commercial C (1.25)		Government	
	No. of Connections	Ave. Monthly Water Consumption Per Connection (in cu.m)	No. of Connections	Ave. Monthly Water Consumption Per Connection (in cu.m)	No. of Connections	Ave. Monthly Water Consumption Per Connection (in cu.m)	No. of Connections	Ave. Monthly Water Consumption Per Connection (in cu.m)	No. of Connections	Ave. Monthly Water Consumption Per Connection (in cu.m)	No. of Connections	Ave. Monthly Water Consumption Per Connection (in cu.m)
<b>DISTRICT I</b>												
Poblacion (40)	27,559	26.15	2,778	143.39	3,441	36.91	688	31.02	455	78.61	203	262.36
Talomo (14)	75,753	23.55	2,812	95.76	1,965	36.37	1,332	29.60	590	160.82	175	305.27
<b>Sub-Total</b>	<b>103,312</b>	<b>24.24</b>	<b>5,590</b>	<b>119.43</b>	<b>5,406</b>	<b>36.71</b>	<b>2,020</b>	<b>30.08</b>	<b>1,045</b>	<b>125.03</b>	<b>378</b>	<b>282.23</b>
<b>DISTRICT II</b>												
Agdao District (11)	15,628	23.98	816	91.82	1,260	28.73	385	30.83	155	81.19	62	183.47
Buhangin (12)	44,129	22.61	1,318	98.22	1,290	37.66	605	27.68	375	142.54	101	739.43
Bunawan (7)	7,335	31.04	252	115.84	385	51.14	146	38.43	78	78.83	32	488.68
<b>Sub-Total</b>	<b>67,092</b>	<b>23.85</b>	<b>2,386</b>	<b>97.89</b>	<b>2,935</b>	<b>35.59</b>	<b>1,136</b>	<b>30.13</b>	<b>608</b>	<b>118.73</b>	<b>195</b>	<b>521.51</b>
<b>DISTRICT III</b>												
Baguio District (2)	1,219	17.64	15	110.77	3	34.72	2	20.42	7	99.58	11	290.15
Calinan District (7)	5,029	25.13	183	78.28	319	29.22	58	34.52	29	71.80	25	265.14
Tugbok District (10)	11,842	24.84	377	69.11	258	26.14	155	29.55	79	92.59	103	211.11
Toril District (9)	9,839	24.62	295	92.67	496	21.85	161	24.69	34	62.81	43	242.29
<b>Sub-Total</b>	<b>27,929</b>	<b>24.50</b>	<b>870</b>	<b>79.75</b>	<b>1,076</b>	<b>25.10</b>	<b>376</b>	<b>28.19</b>	<b>149</b>	<b>82.08</b>	<b>182</b>	<b>230.68</b>
<b>Total</b>	<b>198,333</b>	<b>24.15</b>	<b>8,846</b>	<b>109.72</b>	<b>9,417</b>	<b>35.04</b>	<b>3,532</b>	<b>29.90</b>	<b>1,802</b>	<b>119.35</b>	<b>755</b>	<b>331.60</b>



**Table IF-25 Water Distribution Lines, Per Administrative District, 2019, Davao City**

Administrative District	No. of mainlines	Existing Condition	Hazard Susceptibility							
			Eq	Fl	Ln	Lq	Su			
							2 m	3 m	4 m	5 m
AGDAO	92			H-5		H-80,	77	14	7	3
BUHANGIN	237			H-25, VH-9	H-8	H-50	40	15	6	
BUNAWAN	25			H-5, VH-2	H-2	H-9	9	10	8	7
CALINAN	11	2	2	H-4 VH-5						
POBLACION	269			H-7, VH-4	H-2	H-127	71	58	44	25
TALOMO	397	2	2	H-47, VH-38	H-19	H-162	22	43	87	57
TORIL	19			H-6						
TUGBOK	70	3	3	H-30 VH-6						
<b>TOTAL</b>	<b>1120</b>									

**Table IF-27 DCWD Production Wells, 2018, Davao City**

NAME	LOCATION	PUMP TYPE	PHYSICAL CONDITION	HAZARD SUSCEPTIBILITY (H/M/L)				
				FL	LN	LQ	EQ	SU/TS
PW 1	KM. 7, TALOMO SUMP BANGKAL, BRGY. TALOMO	VERTICAL TURBINE	GOOD	H	L	L		5m
PW 2	BENEDICTINE SISTERS ROAD, BRGY. TALOMO	SUBMERSIBLE	GOOD	L	L	L		
PW 3	UUHSA, BRGY. TALOMO	VERTICAL TURBINE	GOOD	M	L	M		4m
PW 4	KM. 8 ULAS, BRGY. TALOMO	VERTICAL TURBINE	GOOD	M	L	M		5m
PW 5	PUAN JUNCTION, BRGY. TALOMO	SUBMERSIBLE	GOOD	M	L	M		4m
PW 6	LOWER RAPNAGA, PUAN, BRGY. BAGO APLAYA	SUBMERSIBLE	GOOD	L	L	M		
PW 7	LOWER RAPNAGA, PUAN, BRGY. BAGO APLAYA	VERTICAL TURBINE	GOOD	L	L	H		4m
PW 8	LOWER RAPNAGA, PUAN, BRGY. BAGO APLAYA	VERTICAL TURBINE	GOOD	L	L	H		3m
PW 9	CROSSING BAGO APLAYA, BRGY. BAGO APLAYA	VERTICAL TURBINE	GOOD	L	L	H		4m
PW 10	KM. 10 BAGO APLAYA FRONTING IDEAL SUBDIVISION, BRGY. BAGO APLAYA	VERTICAL TURBINE	GOOD	L	L	H		5m
PW 11	DAVAO-COTABATO ROAD, NEAR BAGO BRIDGE, BRGY. BAGO APLAYA	VERTICAL TURBINE	GOOD	H	L	H		2m
PW 12	KM. 11 DUMOY NEAR THE ENTRANCE TO DUSNAI, BRGY. DUMOY	VERTICAL TURBINE	GOOD	L	L	H		5m

Table IF-27 DCWD Production Wells, 2018, Davao City

NAME	LOCATION	PUMP TYPE	PHYSICAL CONDITION	HAZARD SUSCEPTIBILITY (H/M/L)				
				FL	LN	LQ	EQ	SU/TS
PW 13	BAGO GALLERA ROAD NEAR GALLERA DE ORO SUBD. BRGY. BAGO GALLERA	VERTICAL TURBINE	GOOD	L	L	M		5m
PW 14	KM. 9, PUAN ALONG DAVAO COTABATO ROAD BRGY. BAGO APLAYA	VERTICAL URBINE	GOOD	L	L	M		5m
PW 15	ALONG BAGO GALLERA ROAD INFRONT OF MEGA HOMES, BRGY. BAGO GALLERA	SUBMERSIBLE	GOOD	L	L	L		
PW 16	CATOTAL SUBDIVISION NEAR BLOCK 22, BRGY. BAGO APLAYA	VERTICAL TURBINE	GOOD	H	L	M		4m
PW 17	GALLERA DE ORO SUBDIVISION NEAR BLOCK 8, BRGY. BAGO APLAYA	VERTICAL TURBINE	GOOD	M	L	L		5m
PW 18	PUROK 6, STA CRUZ BAGO GALLERA ROAD FRONTING SPRING VALLEY, BRGY. BAGO GALLERA	VERTICAL TURBINE	GOOD	M	L			
PW 19	RELDO VILLAGE, ACACIA ST., BRGY. BAGO GALLERA	VERTICAL TURBINE	GOOD	M	L			
PW 20	ALONG APO GOLF ROAD, BRGY. BAGO APLAYA	VERTICAL TURBINE	GOOD	M	L			
PW 21	ALONG LIBBY ROAD INFRONT OF SAN LORENZO VILLAGE, BRGY. BAGO GALLERA	VERTICAL TURBINE	GOOD	M	L			
PW 22	ENTRANCE OF TOSCANA SOLARIEGA, BRGY. BAGO GALLERA	VERTICAL TURBINE	GOOD	L	L			
PW 23	TOSCANA SOLARIEGA NEAR BLOCK 11, BRGY. BAGO GALLERA	SUBMERSIBLE	GOOD	L	L			
PW 24	LIBBY ROAD, NEAR ADCIVILLE SUBDIVISION, BAGO GALLERA	VERTICAL TURBINE	GOOD	L	L			
PW 25	FARLAND EXTENSION NEAR BLOCK 2, BRGY. DUMOY	VERTICAL TURBINE	GOOD	M	L	L		
PW 26	ALONG IWHA ROAD, BRGY. BALIOK	SUBMERSIBLE	GOOD	L	L			
PW 27	ALONG IWHA ROAD, BRGY. BALIOK	SUBMERSIBLE	GOOD	L	L			
PW 28	ALONG BAGO GALLERA ROAD, PUROK 3 , BRGY. BAGO GALLERA	VERTICAL TURBINE	GOOD	L	L			
PW 29	BAGASA VILLAGE, LIBBY ROAD, BRGY. BAGO GALLERA	VERTICAL TURBINE	GOOD	L	L			
PW 30	ENTRANCE TO GREENLAND SUBDIVISION, ALONG DAVAO COTABATO ROAD, BRGY. DUMOY	VERTICAL TURBINE	GOOD	L	L	M		
PW 31	ALONG LIBBY ROAD, PUROK 5, BRGY. BAGO GALLERA	VERTICAL TURBINE	GOOD	L	L			

Source : Davao City Water District and Office of the City Planning and Development Coordinator

**Table IF-27 DCWD Production Wells, 2018, Davao City, cont.**

NAME	LOCATION	PUMP TYPE	PHYSICAL CONDITION	HAZARD SUSCEPTIBILITY (H/M/L)				
				FL	LN	LQ	EQ	SU/TS
PW 32	ALONG LIBBY ROAD, PUROK 1, BRGY. BALIOK	SUBMERSIBLE	GOOD	L	L			
PNC 2	PUROK 24, MALAGAMOT, BRGY. PANACAN	SUBMERSIBLE	GOOD		L			
PNC 3	PUROK 24, MALAGAMOT, BRGY. PANACAN	SUBMERSIBLE	GOOD		H			
PNC 4	MALAGAMOT ROAD, PANACAN	SUBMERSIBLE	GOOD		L			
TI-BUNGCO	TIBUNGCO RELOCATION, BRGY. TIBUNGCO	SUBMERSIBLE	GOOD		M			
TGK 1	SITIO MAHAYAHAY, BRGY. TUGBOK	SUBMERSIBLE	GOOD	L	L			
TGK 2	SITIO MAHAYAHAY, BRGY. TUGBOK	SUBMERSIBLE	GOOD	M	L			
TGK 3	SITIO MAHAYAHAY, BRGY. TUGBOK	SUBMERSIBLE	GOOD	M	L			
TGK 4	NEW LOON, BRGY. MINTAL	SUBMERSIBLE	GOOD		L			
TGK 5	TUGBOK QUARRY, ALONG DAVAO BUKIDNON ROAD, BRGY. TUGBOK	VERTICAL TURBINE	GOOD	H	L	L		
TGK6	SITIO BASAK, BRGY. MINTAL	SUBMERSIBLE	GOOD		L			
TGK7	PUROK 7, NEAR PCA, BRGY. BAGO OSHIRO	VERTICAL TURBINE	GOOD		L			
TGK8	DCWD PROPERTY, BRGY. CATALUNAN GRANDE	SUBMERSIBLE	GOOD		L			
CLN 1	MALAGOS BARANGAY ROAD	SUBMERSIBLE	GOOD		L			
CLN 2	BARANGAY WANGAN	VERTICAL TURBINE	GOOD		L			
RVR 1	DAVAO - BUKIDNON ROAD, UPPER RIVERSIDE	SUBMERSIBLE	GOOD	M	L	L		
RVR 2	LOS AMIGOS	VERTICAL TURBINE	GOOD	VH	L	L		

Source : Davao City Water District and Office of the City Planning and Development Coordinator

**Level III BAWASA-** The Barangay Water and Sanitation Association (BAWASA) is being organized for the provision/management and maintenance of Level III and Level II water supply systems of 70 barangays unserved by DCWD. Based on the table below, 53 out of 70 barangays have Level III Water System managed by respective BAWASA.

