

## Data Section

For our investigation into what the best development areas are of Singapore to open a food or drink business we will be using 2 main sources of data to gather the information that we need for our investigation. The first main data source will be wikipedia. From Wikipedia we can gather a list of development areas of Singapore and their locations, we can also find information on residential population which will be useful for analysing our data and making our recommendations.

### Planning Areas of Singapore

From Wikipedia, the free encyclopedia

**Planning Areas**, also known as **DGP areas** or **DGP zones**, are the main urban planning and census divisions of [Singapore](#) delineated by the [Urban Redevelopment Authority](#). There are a total of 55 of these areas, organised into [five regions](#). A [Development Guide Plan](#) is then drawn up for each planning area, providing for detailed planning guidelines for every individual plot of land throughout the country.<sup>[2]</sup>

The planning areas were first introduced in the early 1990s after the release of the 1991 Concept Plan.<sup>[5]</sup> Since the implementation of these boundaries, other government ministries and departments have also increasingly adopted these boundaries for their administrative purposes. For example, the Statistics Department of Singapore published its 2000 census data based on planning area boundaries for the first time, compared to using census divisions based on [electoral boundaries](#) for previous exercises.<sup>[6]</sup> The [Singapore Police Force's](#) (SPF) [neighbourhood police centres](#) have jurisdiction boundaries based on planning area boundaries when they were officially gazetted in 1999, as opposed to electoral divisions under the previous neighbourhood Police Post system.

Planning Areas are further subdivided into subzones for statistical purposes.<sup>[3][4]</sup>

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Planning Areas of Singapore	
	
<b>Category</b>	First-level census division
<b>Location</b>	<a href="#">Republic of Singapore</a>
<b>Created by</b>	<a href="#">Urban Redevelopment Authority</a>
<b>Created</b>	September 1991 (proposed) <sup>[1]</sup> 22 January 1999 (gazetted) <sup>[2]</sup>
<b>Number</b>	55 (as of 2019)
<b>Populations</b>	10 (Western Islands and Tengah, Singapore) – 281,300 (Bedok) <sup>[3][4]</sup>
<b>Areas</b>	0.77 km <sup>2</sup> (0.30 sq mi) (Straits View) – 69.46 km <sup>2</sup> (26.82 sq mi) (Western Water Catchment) <sup>[4]</sup>
<b>Government</b>	<a href="#">National Government</a>
<b>Subdivisions</b>	Subzone

Above is the wikipedia page that we shall utilize the data from; This page describes the planning areas of Singapore this areas are available for business development and would be a good place to start our search for the best location.

Below is an example for the data set that the wikipedia page holds in a tabular format which includes data that we can utilize in our investigation such as lists of areas with their residential populations. To obtain this data to use in our code we plan to use pandas and beautiful soup libraries to help us scap the information from this table and form our own pandas data frame.

Name (English) ⇅	Malay ⇅	Chinese ⇅	Pinyin ⇅	Tamil ⇅	Region ⇅	Area (km2) ⇅	Population <sup>[7]</sup> ⇅	Density (/km2) ⇅
Ang Mo Kio		宏茂桥	Hóng mào qiáo	ஆங் மோ கியோ	North-East	13.94	163,950	13,400
Bedok	*	勿洛	Wù luò	பிடோக்	East	21.69	279,380	13,000
Bishan		碧山	Bì shān	பீஷான்	Central	7.62	88,010	12,000
Boon Lay		文礼	Wén lǐ	பூன் லே	West	8.23	30	3.6
Bukit Batok	*	武吉巴督	Wǔjī bā dū	புக்கிட் பாத்தோக்	West	11.13	153,740	14,000
Bukit Merah	*	红山	Hóng shān	புக்கிட் மேரா	Central	14.34	151,980	11,000
Bukit Panjang	*	武吉班让	Wǔjī bān ràng	புக்கிட் பஞ்சாங்	West	8.99	139,280	15,000
Bukit Timah	*	武吉知马	Wǔjī zhī mǎ	புக்கித் திமா	Central	17.53	77,430	4,400
Central Water Catchment	Kawasan Tadahan Air Tengah	中央集水区	Zhōngyāng jí shuǐ qū	மத்திய நீர் நீர்ப்பிடிப்பு	North	37.15	*	*
Changi	*	樟宜	Zhāng yí	சாங்கி	East	40.61	1,830	80.62
Changi Bay	Teluk Changi	樟宜湾	Zhāng yí wān	சாங்கி பே	East	1.7	*	*
Choa Chu Kang		蔡厝港	Cài cuò gǎng	சுவா கு காங்	West	6.11	190,890	30,000
Clementi		金文泰	Jīn wéntài	கிளிமெண்டி	West	9.49	92,420	9,800
Downtown Core	Pusat Bandar	市中心	Shì zhōngxīn	சிங்கப்பூர் நகர மையத்தில்	Central	4.34	2,720	680
Geylang	*	芽笼	Yá lóng	கேலாங்	Central	9.64	110,200	11,400
Hougang		后港	Hòu gǎng	ஹவுகாங்	North-East	13.93	226,240	16,000
Jurong East	Jurong Timur	裕廊东	Yù láng dōng	ஜூரோங் கிழக்கு	West	17.83	79,240	4,400
Jurong West	Jurong Barat	裕廊西	Yù láng xī	ஜூரோங் மேற்கு	West	14.69	264,860	18,000
Kallang	*	加冷	Jiā lěng	காலாங்	Central	9.17	101,520	11,000
Lim Chu Kang		林厝港	Lín cuò gǎng	லிம் கு காங்	North	17.3	110	5.2
Mandai		万礼	Wàn lǐ	மண்டாய்	North	11.77	2,090	180.2
Marina East	Marina Timur	滨海东	Bīnhǎi dōng	மெரினா கிழக்கு	Central	1.82	*	*
Marina South	Marina Selatan	滨海南	Bīnhǎi nán	மெரினா தென்	Central	1.62	*	*
Marine Parade		马林百列	Mǎ lín bǎi liè	மரின் பரேட்	Central	6.12	46,390	8,000
Museum	Muzium	博物馆	Bówùguǎn	அருங்காட்சியகம் திட்டமிடல் பகுதி	Central	0.83	420	480
Newton		纽顿	Niǔ dùn	நியூட்டன்	Central	2.07	8,030	3,800
North-Eastern Islands	Kepulauan Timur Laut	东北群岛	Dōngběi qúndǎo	வட-கிழக்கு தீவுகள்	North-East	42.88	50	1.2
Novena		诺维娜	Nuò wéi nà	நொவீணா	Central	8.98	49,210	5,600
Orchard		乌节	Wū jié	ஓர்ச்சர்ட்	Central	0.96	990	960.3

The second source of data that we will be using is the foursquare api. From the foursquare api we will collect data relating to each development area that we choose. The type of data that we will collect is venue data to help us to find what the most common venues are of each location that we chose.

By using both the data from wikipedia and foursquare we can analyse our data in terms of most popular venue types against population and also use maps to point to each of the chosen locations. We will then find the most common food and drink businesses in the areas to find a type of business that is popular.