**BARANGAYS UNSERVED by DCWD, 2018**

District	BARANGAY	Type of Water System	BAWASA	Households Served
Paquibato	Colosas	Level III	Balagunan Water System Associa-	50
			Surayan Water System Association	100
			Maru-gaan Water System Associa-	100
	Fatima (Benowang)	Level III	Brgy. Fatima Water System Association	130
			Sitio San Pablo Water System Association	25
			Bagong Silang Water System Association	35
	Lumiad	Level II	Barangay Managed	
	Mabuhay	Level III (Level II also available-no association)	Purok Mangga Water System Association-newly installed	
	Malabog	Level III (Level II also available-no association)	Malabog Water System Cooperative	752
	Mapula	Level III (Level II also available-no association)	Damilag Water System	200
			Salucadang Water System	80
			Upper Mapula Water System	70
	Pañalum	Level II	Barangay Managed	
	Pandaitan	Level III (Level II also available-no association)	Purok 1 Water System Association	42
			Purok 2 Water System Association	33
			Purok 5 Water System Association	49
			Purok 7-Barangay Managed	108
			Purok 8-Barangay Managed	106
			Purok 9-Barangay Managed	28
			Purok 10-Barangay Managed	61
Purok 11-Barangay Managed			48	
Purok 12-Barangay Managed			52	
Paquibato (Pob)	Level III (Level II also available-no association)	Temporarily Manage by Barangay Council of Paquibato Proper	100	
Paradise Embac	Level III (Level II also available-no association)	Paradise Embac Water System Assn.	136	
Salapawan	Level II	Barangay Managed		
Sumimao	Level III	Sumimao Water System Assn.	300	
		BACSARPA Water System Assn.	200	
Tapak	Level II	Barangay Managed		

Source : Office of the City Planning and Development Coordinator

## Barangay Unserviced by DCWD, 2018

District	BARANGAY	Type of Water System	BAWASA	Households Served
Bunawan	Gatungan	Level III	Gatungan Water System Association	85
	San Isidro (Licanan)	Level III	FATIMA (Purok 8) by Holcim (Private)	89
			BOSQUE (Purok 10) -Barangay Managed	110
Calinan	Cawayan	Level III	Purok 5 Water System Association	50
			Purok 6 San Roque Water System Assn.	160
			Purok 1 Water System Association	50
			Purok 9 Water System Association	50
			Purok 4 Water System Association	120
	Dalagdag	Level III	Dalagdag Indigenous People Water System Association	1213
	Dominga	Level III (Level II also available-no association)	Barangay Managed	
	Inayangan	Level III	Inayangan Water System	140
	Lamanan	Level III	Lamanan Water System Association (LAWAAS)	492
	Lampianao	Level III	Brgy. Lampianao Water System	200
	Megkawayan	Level III	Megkawayan Water System Association	400
	Pangyan	Level III	Sitio Lumugon	40
			Lorenzo Potable Water System & Assn.	150
			Pangyan Water System	80
			Asang Water System & Assn.	80
	Saloy	Level III	Brgy. Saloy Water System & Assn.	181
			Purok Pag-Ibig Water System & Assn.	79
			Purok Mabuhay	17
	Sirib	Level III	Lower Sirib Water Association	342
			Highland Banana Plantation Water System	375
			Feliciano Farm Water System (P1, 17, & 19)	555
	Subasta	Level II	Barangay Managed	
	Tamayong	Level III	Brgy. Tamayong Water System Association (to established)	

Source : Office of the City Planning and Development Coordinator

## Barangay Unserved by DCWD, 2018

District	BARANGAY	Type of Water System	BAWASA	Households Served	
Baguio	Baguio	Level III	Baguio Water System	250	
			Upper Baguio Water Works	130	
			Carcataba	399	
	Cadalian	Level III	Cadalian Water System Association	374	
	Carmen	Level III	Carmen Spring Association	591	
	Tambobong	Level III (Level II also available- no association)	Temporarily Manage by Barangay Council of Tambobong	423	
	Tawan-tawan	Level III (Level II also available- no association)	CARCATABA (4 puroks)-Barangay Managed	300	
			Purok Malipayon & Cawayan- Barangay Managed	30	
	Wines	Level III	Community Water System Associa- tion	181	
			Wines Water System Association	142	
			Peña -Saging Water System Associ- ation	96	
			Ventura-Gumalang Water System Association	72	
			Sitio Maligatong Water System Association	80	
			Niyog Water System Association	40	
	Buhangin	Callawa	Level II	Barangay Managed	
	Marilog	Baganihan	Level III (Level II also available-	Baganihan Water & Farmers Asso- ciation	148
		Bantol	Level III (Level II also available- no association)	Bantol Agri. Water Organization	200
				Upper Muslim Water & Sanitation Assn.	32
Malakiba Water System & Assn.				65	
Bangkal Water Sanitation & Assn.				15	
TUGAS Water System				37	
MAWASO Farmers Water Sanita- tion & Assn.				28	
BANUAYAN Farmers Water Sanita- tion & Assn.				50	
Langgonoan Water Sanitation & Assn.				25	
Buda		Level III (Level II also available- no association)	Brgy. Water System Assn. (P3, 9,4)	80	
			Happy Phase Water System Assn. (P5,8,6,&1)	70	
			Cloudualdo Doquiatan (P4,2,1)	30	
			Buda Water Assn. (P5,7,8)	75	
Dalag		Level II	Barangay Managed		
Datu Salumay		Level II	Barangay Managed		
Gumitan		Level II	Barangay Managed		
Magsaysay		Level II	Barangay Managed		
Malamba		Level III (Level II also available- no association)	Malamba RIC Women's Association	50	
	Malamba Farmer's Association		40		
	Malamba Community Water Sys- tem Association		62		
	Quarry Sambunotan Water System Association		37		

## Barangay Unserviced by DCWD, 2018

District	BARANGAY	Type of Water System	BAWASA	Households Served
Marilog	Malamba	Level III (Level II also available-no association)	Malamba RIC Women's Association	50
			Malamba Farmer's Association	40
			Malamba Community Water System Association	62
			Quarry Sambunotan Water System Association	37
	Marilog (Proper)	Level III (Level II also available-no association)	KALMAWASA (Kampo Uno Ladian Marahan Water System )	520
			Marilog Water Association	350
	Salaysay	Level III (Level II also available-no association)	Brgy. Salaysay Water System Association	200
	Suawan(Tuli)	Level II	Barangay Managed	
	Tamugan	Level III	Lopwa Lower Tamugan Water Association	950
			Upwa Lower Tamugan Water Association	400
Sto. Nino Water Association			250	
Toril	Alambre	Level III	Brgy. Alambre Water and Sanitation Association	240
	Atan-Awe	Level III	Temporarily Manage by Barangay Council of Atan-Awe	500
	Baracatan	Level III	GreenHills Association	750
	Bayabas	Level III	Bayabas Water System Association	100
			Tinolang Water System Association	120
			Carnagan Water System Association	130
	Binugao	Level III	Binugao Water System Association	100
	Camansi	Level III	Camansi Water System Association	107
	Catigan		Level 2 only	
	Daliaon Plantation	Level III	Daliaon Plantation Water Association (DAPWA)	1,079
	Eden	Level III (Level II also available-no association)	Barangay Managed	600
	Kilate	Level III (Level II also available-no association)	Barangay Managed	250
Sibulan	Level III (Level II also available-no association)	Barangay Managed	170	

Source : Office of the City Planning and Development Coordinator

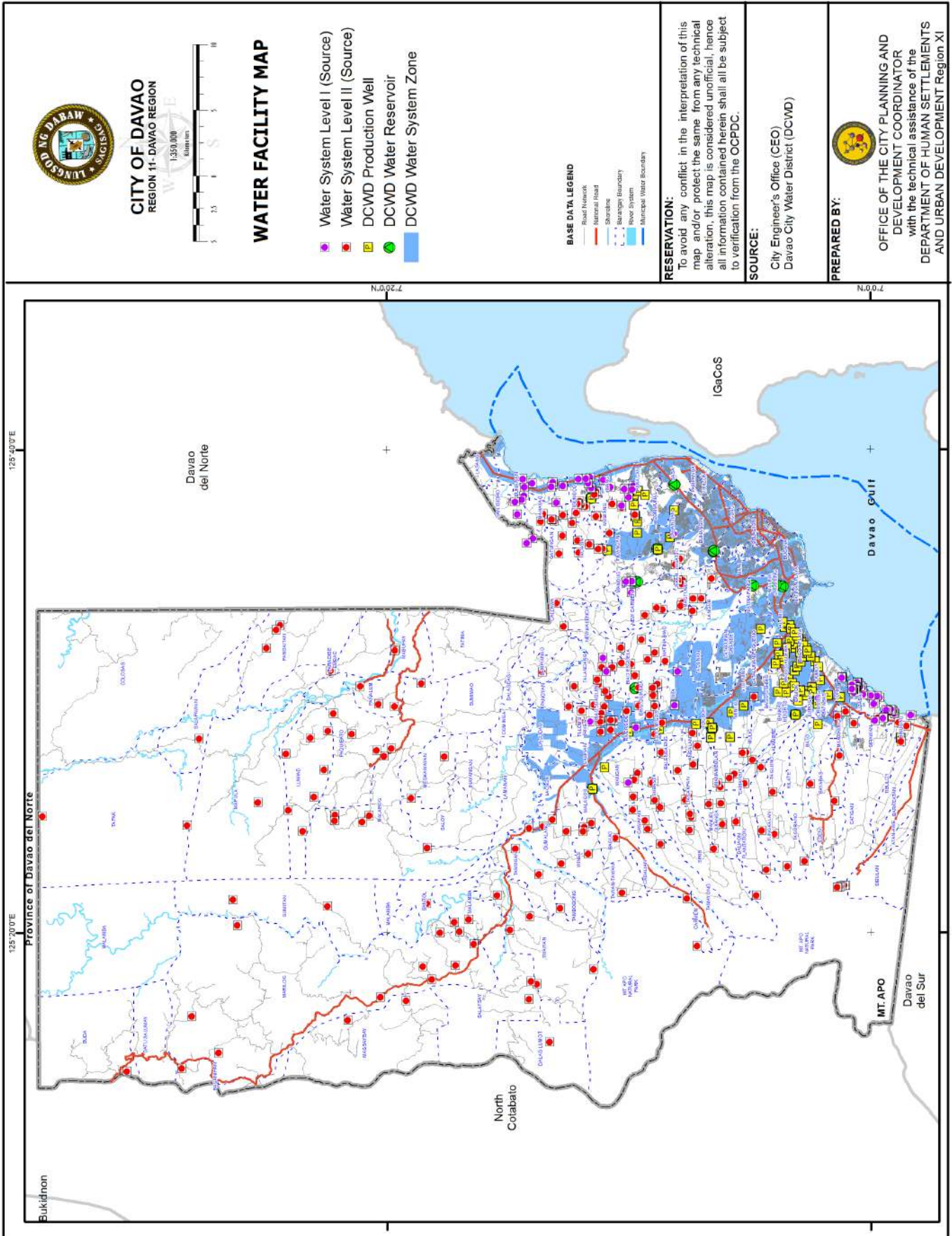
## Barangay Unserved by DCWD, 2018

District	BARANGAY	Type of Water System	BAWASA	Households Served
Toril	Sirawan	Level III	Purok 1 Water System Association	35
			Purok 3 Water System Association	
			Purok 7 Water System Association	
	Tagluno	Level III	Tagluno Water System Association	396
	Tagurano	Level II	Barangay Managed	
	Tibuloy	Level II	Barangay Managed	
	Tungkalan	Level III (Level II also available-no association)	Tungkalan Water System Association	
Tugbok	Angalan	Level III	Brgy. Angalan Water System Assn.	1027
	Balingaeng	Level II	Barangay Managed	
	Manambulan	Level III	Manambulan Water Works Association & Sanitation (MAWASA)	650
	Manuel Guianga	Level III	Manuel Guianga Water System Association 1	254
			Manuel Guianga Water System Association 2	160
			Sitio Dipag 1 & 2	134
	New Carmen	Level II	Barangay Managed	
	New Valencia	Level II	Barangay Managed	
	Tagakpan	Level III	Brgy. Sanitary Water System Association	957
Talandang	Level III (Level II also available-no association)	Barangay Managed		

Source : Office of the City Planning and Development Coordinator



Water Utilities Map



## CURRENT AND PROJECTED NEEDS

DCWD has projected the number of service connections and water requirements per water supply system up to year 2023, considering the population growth and incoming new service connections applications from subdivisions, condominiums, and commercial establishments. Based on Table IF-28, the number of service connections is expected to grow by 22% or 48,283 connections from year 2018 to year 2023. On water requirements, an increase of 48% or additional 52,859,999 cubic meters is by 2023.

With the population growth rate of 2.3 per year from PSA, the estimated domestic water demand in 2028 is 48,063,029.79 cubic meters as computed by CPDO using the formula provided by the DHSUD to project water demand for 2028 (Table IF-28). The computation used is projected water demand is : Projected water demand: Projected Population x 0.06 cubic meter per day x 365 days.

**Table IF-28. Water Requirement by Water Supply System Population, Year 2018-2023**

Water Supply System	Current Year				Projected (Year 5) <sup>2</sup>	
	No. of Service Connections	Water Supply (in cubic meters)	Water Requirement (in cubic meters)	Surplus (in cubic meters)	No. of Service Connections	Water Requirement (in cubic meters)
Cabantian	9,303	3,730,964	3,306,088	424,876	10,331	4,432,710
Calinan	4,542	2,783,291	2,693,725	89,566	5,195	2,726,531
Dumoy	140,167	78,638,918	73,633,176	5,005,742	161,767	109,184,177
Gumalang <sup>3</sup>	-	-	-	-	1,604	726,635
Indangan <sup>4</sup>	-	-	-	-	4,613	2,089,755
Lubogan	8,734	4,700,536	3,803,183	897,353	9,739	4,607,354
Malagos	1,703	1,266,218	1,197,918	68,300	1,877	981,018
Mandug <sup>4</sup>	-	-	-	-	4,158	1,883,634
Panacan	11,566	4,718,455	4,532,833	185,622	13,226	7,684,156
Riverside	4,854	2,998,309	2,416,686	581,623	5,326	2,748,182
Sirawan-Binugao <sup>4</sup>	-	-	-	-	1,770	801,835
Talandang <sup>4</sup>	-	-	-	-	2,222	1,006,598
Tamugan <sup>5</sup>	-	-	-	-	884	400,465
Tibungco	189	59,727	50,124	9,603	211	63,100
Toril	9,209	4,533,300	3,925,200	608,100	10,495	5,421,076
Tugbok	33,263	17,044,173	14,895,113	2,149,060	37,247	18,041,288
Wines-Baguio <sup>5</sup>	-	-	-	-	1,138	515,530
<b>TOTAL</b>	<b>223,530</b>	<b>120,473,891</b>	<b>110,454,046</b>	<b>10,019,845</b>	<b>271,803</b>	<b>163,314,045</b>

Source: Davao City Water District

**Table IF-29. Population Water Domestic Demand Projection (cubic meters), 2019-2028**

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>DISTRICT 1</b>	13,897,360.43	14,216,999.72	14,543,990.71	14,878,502.50	15,220,708.05	15,570,784.34	15,928,912.38	16,295,277.36	16,670,068.74	17,053,480.32	17,445,710.37
Talomo District	9,814,898.26	10,040,640.92	10,271,575.66	10,507,821.90	10,749,501.80	10,996,740.35	11,249,665.37	11,508,407.68	11,773,101.05	12,043,882.38	12,320,891.67
Poblacion District	4,082,462.17	4,176,358.80	4,272,415.05	4,370,680.59	4,471,206.25	4,574,043.99	4,679,247.00	4,786,869.69	4,896,967.69	5,009,597.94	5,124,818.70
<b>DISTRICT 2</b>	13,885,965.61	14,205,342.82	14,532,065.70	14,866,303.22	15,208,228.19	15,558,017.44	15,915,851.84	16,281,916.43	16,656,400.51	17,039,497.72	17,431,406.17
Agdao District	2,397,764.53	2,452,913.12	2,509,330.12	2,567,044.71	2,626,086.74	2,686,486.74	2,748,275.93	2,811,486.28	2,876,150.46	2,942,301.92	3,009,974.87
Buhangin District	6,872,480.32	7,030,547.36	7,192,249.95	7,357,671.70	7,526,898.15	7,700,016.81	7,877,117.20	8,058,290.89	8,243,631.58	8,433,235.11	8,627,199.52
Bunawan District	3,566,202.01	3,648,224.66	3,732,133.82	3,817,972.90	3,905,786.28	3,995,619.36	4,087,518.61	4,181,531.54	4,277,706.76	4,376,094.02	4,476,744.18
Paquibato District	1,049,518.75	1,073,657.68	1,098,351.81	1,123,613.90	1,149,457.02	1,175,894.53	1,202,940.10	1,230,607.73	1,258,911.70	1,287,866.67	1,317,487.61
<b>DISTRICT 3</b>	10,503,979.78	10,745,571.31	10,992,719.45	11,245,552.00	11,504,199.70	11,768,796.29	12,039,478.60	12,316,386.61	12,599,663.50	12,889,455.76	13,185,913.25
Baguio District	794,190.48	812,456.86	831,143.37	850,259.67	869,815.64	889,821.40	910,287.29	931,223.90	952,642.05	974,552.82	996,967.53
Calinan District	2,158,801.66	2,208,454.10	2,259,248.54	2,311,211.26	2,364,369.12	2,418,749.61	2,474,380.85	2,531,291.61	2,589,511.32	2,649,070.08	2,709,998.69
Marilog District	1,223,911.00	1,252,060.95	1,280,858.36	1,310,318.10	1,340,455.42	1,371,285.89	1,402,825.47	1,435,090.45	1,468,097.53	1,501,863.77	1,536,406.64
Toril District	3,482,264.90	3,562,356.99	3,644,291.20	3,728,109.90	3,813,856.42	3,901,575.12	3,991,311.35	4,083,111.51	4,177,023.08	4,273,094.61	4,371,375.78
Tugbok District	2,844,811.74	2,910,242.41	2,977,177.98	3,045,653.08	3,115,703.10	3,187,364.27	3,260,673.65	3,335,669.14	3,412,389.53	3,490,874.49	3,571,164.60
<b>TOTAL</b>	<b>38,287,305.81</b>	<b>39,167,913.85</b>	<b>40,068,775.87</b>	<b>40,990,357.71</b>	<b>41,933,135.94</b>	<b>42,897,598.07</b>	<b>43,884,242.82</b>	<b>44,893,580.41</b>	<b>45,926,132.76</b>	<b>46,982,433.81</b>	<b>48,063,029.79</b>

Source: Office of the City Planning and Development Coordinator

Projected water demand: Projected Population x 0.06 cubic meter per day x 365 days

**Davao City Bulk Water Supply Project-** DCWD continues to tap and develop additional water sources, both from ground and surface. As shown in Table IF-30, a total of 22 production wells will be commissioned in the years 2019-2023. By 2021, DCWD's main water source will be the Tamugan River upon the commissioning of the Davao City Bulk Water Supply Project (DCBWSP), a joint-venture with Apo Agua Infraestructura Inc. (AAIL). The conjunctive use of surface water and groundwater intends to supply barangays unserved by DCWD.

The DCBWSP serve three (7) new Water Supply System (WSS): Mandug, Indangan, Talandang, Gumalang, Wines, Tamugan and Binugao. It will also supply water to the following existing Water Supply Systems (WSS): Dumoy, Tugbok, Calinan, Panacan, Cabantian and Tibungco with conjunctive use of some production wells to meet the required volume. The remaining four (4) existing WSS (Lubogan, Toril, Malagos and Riverside) will continue to use groundwater. Ultimately, with the commissioning and operation of the DCWSP, DCWD could supply the water requirements of its service area for another 30 years with adequate supply in good quality.

The Tamugan River, the source of DCBWSP is classified as Class A (Public Water Supply Class II) - intended as source of water supply that will require complete conventional treatment such as coagulation, sedimentation, filtration, and disinfection in order to meet the requirements of the Philippine National Standards for Drinking Water (PNSDW).

Currently, DCWD has secured the necessary water permit from the National Water Resources Board (NWRB) to utilize these established surface water as water sources. The Tamugan River has Natural Water Resources Board (NWRB) Permit No. 15729, which was transferred to Apo Agua Infraestructura Incorporated with Water Permit No. 12-17-176-024530. The said surface water will then be utilized for the implementation of the DCBWSP or the Tamugan Surface Water Development Project. Consequently, Lipadas River has also NWRB Permit No. 12141, however, the said water source has not yet developed.

**Table IF-30. Development of Additional Water Sources, 2018**

Water Supply System	Additional Production Wells		Additional Surface Water Sources	
	Number	Years Commissioned	Number	Years Commissioned
Dumoy	2	2020, 2021	1	2021
Tugbok	3	2020, 2022, 2023		
Panacan	1	2019		
Cabantian	2	2019, 2021		
Calinan	1	2020		
Indangan	1	2020		
Mandug	-	-		
Talandang	1	2020		
Tibungco WFL	-	-		
Riverside	2	2020, 2023		
Toril	2	2019, 2022	-	-
Lubogan	2	2021	-	-
Malagos	-	-	-	-
Gumalang	1	2022	-	-
Binugao	2	2019, 2023	-	-
Wines	1	2022	-	-
Tamugan	1	2022	-	-
<b>TOTAL</b>	<b>22</b>			

Source: Davao City Water District

**Table IF-31. Existing Surface**

Surface Water (e.g. lakes, rivers, water impounding structures, etc.)	Location	Classification (e.g. Class AA, A, B, C, D, refer to Annex IF-2)
1.) Tamugan River	Upper Baguio, Baguio District	Class A <sup>3</sup>
2.) Lipadas River	Camansi, Toril, Davao City	Class A, AA <sup>4</sup>

<sup>3</sup> Class A – Public Water Supply Class II. For sources of water supply that will require complete treatment (coagulation, sedimentation, filtration and disinfection) in order to meet the NSDW.

<sup>4</sup> Class AA – Public Water Supply Class I. This class is intended primarily for waters having watersheds which are uninhabited and otherwise protected and which require only approved disinfection in order to meet the National Standards for Drinking Water (NSDW) of the Philippines

## Climate Change and Disaster Risk Management Options

As there are many water sources which may be affected by hazard occurrence as assessed in the Climate Disaster Risk Assessment (CDRA), the development of reservoirs for Level I and Level II spring sources is necessary. There is also a need for installation of disaster resilient features for deep wells which are at risk and vulnerable to hazards. Construction of disaster resilient dikes before and after the bridges is highly encouraged to protect pipes suspended along the bridges during flood and storm surge occurrence. Frequent monitoring and implementation of disaster mitigation and adaptation measures should also be done by DCWD. The agency should implement these measures using their yearly reserve fund equivalent to 3% of their gross sales for the repair and replacement of mainline pipes. A water source identification through resistivity equipment should be done not only by the DCWD but also by the local government to ensure integrity of the

### IF-32. Water Analysis Matrix, 2018

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>Lack of regular monitoring of water permittees from NWRB</li> </ul>	<ul style="list-style-type: none"> <li>Over extraction of ground water that may contribute shortage of water supply; Salt water intrusion &amp; Liquefaction</li> </ul>	<ul style="list-style-type: none"> <li>Devolution of the functions of National Water Resource Board to Local Government Unit; Creation of Status Monitoring Team (re-visit the EO of Water Resource Management Task Force)</li> </ul>
<ul style="list-style-type: none"> <li>Non-regulation of ground water extraction (private wells)</li> </ul>	<ul style="list-style-type: none"> <li>Over extraction of ground water that may contribute shortage of water supply; Salt water intrusion; &amp; Liquefaction</li> </ul>	<ul style="list-style-type: none"> <li>Suspend issuance of ground water extraction permit and impose moratorium for phasing out existing private wells</li> </ul>
<ul style="list-style-type: none"> <li>Critical threshold of potable water supply</li> </ul>	<ul style="list-style-type: none"> <li>Insufficient water supply and low water pressure in some areas serviced by DCWD</li> </ul>	<ul style="list-style-type: none"> <li>Full implementation of Rainwater Harvesting System Ordinance;</li> <li>Full implementation of Davao City Bulkwater... through the TAMUGAN surface water development project</li> </ul>
<ul style="list-style-type: none"> <li>No regular monitoring of Rainwater Harvesting System Ordinance</li> </ul>	<ul style="list-style-type: none"> <li>Missed benefits of the full purpose of the ordinance - Catchment effect and - Flooding alleviation</li> </ul>	<ul style="list-style-type: none"> <li>Strict implementation of Rainwater Harvesting System Ordinance - Committee for Rainwater Harvesting System should be established</li> </ul>
DCWD cannot provide distribution system for 70 barangays in Geographically Isolated and Disadvantaged Areas (GIDAs)	<ul style="list-style-type: none"> <li>Loss economic opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen Level I and Level II water supply system and Barangay Waterworks and System Association for the maintenance and operation as DCWD yet develop those areas</li> </ul>
<ul style="list-style-type: none"> <li>Absence of sewerage system</li> </ul>	<ul style="list-style-type: none"> <li>Contamination of surface water</li> </ul>	<ul style="list-style-type: none"> <li>Updating of the Feasibility Study of the Sewerage System</li> <li>Establishment of a sewerage system</li> </ul>

### Water Analysis Matrix, 2018

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<p><b>Level 3</b></p> <ul style="list-style-type: none"> <li>• Mainlines with total length of 97.14 meters found in Wangan, Calinan, Tugbok, Mintal, Catalunan Grande, Talomo, Los Amigos are moderately vulnerable to earthquake.</li> <li>• DCWD mainlines with total length of 16,830.42 meters found in Matina Crossing, Matina Aplaya, Talomo, Ma-a, 19-B, Tigatto, Tugbok, Mandug are high risk to flooding</li> <li>• DCWD mainlines with total exposed length of 8,112.84 meters in Tigatto, Buhangin, Matina Pangi, Catalunan Grande, Matina Crossing, Ma-a, Langub, Panacan are high risk of landslide.</li> <li>• A total of 1702.4 m mainlines found Barangay Ilang is moderately vulnerable to storm surge;</li> <li>• A total of 55,667.14 m mainlines in Tomas Monteverde, Agdao Proper, Wilfredo Aquino, Leon Garcia Sr., Gov. Vicente Duterte, Ubalde, San Antonio, Centro, Paciano Bangoy, Agdao Proper are moderately vulnerable to liquefaction.</li> </ul>	<ul style="list-style-type: none"> <li>• There will be temporary water interruption depending on the severity of impact</li> <li>• There will be replacement cost/repair cost based on the degree of damage.</li> <li>• Water interruption which will cause disruption the flow of goods and services and economic loss</li> </ul>	<ul style="list-style-type: none"> <li>• Strict implementation of material specification standards and construction of National building code of the Philippines; National Structural Code for Buildings; American National Standard Institute/American Water works Association; Standard Specifications and American Society for Testing and Materials.</li> <li>• The concerned agency should have an allocation for the repair and replacement of mainline pipes in case it will be hit by hazards. To install dikes before and after bridges to protect water pipes suspended along bridges</li> <li>• Water source identification through resistivity equipment</li> <li>•</li> </ul>
<p><b>Level 2</b></p> <ul style="list-style-type: none"> <li>• 7 wells and spring source found in Sirawan, Daliao Plantation, Marapangi, Waan, Tigatto are in high risk of flood;</li> <li>• 28 spring by gravity source and a well found in Carmen, Suawan, Tambobong, Callawa, Salaysay, Marilog, Megkawayan, Lumiad, Gumitan, Magsaysay and Tapak are in high risk of landslide;</li> <li>• 2 wells in Barangay Sirawan is moderately vulnerable to storm surge with 2-meter wave;</li> </ul>		

### Water Analysis Matrix, 2018

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>1 well found in Purok 5, Sitio Kawayan, Barangay Manambulan, is highly vulnerable to earthquake as it is (Tamugan Fault)</li> </ul>		
<p><b>Level 1</b></p> <ul style="list-style-type: none"> <li>30 springs by gravity source and 1 deep well found in Mandug, Bunawan, Tibungco, Panacan, Riverside, Lizada, Sirawan are in high risk of flood;</li> <li>36 spring sources in Bunawan, Panacan, San Isidro, and Daliao are in high risk of landslide; 57 spring by gravity source and wells in Binugao, Bunawan, Cabantian, Daliao,</li> <li>52 springs by gravity source in Bunawan, Mahayag, Mandug, Daliao, Lizada, Sirawan, are moderately vulnerable to liquefaction;</li> <li>51 springs by gravity source in Bunawan, Mahayag, Tibungco, Daliao, Lizada, Sirawan, Binugao are highly vulnerable to storm surge</li> </ul>		



## Information and Communication Technologies

One of Davao City's key economic agenda is to develop the metropolis as the new investment haven for information and communication technology (ICT) and Business Process Outsourcing companies (BPOs). In 2018, Davao City ranked 75<sup>th</sup> among the top 100 Outsourcing Destinations in the World by Tholons (a services globalization and investment advisory firm). Thus, this reflects the city's readiness to host ICT companies and BPOs with its business-friendly environment. Also, Davao City has a total of 17 parks registered with Philippine Economic Zone Authority (PEZA).

The move to make Davao City into a 'smart city', was worked out by ICT Davao and being supported by the private sector, installing the necessary broadband connection within its offices and to encourage telecommunication companies to identify certain portions of the city as free wifi areas. These public wifi areas would provide access to the public free internet connection for their important personal communication, government and business transactions.

The program of the Department of Information and Communication Technology came up with the common pole project to encourage telecommunication companies to tap this opportunity of readily available pole requirements, which means lesser problem for them in terms of finding an appropriate location, getting permits and licenses, as well as consent of the private land owner.

### Existing Situation

As of 2021, there are 184 public wifi areas, which include many public elementary and high schools, even in the outskirts of the city, and frequented government facilities such as the City Hall and the Rizal Park,

The country's telecommunications sector received a boost from the increased infrastructure investment driven initially by fixed-line development in 1990s. Recently, mobile telephone market flourished, followed by an outpoured interest in wireless broadband services.

The program of the Department of Information and Communication Technology came up with the common pole project to encourage telecommunication companies to tap this opportunity of readily available pole requirements, which means lesser problem for them in terms of finding an appropriate location, getting permits and licenses, as well as consent of the private land owner.

Dabawenyos now live in the digital era. Internet indeed rapidly changed the nature of telecommunications other than short messaging. The dawn of new technologies introduced applications that enabled people to send messages, to chat, and to call for free thru social networking sites. The increasing shift to mobile Internet usage resulted in the decline of the use of Short Message Services. The saturation of these new technologies to our daily system is evidenced by the Philippines becoming as the "social networking capital of the world". Apart from that, the use of mobile phones has expanded to include online buying

and selling of goods and mobile banking.

Based on the OpenSignal's State of LTE Report Q3 2016, it showed that 68.63% of Internet users can access a 3G or 4G (or better availability) signal in the country. Further, OpenSignal measurement revealed that users in the country were connected to the Wi-Fi rather than cellular networks 44.14% of the time.

Davao City has enough telecommunication infrastructure facilities to support the boost of usage of internet and telecommunication services. The city has adequate number of cell sites to primarily cater urban centers. However, there are still rural barangays still have which have weak connection due to lack of communication infrastructure. This is attributed to lengthy procedures in securing of permits and lack of social acceptability of cell sites due to perceived health and security reasons.

Other than infrastructure problem, misleading internet data packages by internet service providers is also a challenge faced by telecommunication consumers, because such leads to slow connectivity which affects the efficiency of delivery of services in public and private operations

While the city has implemented also the underground cabling in cooperation with various agencies, it is noted that there is still lack of installed telco conduits and Telephone Terminal Cabinets in business establishments and commercial buildings that makes these lines vulnerable to fire hazard. Moreover, cell sites are also susceptible to occurrence of climate related hazards.

## Communication Facilities

**Postal Facilities-** There are 10 postal offices in the City, six (6) of which are publicly owned and four (4) are privately-owned. The Davao City Central Post Office, which is the main station, supervises one (1) extension counter. The Philippine Postal Corporation (PPC) distributes the mails to its 1,050 mail boxes throughout the city, representing 97.50% of its total postal facilities.

For the past years, despite the technological advancements, the operations of postal service providers particularly the Davao Central Post Office remained stable being the still one of the foremost service provider for government agencies, particularly those who send legal correspondence, pawnshops and other businesses that issues written notices to its customers that require delivery of hard copy of mail door to door. Aside from that, PPC also ventured into delivery of parcels and cargo. They also offer logistics services, primarily on items that are not allowed on airplanes and transported through land. The agency they have also adopted tracking codes for people to easily monitor the mail/parcel being sent.

As to the number of letter carriers, Davao City Central Post Office has 29 letter carriers, Matina Post Office has 10, Bunawan Post Office has two (2), Calinan Post Office has five (5), Toril Post Office has eight (8), Mintal Post Office has six (6), and University of Mindanao has one (1) letter carrier. The entire Davao City has a total of 61 letter carriers.

<sup>5</sup>DICT (2017). *National Broadband Plan: Building Infrastructures for a Digital Nation*. Diliman, Quezon City

Some postal facilities in the city are susceptible various hazards. Based on the hazard maps, three (3) are highly susceptible to liquefaction, two (2) are susceptible to storm surge with 4-meter wave, three (3) are susceptible to storm surge with 3-meter wave and two (2) are susceptible to storm surge with 2-meter wave. As for landslide and flood, majority of the postal facilities are in moderate and low susceptibility.

**Table IF-31 Communication Services Facilities, 2018**

Type	Year Constructed	Area Occupied (sq. m)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	Fl	Eq	Ln	Su	Lq
<b>Postal Services</b>										
<b>Post Office</b>										
(a) Davao City Central Post Office	1989	1,635.18	R.O. XI Bldg., Cor. Roxas and Magsaysay Ave.	√	-	L	-	L	-	H
<b>Extension Counters</b>										
(a.1) Sangguniang Panlungsod		4.50	SP Building (Pichon)	√	-	L	-	L	3m	H
(c) Toril Post Office	-	25	Toril District Hall	√	-	L	-	L	-	L
(d) Mintal Post Office	-	40	Mintal District Hall	√	-	M	-	L	-	
(e) Calinan Post Office	-	24.75	Calinan District Hall	√	-	H	-	L	-	L
(f) U.M. Post Office	2000	24	U.M Campus (Bolton)		√	L	-	L	2m	H
(g) Ateneo Post Office	-	8.75	A.D.D.U. Campus (Jacinto)		√	-	-	L	2m	H
(h) Gaisano Mall Post Office	2001	7.30	J.P. Laurel Ave.		√	L	-	L	-	H
(i) Victoria Plaza Post Office	1998	9	J.P. Laurel Ave.		√	L	-	L	4m	M
(j) Bunawan Post Office	-	-	Bunawan District Hall	√		-	-	L	3m	M
<b>Mail Distributor Center (Phil Post)</b>	1989	1,635.18	Corner Magsaysay & Roxas Avenues	√		-	-	-	-	-

Source: National Telecommunications Commission (NTC)

Table IF-31 Communication Services Facilities, 2018, cont.

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)					
				Public	Private	Fl	Eq	Ln	Su	Lq	
<b>Mail Boxes (P.O. Box)</b>											
<b>Davao City Central P.O.</b>											
(a) Medium Size	1989	1,635.18	R.O. XI Bldg., Cor. Roxas and Magsaysay Ave	√		L	-	L	3m	H	
(b) Small Size	1989	1,635.18	R.O. XI Bldg., Cor. Roxas and Magsaysay Ave	√		L	-	L	3m	H	
<b>Stamping Machine (Meter)</b>											
<b>Metered Machine</b>											
(a) Davao City Central P.O.	1989	1,635.18	R.O. XI Bldg., Cor. Roxas and Magsaysay Ave.	√		L	-	L	-	H	
(b) Ateneo Post Office	-	8.75	A.D.D.U. Campus (Jacinto)		√	L	-	L	2m	H	
(c) Gaisano Post Office	2001	7.30	J.P. Laurel Ave.		√	L	-	L	3m	H	
(d) Victoria Plaza Post Office	1998	9	J.P. Laurel Ave.		√	L	-	L	4m	M	
(e) U.M. Post Office	2000	24	U.M Campus (Bolton)		√	L	-	L	2m	M	

Source: National Telecommunications Commission (NTC)

## Broadcast and Television Networks

Broadcast communication covers the entire Davao City and plays a major role as a source of information in the far-flung barangays. As of 2018, there are 14 amplitude modulation (AM) radio stations in Davao City, including the government-owned DXRP known as Radyo ng Bayan. The city has a total of 25 privately-owned frequency modulation (FM) radio stations. There are a total of 15 television stations and two (2) cable stations servicing the requirements of the city residents. These stations are all privately owned. Broadcast and television stations remain significant in rural areas as they remain the fastest means to obtain information and entertainment content as the number of cell sites in these areas are limited. These facilities are also susceptible to various hazards, out of 38 radio broadcast service facilities, five (5) are highly susceptible to landslide while six (60) are susceptible to storm surge with 4-meter wave. Of the 14 television broadcast service facilities, one (1) is highly susceptible to liquefaction, while seven (7) are highly susceptible to landslide. Fortunately, no TV broadcast facility is susceptible to active fault line.

**Table IF-32 Broadcast and Television Network**

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	FI	Eq	Ln	Su	Lq
DXAB – 1296 KHZ (Radyo Patrol) ABS-CBN Co.	1957	1,168.27	Shrine Hills, Matina, Davao City		√		-	M	-	-
DXDC – 621 KHZ (Radyo Agong) (RMN)	1957	130.29	Bonifacio cor. Anda St., Davao City		√	L	-	L	3m	H
DXFE – 1197 KHZ Far East Broad Casting Co.	1972	734.20	Torres St., (Pob.) Davao City		√	L	-	L	-	-
DXGM – 1125 KHZ (GMA Network, Inc.)	1995	414.08	Shrine Hills, Matina, Davao City		√		-	H	-	-
DXGO – 855 KHZ (AksiyonRadyo)	1998	1,209.38	R. Castillo St., Davao City		√	H	-	L	2m	H
DXKT – 1071 KHZ Radio Phils. Network	1961	189.41	Circumferencial Road, Marfori Heights Davao City		√	L	-	L	-	-
DXMF – 585 KHZ (BomboRadyo)	1975	438.50	San Pedro St., Davao City		√	L	-	L	4m	H
DXRA – 783 KHZ (RMC Bctg. Company )	1975	218.17	Door 1 Delgar Bldg., Km.5 J.P Laurel Avenue, Davao City		√	L	-	L	-	-
DXRD – 711 KHZ (Nation Bctg. Corp.)	1967	354.62	NBC Bldg. Florentino Torres, Davao City		√	L	-	L	-	M

Source: National Telecommunications Commission (NTC) /Philippine Information Agency (PIA)

Table IF-32 Broadcast and Television Network, cont.

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	Fl	Eq	Ln	Su	Lq
DXRP – 675 KHZ (Philippine Bctg. Service)	1965	373.51	2/F MGB Braveheart Bldg., Matian, Davao City	√		L	-	L		L
DXUM – 819 KHZ (Radyo Ukay)	1946	-	Ponciano cor. Palma St, Davao City		√	-	-	-	-	-
DXAM - 1017 KHZ (Kalayaan Bctg. System)	2001	-	Anflocor Corporate Center, Damosa Davao City		√	-	-	-	-	-
DXOW - 981 KHZ (Radio Corp.)	-	-	V. Mapa Ext., Davao City		√	-	-	-	-	-
DXIP - 900 KHZ (Southern Bctg. Network)	-	211.62	3/F Lachmi Mall Bldg., Bolton St., Davao City		√	-	-	-	-	-
<b>Frequency Modulation Radio Stations</b>										
DXDR - 88.3 MHz Ultrasonic Broadcasting System, Inc.	1995	204.79	Shrine Hills, Matina, Davao City		√	L	-	L	3m	H
DXBE - 89.1 MHz SBS Radio Network (Quest Bctg. Net	1991	106.47	Door 21, 2nd Flr., Jocar Complex 2, Guererro St., Davao City		√	L	-	L	4m	M
DXGN - 89.9 MHz Catholic Bishops Conference of the Phils	1988	100.01	San Pablo Parish Compound, Juna Subd. Matina, Davao City		√	-	-	M	-	-
DXBM - 90.7 MHz Manila Broadcasting Company	1986	80.78	R. Castillo St., Agdao, Davao City		√	-	-	M	-	-
DXXX - 91.5 MHz Primaxx Bctg. Network	2015	34.54	Ulas, Davao City		√	L	-	L	2m	H
DXWT - 92.3 MHz University of Mindanao	1988	353.44	Ponciano Reyes St., Davao City		√	L	-	L	3m	H
DXAC - 93.1 MHz Mareco Broadcasting Network	1998	138.36	Claveria St., Davao City		√	-	-	M	-	-
DXXL - 93.9 MHz Radio Mindanao Network	2002	131.03	Anda cor. Bonifacio St., Davao City		√	L	-	L	3m	H

Source: National Telecommunications Commission (NTC) /Philippine Information Agency (PIA)

Table IF-32 Broadcast and Television Network, cont.

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	Fl	Eq	Ln	Su	Lq
DXLL - 94.7 MHz In-formedia Resources Management, Inc.	1995	503.30	3rd Floor Anda Corporate Center, Anda St.		√	L	-	L	3m	-
DXKR - 95.5 MHz UM Broadcasting Network	1993	226.88	Ponciano Reyes St., Davao City		√	L	-	L	3m	H
DXFX - 96.3 Bombo Radyo Phils.	1993	149.42	San Pedro St., Davao City		√	L	-	L	4m	H
DXUR - 97.1 MHz Ultimate Entertainment, Inc.	2015	44.24	4th Floor Unit Lanco Bldg. Bajada, Davao City		√	L	-	L	3m	M
DXSS - 97.9 MHz Southern Bctg. Network	1996	211.62	Shrine hill, Davao City		√	-	-	M	-	-
DXKN - 98.3 MHz Kalayaan Broadcasting System, Inc.	2008	2,515.73	Tagum, Davao del Norte		√	L	-	L	4m	H
DXQM - 98.7 MHz Aliw Broadcasting Corporation	1992	159.99	4D3F Atu Plaza Bldg., Gov. Duterte St., Davao City		√	L	-	L	3m	H
DXCT - 99.5 MHz Audiovisual Communicators, Inc.	1995	100.01	5/F Gaisano Mall Of Davao, J.P. Laurel Ave., Davao City		√	-	-	M	-	-
DXDJ - 100.3 MHz Free Air Broadcasting Network, Inc.	1987	99.04	Shrine Hills, Matina, Davao City		√	-	-	H	-	-
DXRR - 101.1 MHz ABS-CBN Corporation	1992	3,637.92	Shrine Hills, Matina, Davao City		√	-	-	L	-	-
DXET - 101.9 MHz Nation Broadcasting Corporation	2009	354.62	Shrine Hills, Matina, Davao City		√	-	-	H	-	-
DXRV - 103.5 MHz GMA Network, Inc.	2002	223.60	Shrine Hills, Matina, Davao City		√	L	-	L	4m	H
DXMA - 104.3 MHz United Christian Bctg. Media	2004	589.57	3rd Floor, NB Mercado Building, McArthur Highway, Talomo, Davao City, Davao del Sur		√	L	-	L	4m	H

Source: National Telecommunications Commission (NTC)/Philippine Information Agency (PIA)

Table IF-32 Broadcast and Television Network, cont.

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	Fl	Eq	Ln	Su	Lq
DXYS - 105.1 MHz Manila Broadcasting Company	1995	80.78	ATU Plaza, Gov. Duterte St., Davao City		√	-	-	H	-	-
DXMX - 105.9 MHz Oriental Mindoro Management Resources Corporation	2005	698.08	Doors 4 and 5, RJ Homes Bldg., Pelayo St., Davao City		√	-	-	H	-	-
DXET - 106.7 MHz ABC Development Corporation	1993	-	Matina Shrine, Davao City		√	-	-	-	-	-
DXNU - 107.5 MHz Progressive Broadcasting Corporation	1989	-	Shrine Hills, Matina, Davao City		√	-	-	-	-	-
<b>Television</b>										
TV-2 ABC Dev't. Corp.	1993	1,207.24	Shrine Hills, Matina, Davao City		√	-	-	M	-	-
TV-4 ABS-CBN Corp.	1992	3,632.58	Shrine Hills, Matina, Davao City		√	-	-	M	-	-
TV-5 GMA Network, Inc.	1995	-	Shrine Hills, Matina, Davao City		√	-	-	H	-	-
TV-7 Southern Broadcasting Network	1992	246.27	Davao City		√	-	-	H	-	-
TV-9 Radio Philippines Network, Inc.	1972	-	Davao City		√	L	-	L	-	-
TV-11 People's Television Network	1974	1,298.78	Davao City		√	-	-	H	-	-
TV-13 Intercontinental Bctg. Corp.	1962	663.29	Matina Hills, Davao City		√	-	-	H	-	-
TV-21 Amcara Bctg. Net. Inc.	1996	3,593.89	Matina Shrine, Davao City		√	-	-	M	-	-
TV-23 Rajah Bctg. Network	1995	3,050.54	Davao City		√	-	-	H	-	-

Source: National Telecommunications Commission (NTC)/Philippine Information Agency (PIA)



Table IF-32 Broadcast and Television Network, cont.

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	Fl	Eq	Ln	Su	Lq
TV-25 Gate-way UHF TV Broadcasting, Inc.	2004	52.03	Davao City		√	-	-	H	-	-
TV-27 GMA Network, Inc.	1995	605.18	Davao City		√	-	-	H	-	-
TV-29 Nation Broadcasting Corporation	1993	102.08	Davao City		√	-	-	M	-	-
TV-31 Broadcast Enterprises & Affiliated Media, Inc.	1995	738.98	Davao City		√	L	-	L	2m	H
TV-43 Swara Sug Media Corporation	2003	315.96	Matina Hills, Davao City		√	-	-	L	-	-
TV-49 Eagle Broadcasting Corporation	-	-	Davao City		√	-	-		-	-
<b>Cable Networks</b>										
SkyCable – Cable World Network, Inc.	-	414.442	JP Cabaguio Ave., Davao City		√	M	-	L	3m	M
Panabo CATV	-	-	Cabantian, Davao City		√	-	-	-	-	-

Source: National Telecommunications Commission (NTC)/Philippine Information Agency (PIA)

## Print Media

Davao City is currently being served by 12 newspapers with city-wide coverage. Among the 12, five (5) are broadsheets while the remaining seven (7) are tabloid. Out of the 12, Mindanao Tribune and People's Daily Journal are the ones which do not publish daily. Mindanao Times is the longest running newspaper, established in the year 1945. In 2019, most newspapers in Davao City do not only publish newspaper daily but also maintain websites and accounts in the social media. The e-platform or the electronic platform allows the digital audience to get updates in their community. This type of platform also allows the newspaper companies to expand the reach of their stories by providing the digital or electronic equivalent of their print content.

**Table IF-33 Type of Print Media Available, 2018, Davao City**

Type of Print Media	Location	Area Coverage	Circulation		
			Number	Type	Frequency
<b>Daily Distribution</b>					
Mindanao Daily Mirror	R. Magsaysay Ave., Davao City	City wide	20,000	Broadsheet	Daily
Sunstar Davao	R. Castillo St., Davao City	City wide	15,000	Broadsheet	Daily
Mindanao Times	P. Bangoy St., Davao City	City wide	10,000	Broadsheet	Daily
Sunstar Super Balita	R. Castillo St., Davao City	City wide	5,000	Tabloid	Daily
Minanao Daily Gazette	Palm Village, Davao City	City wide	2,000	Tabloid	Daily
The Edge Davao	Quirino Ave., Davao City	City wide	5000	Broadsheet	Daily
Minanao Daily Gazette	Palm Village, Davao City	City wide	2,000	Tabloid	Daily
Mindanao Tribune	Ma-a, Davao City	City wide	1,000	Tabloid	Mon – Fri
People's Daily Forum	A. Pichon St., Davao City	City wide	1,500	Tabloid	Tues & Fri
<b>Weekly Distribution</b>					
Davao Catholic Herald	Matina, Davao City	City wide	2,000	Broadsheet	Sun
Mindanao Journal	CM Recto Ave., Davao City	City wide	1,000	Tabloid	Fri
Metropolitan Gazette	P. Bangoy St., Davao City	City wide	1,500	Tabloid	Wed

Source: Philippine Information Agency (PIA)

## Communication Service Providers

All internet providers/telephone service providers in Davao City are privately-owned. These are Philippine Long Distance Telephone- Digital Subscriber Line (PLDT-DSL), Smart Communication Inc, Globe Telecom Inc, Bayantel, Digitel/Sun Cellular, Sky Cable, DC- Tech, Panabo Satellite CATV as of 2018.

As of 2018, there are 364 cell sites within the city, majority of these are built on the year 2013. There is, however, higher number of towers built in District 1 compared to the number of towers built on other districts on the same year. Some far-flung areas still do not have cell sites, attributed limited social acceptability for cell sites due to assumed health/security reasons. Areas like Paquibato District, Baguio District, Marilog District have less than ten cell sites each.

**Cell Site Networks-** Based on the data provided by NTC, the antenna height of the cell sites ranges from 15-60 meters with the catchment radius of 0.5 to 3.0 kms. Cell sites with low catchment radius provide internet access in a much higher speed. As to hazard susceptibility, a total of 14 cell sites are located are highly susceptible to flood, 119 are susceptible to liquefaction, and 15 are susceptible to a storm surge with 5-meter wave.

**Table IF-34 Communication Services Facilities, 2018**

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	FI	Eq	Ln	Su	Lq
<b>Cell Sites Network</b>										
Smart Communications, Inc	2010-2016	5,100.00	Agdao District		√	-	-	L-18	3-2m 9-3m 5-4m	H-16 L-1
	2014	300.00	Baguio District		√	-	-	L-1	-	-
	2010-2016	11,100.00	Buhangin District		√	-	-	H-5 M-1 L-31	4-2m	H-4 M-2
	2010-2016	4,200.00	Bunawan District		√	-	-	L-14	3-4m 3-5m	H-2 M-7
	2010-2016	2,100.00	Calinan District		√	-	-	M-1 L-6	-	L-3
	2010-2016	1,500.00	Marilog District		√	-	-	M-1 L-1	-	-
	2010-2016	300.00	Paquibato District		√	-	-	<b>H-1</b>	-	-
	2010-2016	10,800.00	Poblacion District		√	H-1 L-35	-	L-36	11-2m 8-3m 10-4m	H-24 M-6
	2010-2016	15,900.00	Talomo District		√	H-4 M-8 L-26	-	H-2 M-4 L-47	2-2m 3-3m 8-4m 3-5m	H-20 M-9 L-6
	2010-2016	3,600.00	Toril District		√	-	-	M-1 L-11	1-3m	H-1 M-3 L-1
2010-2016	2,100.00	Tugbok District		√	-	-	<b>L-7</b>	-	<b>L-1</b>	

Source: National Telecommunications

Table IF-34 Communication Services Facilities, 2018, cont.

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	Fl	Eq	Ln	Su	Lq
<b>Cell Sites Network</b>										
Globe Tele-com (GMCR), Inc.	2010-2016	2,400.00	Agdao District		√	-	-	L-8	2-2m 3-3m 2-4m	H-7
	2010-2016	3,600.00	Buhangin District		√	-	-	L-12	-	-
	2010-2016	1,500.00	Bunawan District		√	-	-	M-1 L-4	1-2m	H-1 M-1
	2010-2016	600.00	Calinan District		√	-	-	L-2	-	L-2
	2010-2016	4,800.00	Poblacion District		√	-	-	H-1 L-15	1-2m 5-3m 3-5m	H-5 M-5
	2010-2016	3,000.00	Talomo District		√	-	H-2	H-1 L-9	1-2m 3-5m	H-4 L-1
	2010-2016	1,200.00	Toril District		√	-	-	H-1 L-3	1-2m 1-3m	H-2
	2010-2016	300.00	Tugbok District		√	-	-	L-1	-	-
	2013-2014	600.00	Agdao District		√	-	-	L-2	2-2m	H-2
	2013-2014	3,300.00	Buhangin District		√	-	-	M-1 L-10	1-2m	H-1
	2013-2014	2,100.00	Bunawan District		√	-	-	L-7	2-4m 1-5m	H-1 M-4
	2013-2014	300.00	Calinan District		√	-	-	L-1	-	L-1
	2013-2014	4,200.00	Poblacion District		√	-	-	-	7-2m 3-3m 1-4m	H-11
	2013-2014	6,600.00	Talomo District		√	-	-	H-2 L-20	1-3m 4-4m 2-5m	H-10 M-6 L-2
	2013-2014	600.00	Toril District		√	-	-	L-2	-	H-1
	2013-2014	600.00	Tugbok District		√	-	-	L-2	-	-

Source: Philippine Information Agency (PIA)

**Table IF-35. Cell Site Network, per Administrative District, 2018, Davao City**

Location	Area Occupied (ha)	Antenna Height (m)	Date Installed	Catchment Radius (km)	Owner
Agdao District	0.81	15-60	2010-2016	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc., Digitel Mobile Philippines, Inc.
Baguio District	0.03	15-60	2014	0.5 to 3	Smart Communications, Inc.
Buhangin District	1.83	15-60	2010-2016	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc., Digitel Mobile Philippines, Inc.
Bunawan District	0.78	15-60	2010-2016	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc., Digitel Mobile Philippines, Inc.
Calinan District	0.3	15-60	2010-2016	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc., Digitel Mobile Philippines, Inc.
Marilog District	0.18	15-60	2013-2015	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc.
Paquibato District	0.03	15-60	2013-2014	0.5 to 3	Smart Communications, Inc.
Poblacion District	1.98	15-60	2010-2016	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc., Digitel Mobile Philippines, Inc.
Talomo District	2.55	15-60	2010-2016	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc., Digitel Mobile Philippines, Inc.
Toril District	0.54	15-60	2010-2015	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc., Digitel Mobile Philippines, Inc.
Tugbok District	0.3	15-60	2010-2015	0.5 to 3	Smart Communications, Inc., Globe Telecom (GMCR), Inc., Digitel Mobile Philippines, Inc.

Source: Philippine Information Agency (PIA)

## Meteorological Weather Tracking Stations, Radars

In Davao City, there are also other forms of communication such as weather tracking stations and radars. Department of Science and Technology (DOST) has placed Automated Rain Gauges (ARG) in nine (9) different barangays, six (6) of which are located in schools and three (3) are in other areas within the barangays. The same agency also installed two at McArthur Bridge Lipadas and Lacson-Lamanan Bridge. DOST owns six (6) ARGs & WLMS (Tandem) which are located in different bridges in Davao city. There is also an Automated Weather Station owned by the Weather Philippines/Davao City that is located in the Central 911 Calinan Station, and one owned by DOST located at Philippine Atmospheric Geophysical and Astronomical Services Association (PagAsa) Davao Office, Catitipan. The city also has six (6) Manual Water Level Markers which are located in six (6) different bridges in Davao. As to hazard susceptibility, nine (9) automatic rain gauges are located within an area with low and moderate susceptibility for all types for hazards. As for ARG and WLMS tandem and Manual Water Level Marker, all are located in a high flood susceptibility bearing the fact that it is strategically located within rivers for monitoring.

**Table IF-36. Meteorological Weather Tracking Stations and Davao City, 2018**

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	FI	Eq	Ln	Su	Lq
<b>Automated Rain Gauges (ARG)</b>										
DOST	2013	-	Baguio District Barangay Hall	√			-	L	-	-
DOST	2014	-	PSHS-SMC	√		L	-	L	-	-
DOST	-	-	Damilag Elementary School	√		M	-	L	-	L
DOST	2017	-	Butay Elementary School	√			-		-	
DOST	2017	-	Tamayong Elementary School	√		M	-	L	-	L
DOST	-	-	Lipadas Bridge	√		M	H	L	5m	M
DOST	-	-	Baracayo Elementary School	√		M		L	2m	H
DOST	-	-	Eden Elementary School	√		-	-	L	-	-
DOST	-	-	Biao Escuela	√		-	-	-	-	-
<b>Water Level Monitoring Stations (WLMS)</b>										
DOST	2016	-	Mac Arthur Bridge Lipadas	√		H	-	L	-	L
DOST	2014	-	Lacson-Lamanan Bridge	√		H	-	L	-	-

**Table IF-36. Meteorological Weather Tracking Stations and Davao City, 2018, cont.**

Type	Year Constructed	Area Occupied (sqm)	Barangay	Ownership		Hazard Susceptibility (H/M/L)				
				Public	Private	FI	Eq	Ln	Su	Lq
ARG & WLMS (Tandem)										
DOST	2014	-	Tamugan Bridge	√		H	-	L	-	-
DOST	2014	-	Suawan Bridge	√		H	-	L	-	-
DOST	2014	-	Calinan Bridge	√		H	-	L	-	L
DOST	2014	-	Mintal Bridge	√		H	-	L	-	L
DOST	2014	-	Waan Bridge	√		H	-	L	-	-
DOST	2013	-	Matina Pangi Bridge	√		H	-	L	-	M
Community Based Flood Early Warning System (CBFEWS)										
DOST	2018	-	Brgy. 10-A, Davao City	√		H		L		H
DOST	-	-	Brgy. Matina Pangi, Davao	√		H		L		M
DOST										
DOST	-	-	Brgy. Tigatto 1, Davao	√		H		L		H
DOST	-	-	Brgy. Tigatto 2, Davao	√		H		L		H
Automated Weather Station										
Weather Phil. / Davao City	2018	-	Central 911 Calinan Station	√		-	-	L	-	-
DOST	2011		PagAsa Davao Office, Catitipan	√				L		
Manual Water Level Marker										
Brgy. 5-A	2014	-	Bankerohan Bridge	√		H	-	L	-	-
Brgy. 19-B	2014	-	Garcia Bridge	√		H	-	L	-	H
Brgy. 10-A	2014	-	San Rafael Dike	√		-	-	-	-	-
Brgy. Matina Crossing	2014	-	Balusong Bridge	√		H	-	L	-	H
Brgy. Talomo	2014	-	Ulas Bridge	√		H	-	L	-	-
Brgy. Calinan	2014	-	Wangan Bridge	√		H	-	L	-	L

Source: National Telecommunication Commission, Public/Private Companies

These weather tracking stations and radars strategically located in the flood-prone areas and rivers city are very helpful, also in monitoring and predicting possible occurrence of storm surge. Tracking this particular hazard is vital for the city especially that two critical facilities water and power utilities are exposed. Twelve power substations, for example, are directly exposed to storm surge of heights as high as five meters, with four of them vulnerable to the five-meter water height. For water supply of the city, 60 spring sources are also exposed to two-meter to five-meter storm surge. Two (2) Level II water utilities are also vulnerable, which would incur P46,200 if replaced. The PAGASA has an on-going installation of x-band Radar Rain gauge in New Carmen, Davao City for monitoring the rainfall over all the river systems in Davao City. This will accurately and immediately calculate the amount of rainfall that can help enhance the early warning capability of the city, especially for residents in the coastal areas exposed to strong winds, flood and storm surge.

### **Current and Future Needs**

The broadband market has started to grow strongly, wireless broadband services became increasingly popular more particularly DSL; 3G, and 4G services are filling a major portion of the demand for broadband connectivity due to lower tariffs. With the current state of 4G technology, telecommunication companies launched the Long Term Evolution (LTE) network, promising an ultra-fast mobile connectivity to subscribers. However, despite the modern LTE technology, many are still in clamour for standardized internet speed offered by cellular networks. There is a huge demand for entry of new service providers to increase network choices and more options at the same time encouraging better services through market competition.

Communication links within the key business areas are adequate. The number of telecommunications player is projected to increase as well as the offer of telecommunications services to subscribers. Demand for internet and broadband is expected in far flung areas particularly in Baguio, Marilog, and Paquibato District which are sparsely served with internet connection and cellular network coverage.

Based on the IM4 Davao 2018 Study, with the current boost in the ICT, the ICT sector is expected to continuously growing in the coming years. Although, some argue that traditional and labor-intensive call centers may become obsolete and, instead, the Knowledge Process Outsourcing (KPO), which fully utilizes robots and artificial intelligence (AI), would be dominant. The same study suggests that to keep up with such developments, the ICT industry is advised to tap and develop specialists, especially the younger ones, in the field of AI and other high-end technology fields, through collaboration with local universities and research institutes. An AI education for ICT engineers is also important to upgrade the skills of ICT engineers here.

Also, the city shall encourage multi-lingual ICT training centers, to attract more transactions from non-English speaking economies.

Meanwhile, IT parks/ centers should be further developed in the urbanized and fast urbanizing centers and sub-centers of the city (e.g., Poblacion, Talomo, Buhangin, and Toril).



With the Covid-19 pandemic hitting hard the urban areas, including the business and education sectors, there is a need to ramp up internet connectivity especially in the far flung areas. Internet connectivity and access has been conspicuously crucial amid the pandemic that private telecommunication companies must provide cell sites and fiber optic connectivity to these areas.

DICTs Free Wifi for all Program aims to provide free internet access in these far flung areas. There are 184 Active Free Wifi sites in Davao City, 41 sites are located in GIDAS areas. It's Common Tower policy has encouraged private telcos to collocate their cell site facilities especially in far flung areas to fast track the tower build-up.

Use of technology for monitor of environmental changes was also encouraged. This is to track changes in rainfall and temperature as well as determine the water levels of riverbanks and coastal waters.

Aside from internet and technological improvements, Davao City only has 61 letter carriers which is short to the 327 letter carriers needed to meet the standard of 1 is to 5,000 letter carriers set by Housing and Land Use Regulatory Board. Increase of letter carriers is still wanting, as there are still clients that avail such form of communication service.

### **Risk management options**

Currently, there are 22 cell sites located in Matina Aplaya, Ma-a, Bucana, Bago Aplaya, Talomo Proper, and Bago Galleria that needs retrofitting and rehabilitation of 22 cell sites as they are assessed to be moderately at risk to flooding. Also, 14 cell sites in Talomo Proper, Matina Crossing, Matina Pangi, 19-B (Poblacion) , Tigatto, Ma-a, and Marilog Proper are assessed to be moderately at risk to landslide and will need retrofitting and rehabilitation to mitigate potential hazards affecting the structure.

Future expansion may be determined by the communication facility owners based on the development direction, population growth, and demand and supply of communication services.

The expansion of the communication facilities will be most likely directed towards the far-flung areas because of the Peace 911 program of Davao City Mayor Sara Z. Duterte and the future settlement pattern of land use which transforms emerging rural areas into major growth areas.

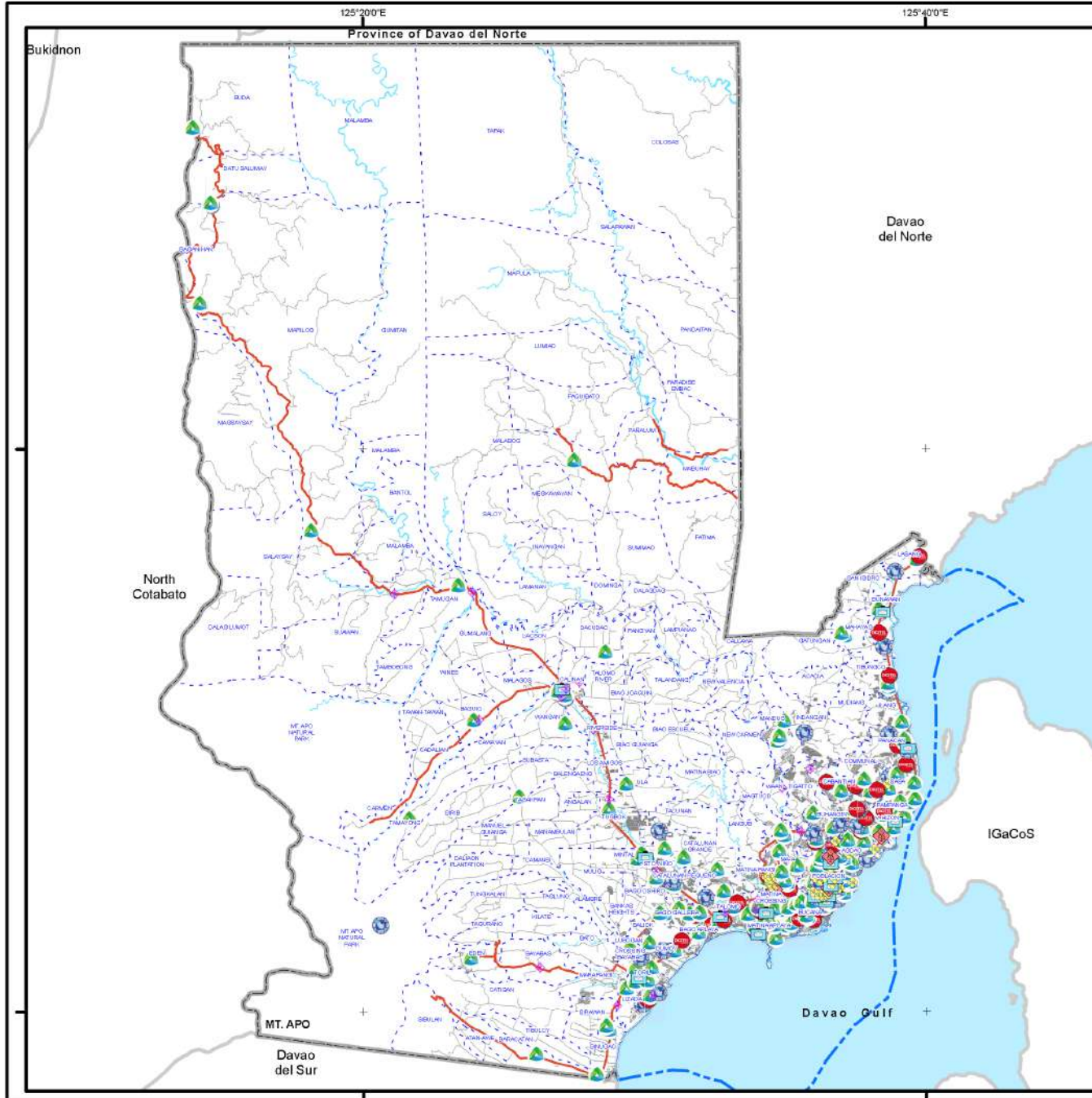
## Information and Communication Analysis Matrix

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>Some far-flung and remote barangays have weak cellular/mobile/telephone signal and internet access</li> </ul>	<ul style="list-style-type: none"> <li>Lack of information and communications technology access in localities and districts, slow down efficiency in circulating information.</li> </ul>	<ul style="list-style-type: none"> <li>Provide more cell sites in coordination with tele-communication companies, LGU's and other concerned National Agencies</li> </ul>
<ul style="list-style-type: none"> <li>Lack of real time environmental monitoring information systems</li> </ul>	<ul style="list-style-type: none"> <li>Poor environmental monitoring and immediate action on environmental concerns</li> </ul>	<ul style="list-style-type: none"> <li>Electronic air quality monitoring device</li> <li>Drone for monitoring green spaces</li> </ul>
<ul style="list-style-type: none"> <li>Poor access and slow retrieval of information</li> </ul>	<ul style="list-style-type: none"> <li>Delayed updates on situational information and delayed actions or interventions</li> </ul>	<ul style="list-style-type: none"> <li>Installation of online platform for data access</li> <li>Availability of a sharing platform for government and key private institutions.</li> <li>Set up Internet-based and community-based early warning system</li> <li>Mobile access and cloud deployed data</li> <li>Data user agreement and protocols should be followed</li> <li>Full implementation of the FOI Bill and full disclosure policy of DILG</li> </ul>
<ul style="list-style-type: none"> <li>Poor internet infrastructure facilities</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Slow internet speed/Poor bandwidth</li> </ul>	<ul style="list-style-type: none"> <li>Establish strong partnership with Tele-communication Companies to provide higher bandwidth that would cater to the needs of the data users in the future</li> <li>Access to standardized internet speed that will allow high quality service</li> <li>Creation of an integrated ICT Structure Plan</li> </ul>
<ul style="list-style-type: none"> <li>Misleading internet data packages</li> </ul>	<ul style="list-style-type: none"> <li>Slow connectivity which affects the efficiency of delivery of services in public and private operations</li> </ul>	<ul style="list-style-type: none"> <li>(same as top)</li> </ul>
<ul style="list-style-type: none"> <li>Cable Pilferages/cuts</li> </ul>	<ul style="list-style-type: none"> <li>Total Service Interruptions/mirroring lag or choppy connection of voice and data</li> <li>Economic loss</li> <li>Outages of Voice/Data Services</li> </ul>	<ul style="list-style-type: none"> <li>Enforce Security protocol</li> <li>Infrastructure Projects &amp; Proper Coordination/collaboration</li> </ul>
<ul style="list-style-type: none"> <li>Building without Telco conduits (Business Establishments)</li> <li>No TTC (Telephone Terminal Cabinet) installed on commercial buildings with many rooms/doors</li> </ul>	<ul style="list-style-type: none"> <li>Prone to fire hazards</li> </ul>	<ul style="list-style-type: none"> <li>Strict compliance of the occupancy permit regulations on Telco conduits on buildings</li> </ul>

## Information and Communication Analysis Matrix

Technical Findings/ Observations	Implications (Effects)	Recommended Interventions
<ul style="list-style-type: none"> <li>Lengthy procedures in securing LGU permits</li> </ul>	<ul style="list-style-type: none"> <li>Prolonged time in implementing and construction of infrastructure facilities as there is a need to ensure pre-construction permits</li> </ul>	<p>Creation of Inter-agency Task Force that will consist of various agencies that will processing of the permits</p>
<ul style="list-style-type: none"> <li>Lack of social acceptability for cell sites due to perceived health/ security reasons.</li> </ul>	<ul style="list-style-type: none"> <li>Additional time and manpower to verify needed data. Redundant expenditures in data gathering.</li> </ul>	<ul style="list-style-type: none"> <li>Information Education Campaign on mitigating measures placed that negate perceived impacts</li> </ul>
<ul style="list-style-type: none"> <li>Dilapidated wirings that are drooping down along streets of the city</li> </ul>	<ul style="list-style-type: none"> <li>Hazardous to passer-by and vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Upkeep/maintain all electrical posts and wirings DLPC posts and wirings are already upgraded. Drooping wires are of Telecommunication companies</li> <li>Underground cabling</li> </ul>
<ul style="list-style-type: none"> <li>22 Cell Sites located in Matina Aplaya, Ma-a, Bucana, Bago Aplaya, Talomo Proper, and Bago Gallera are considered to be moderately at risk to flooding</li> <li>14 Cell Sites located in Talomo Proper, Matina Crossing, Matina Pangi, 19-B (Poblacion) , Tigatto, Ma-a, and Marilog Proper are moderately at risk to landslide</li> <li>4 Cell Sites located in Malabog, Eden, Sirib, and Barangay Marilog are moderately vulnerable to landslide</li> <li>4 Cell Sites located in Bunawan Proper, Lasang, and Toril are moderately vulnerable to storm surge 4-meter and 2-meter wave</li> <li>7 Cell Sites considered moderately vulnerable to liquefaction</li> </ul>	<ul style="list-style-type: none"> <li>Interruption to communication which could lead to disruption of the flow of goods and services and economic loss.</li> </ul>	<ul style="list-style-type: none"> <li>Hazard retrofitting of existing cell sites</li> <li>Formulation of contingency plans for various hazards</li> </ul>

# Information and Communication Technology Utility/Facility Map



**CITY OF DAVAO**  
REGION 11- DAVAO REGION



## INFORMATION AND COMMUNICATION TECHNOLOGY UTILITY/FACILITY MAP

### CELLSITE TOWER:

- DIGITEL MOBILE PHILIPPINES, INC.
- GLOBE TELECOM, INC.
- SMART COMMUNICATIONS, INC.

### UTILITIES:

- Telecommunication Company
- Meteorological (Weather Tracking Stations, Radars)
- Postal Services
- Broadcast and Television Network

### BASE DATA LEGEND

- Road Network
- National Road
- Shoreline
- Barangay Boundary
- River System
- Municipal Water Boundary

### RESERVATION:

To avoid any conflict in the interpretation of this map and/or protect the same from any technical alteration, this map is considered unofficial, hence all information contained herein shall all be subject to verification from the OCPDC.

### SOURCE:

National Telecommunications Commission (NTC) Region XI

### PREPARED BY:



OFFICE OF THE CITY PLANNING AND DEVELOPMENT COORDINATOR  
with the technical assistance of the  
DEPARTMENT OF HUMAN SETTLEMENTS AND URBAN DEVELOPMENT Region XI

## Integrated Sectoral Analysis Matrix

Technical Findings	Policy Interventions	Responsibility Center
<p><b>Heavy traffic congestion in identified bottle necks in the city</b></p>	<ul style="list-style-type: none"> <li>• Opening of Roads especially in heavy traffic area (malls, schools)</li> <li>• Policy formulation on big SUV's entering CBD</li> <li>• Construction of pedestrian overpasses</li> <li>• Implementation of Public Mass Transport</li> <li>• Full Implementation of IM4 Davao (Infrastructure Modernization Plan for Davao)</li> </ul>	<ul style="list-style-type: none"> <li>• Department of Public Works and Highways (DPWH)</li> <li>• City Transport and Traffic Management Office (CTTMO)</li> </ul>
<p><b>Designated Pedestrian sidewalks are being used by business establishments, sidewalk vendors</b></p>	<ul style="list-style-type: none"> <li>• Strict implementation of City Ordinance No. 0334-12, Comprehensive Transport and Traffic Code of Davao City</li> <li>• Sidewalk Development Plan</li> </ul>	<ul style="list-style-type: none"> <li>• City Transport and Traffic Management Office (CTTMO)</li> </ul>
<p><b>Presence of risk and hazards in locations where the utilities are situated</b></p> <ul style="list-style-type: none"> <li>* 14 existing national bridges which are vulnerable/high risk to potential hazards</li> <li>* A total of 12.6707 road length located in C.P Garcia Highway moderately at risk of landslide</li> <li>* A total of 6.0784 km road located in Carlos P Garcia Highway, Davao-Bukidnon Road and McArthur Highway are vulnerable/high risk of flooding (For specific barangays, see CDRA)</li> <li>* Some of DCWD mainlines/LV1 source/LV2 source are vulnerable and at risk to hazards</li> <li>* Some transmission towers are located in hazard vulnerable/risk areas</li> <li>* 15 out of 22 existing DLPC Substations are exposed to hazards Some transmission towers are located in hazard vulnerable/risk areas</li> </ul>	<ul style="list-style-type: none"> <li>• Hazard retrofitting of existing national bridges</li> <li>• Construction of flood resistant river dike systems</li> <li>• Ensure proper implementation of the disaster resiliency plan.</li> <li>• Rehabilitation of substation.</li> <li>• Implementation of Business Continuity Plan</li> <li>• Hazard retrofitting of existing power substations</li> <li>• Formulation of contingency plans for various hazards.</li> <li>• Hazard retrofitting and reinforcement of existing national roads</li> <li>• Comprehensive rehabilitation of existing drainage systems</li> <li>• Strict implementation of material specification standards and construction (National building code of the Philippines; National Structural Code for Buildings; American National Standard Institute/ American Water works Association;</li> <li>• Standard Specifications and American Society for Testing and Materials.</li> </ul>	<ul style="list-style-type: none"> <li>• City Engineer's Office (CEO)</li> <li>• Department of Public Works and Highways (DPWH)</li> <li>• City Transport and Traffic Management Office (CTTMO) Davao City Water District</li> <li>• Department of Public Works and Highways (To construct dikes before and after bridges for the protection of mainlines in the bridge)</li> <li>• Davao Light and Power Co. (DLPC)</li> <li>• National Grid Corporation of the Philippines (NGCP)</li> </ul>

## Integrated Sectoral Analysis Matrix

Technical Findings	Policy Interventions	Responsibility Center
	<ul style="list-style-type: none"> <li>• The concerned agency should have an allocation for the repair and replacement of mainline pipes in case it will be hit by hazards.</li> <li>• To install dikes before and after bridges to protect against flood and storm surge.</li> <li>• For spring sources to have many reservoirs which can be designed to withstand hazards.</li> <li>• For spring source, it is encouraged to plant trees to secure the spring sources</li> <li>• Concerned agencies should put slope protection measures to avoid landslide.</li> <li>• Establishment of alternate roads parallel to existing road network</li> <li>• Construction of the Davao City Coastal and Bypass road</li> </ul>	
<b>Insufficient Drainage System and absence of drainage system (in some Urban Poor and Rural Areas)</b>	Rehabilitation of existing drainage system <ul style="list-style-type: none"> <li>• Updating of Drainage Master Plan</li> <li>• Include drainage system as provision for road projects</li> </ul>	<ul style="list-style-type: none"> <li>• Department of Public Works and Highways (DPWH)</li> <li>• City Engineer's Office (CEO)</li> </ul>
<b>Absence of sewerage system</b>	Implementation of Feasibility Study of the Sewerage System	<ul style="list-style-type: none"> <li>• City Engineer's Office (CEO)</li> <li>• Department of Public Works and Highways (DPWH)</li> <li>• City Planning and Development Office/Housing Division</li> </ul>
<b>Illegal Parking on National and City Roads</b>	<ul style="list-style-type: none"> <li>• Strict implementation of JAO (Joint Administrative Order) 2014-01</li> <li>• Construction of Logistical Hub in strategic areas leading to Davao City</li> </ul>	<ul style="list-style-type: none"> <li>• City Transport and Traffic Management Office (CTTMO)</li> <li>• Land Transportation Office (LTO)</li> <li>• City Engineer's Office</li> </ul>



## Integrated Sectoral Analysis Matrix

Technical Findings	Policy Interventions	Responsibility Center
Some private land owners are altering use of waterways, which hampers natural flow of water and could cause flooding in the immediate environment	<p>Declaration of natural waterways in the titling of lands c/ of Bureau of Lands</p> <p>Require Drainage Impact Assessment study in new developments</p>	<ul style="list-style-type: none"> <li>Department of Public Works and Highways (DPWH)</li> <li>City Engineer's Office (CEO)</li> </ul>
<b>Lack of Towing Capacity of the CTTMO</b>	<ul style="list-style-type: none"> <li>Accreditation of private towing companies</li> <li>Fund Allocation for the provision of more towing vehicles</li> <li>Additional Towing impound areas</li> </ul>	<ul style="list-style-type: none"> <li>City Transport and Traffic Management Office (CTTMO)</li> </ul>
<b>Presence of Informal Settlers along national highway</b>	Additional Towing impound areas	<ul style="list-style-type: none"> <li>Department of Public Works and Highways (DPWH)</li> <li>City Transport and Traffic Management Office (CTTMO)</li> <li>Davao City Police Office (DCPO)</li> </ul>
<b>Bad road conditions in some areas</b>	Road Development Program	<ul style="list-style-type: none"> <li>Department of Public Works and Highways (DPWH)</li> <li>City Engineer's Office (CEO)</li> </ul>
<b>Some remote sitios/unviable areas remain unserved with power</b>	<p>Implementation of Energy Projects such as ER 1-94, PV Mainstreaming Program, etc. Note: DLPC already applied to ERC for 3 year compliance plan as mandated by DOE</p>	Davao Light and Power Co.
<b>Lack of regular monitoring of water permittees</b>	<ul style="list-style-type: none"> <li>Devolution of the functions of National Water Resource Board to Local Government Unit;</li> <li>Creation of Status Monitoring Team (re-visit the EO of Water Resource Management Task Force)</li> </ul>	National Water Resources Board
<b>Some far-flung and remote barangays have weak cellular/mobile/telephone signal and internet access</b>	Provide more cell sites in coordination with Telecommunication Companies, LGU's and other concerned National Agencies	City Engineer's Office
<b>Need for improvement of the port facilities</b>	<ul style="list-style-type: none"> <li>Rehabilitation of Sta. Ana port facilities/structures</li> <li>Option to transfer ownership of Sta. Ana Wharf to Davao City</li> <li>Position the area as eco-tourism</li> <li>Public-Private Partnership undertaking for the improvement of Sasa Port</li> </ul>	<p>Philippine Ports Authority</p> <p>(update sa naagian)</p>

