

Suburban Living in Bulacan

Manilenos' guide in exploring Alternative Living Outside Metro Manila

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O V E R V I E W

Bulacan is Metro Manila's gateway to the Northern Part of Luzon. It is the province within the immediate boundary of Metro Manila from the North. As people increasingly feel the congestion and high cost of living in Metro Manila, Bulacan is increasingly being considered by the workers of the busy Metropolis as an alternative place to live.

This capstone project aims to provide the Manilenos a good idea on what Bulacan has to offer as an alternative place to live. Using available data, it will attempt to provide a glimpse on which areas in Bulacan offers specific types of establishments which Manilenos might find necessary and helpful to guarantee a favorable living condition in a would-be new home.

INTRODUCTION

The Province of Bulacan

Dubbed as the "Northern Gateway from Manila," Bulacan enjoys close proximity to Metro Manila as it is the first province that meets travelers heading down the North Luzon Expressway, or NLEX. It's literally just a bus away from Metro Manila's major business hubs such as Makati, Bonifacio Global City, or Alabang. Driving from Bulacan will only take an hour to most areas in Metro Manila, or just few minutes to Quezon City (northernmost city of Metro Manila) on an average driving speed.

It is for this very reason that Bulacan is increasingly becoming a popular alternative to living within the boundaries of Metro Manila to escape from the hustle and bustle of busy and teeming Manila. People who have grown weary of the hurried city life are coming to suburban areas like Bulacan to find a peaceful living community that is still proximate and accessible to their day jobs.

In one of the online articles, Loraine Balita (Balita: 2018) outlined her Top Six Reasons why living in Bulacan is Ideal for a family:

1. Wide open spaces, lush greeneries, and fresh air make for a perfect environment to raise children. Suburbs like Bulacan allow kids to have a taste of charming suburban life, where life is much simpler, laidback, and the vibe is much more carefree. Something a crowded metropolis can't offer.
2. Because it's nice to escape the stress of city life, and come home to relax somewhere peaceful when work's done. This gives people who go to Central Business Districts like Makati, Ortigas, and BGC a chance to escape the busy city, head home daily after work to relax in their peaceful suburban abode.
3. There are many establishments now in Bulacan that cater to the needs of families living there and tons of activities to try with the family. In recent years, malls and department stores have set-up shop in Bulacan. It is also famous for their scrumptious food and mouthwatering desserts and delicacies. You can explore the many food parks offering patrons the best of what the region has to offer.
4. Natural and historical attractions are just a few minutes away. Aside from the many farms and resorts you can visit with your family, Bulacan is also home to natural gems like waterfalls and caves.

5. There are many new residential developments all over Bulacan to choose from. Depending on the needs of your family and preferences you can choose to start your home in any of the many new residential developments in the area
6. MRT-7 set to be completed soon, will drastically cut travel time to Bulacan. In few years' time, Bulacan will be even more accessible with the completion of the MRT-7. There are also plans to open more roads traversing Bulacan, which will connect the metropolis to more areas up north.

Where to live in Bulacan?

While the idea of moving to the suburbs of Bulacan seems to attractive, one cannot just pack his thinks and decide to move to Bulacan which is almost 2800 square kilometers in total land.

The ultimate question would be – Among the 21 municipalities and three-component cities of Bulacan, where could you comfortably move?

METHODOLOGY

Data Gathered and Data Gathering Methodology

This project intends to identify the important venues and places in the different towns and cities of Bulacan. To gather these data, we extracted the list of towns and cities from the internet and transformed it into a data frame using python:

| Town | PostalCode |
|------------------------|------------|
| Balagtas | 3016 |
| Baliuag | 3006 |
| Bocaue | 3018 |
| Bulacan | 3017 |
| Bustos | 3007 |
| Calumpit | 3003 |
| Dona Remedios Trinidad | 3009 |
| Guiguinto | 3015 |
| Hagonoy | 3002 |
| Malolos | 3000 |
| Marilao | 3019 |
| Maycauayan | 3020 |
| Norzagaray | 3013 |
| Obando | 3021 |
| Pandi | 3014 |
| Paombong | 3001 |
| Plaridel | 3004 |
| Pulilan | 3005 |
| San Ildefonso | 3010 |
| San Jose del Monte | 3023 |
| San Miguel | 3011 |
| San Rafael | 3008 |
| Santa Maria | 3020 |
| Sapang Palay | 3024 |

The list of Towns and Cities where used to identify the important geospatial details to describe the locations. Geopy geocoder script was used to identify the coordinates (latitude and longitude) of each town/city.

| Town | PostalCode | Province | location | point | latitude | longitude |
|------------------------|------------|---------------------------------|---|---|-----------|------------|
| Balagtas | 3016 | Balagtas, Bulacan | (Balagtas, Bulacan, Central Luzon, 3016, Phil... | (14.8177664, 120.9083864, 0.0) | 14.817766 | 120.908386 |
| Baliuag | 3006 | Baliuag, Bulacan | (Baliuag, Bulacan, Central Luzon, 3006, Philip... | (14.9585037, 120.8970405, 0.0) | 14.958504 | 120.897041 |
| Bocaue | 3018 | Bocaue, Bulacan | (Bocaue, Bulacan, Central Luzon, 3018, Philipp... | (14.7996399, 120.9264574, 0.0) | 14.799640 | 120.926457 |
| Bulacan | 3017 | Bulacan, Bulacan | (Bulacan, Occidental Mindoro, Mimaropa, Philip... | (13.66468445, 120.35012872931834, 0.0) | 13.664684 | 120.350129 |
| Bustos | 3007 | Bustos, Bulacan | (Bustos, Bulacan, Central Luzon, 3007, Philipp... | (14.9549111, 120.9181565, 0.0) | 14.954911 | 120.918156 |
| Calumpit | 3003 | Calumpit, Bulacan | (Calumpit, Bulacan, Central Luzon, 3003, Phil... | (14.9151619, 120.7636605, 0.0) | 14.915162 | 120.763661 |
| Dona Remedios Trinidad | 3009 | Dona Remedios Trinidad, Bulacan | (Doña Remedios Trinidad, Bulacan, Central Luzo... | (14.9706036, 121.0647854, 0.0) | 14.970604 | 121.064785 |
| Guiguinto | 3015 | Guiguinto, Bulacan | (Guiguinto, Bulacan, Central Luzon, 3015, Phil... | (14.8289491, 120.8792922, 0.0) | 14.828949 | 120.879292 |
| Hagonoy | 3002 | Hagonoy, Bulacan | (Hagonoy, Malolos, Bulacan, Central Luzon, 300... | (14.8355035, 120.7335206, 0.0) | 14.835503 | 120.733521 |
| Malolos | 3000 | Malolos, Bulacan | (Malolos, Bulacan, Central Luzon, 3000, Philip... | (14.843759, 120.8113694, 0.0) | 14.843759 | 120.811369 |
| Marilao | 3019 | Marilao, Bulacan | (Marilao, Bulacan, Central Luzon, 3019ALPHA@OM... | (14.7563752, 120.9471304, 0.0) | 14.756375 | 120.947130 |
| Meycauayan | 3020 | Meycauayan, Bulacan | (Meycauayan, Bulacan, Central Luzon, 3020, Phi... | (14.7345008, 120.9571635, 0.0) | 14.734501 | 120.957163 |
| Norzagaray | 3013 | Norzagaray, Bulacan | (Norzagaray, San Jose del Monte, Bulacan, Cent... | (14.9056138, 121.0436174, 0.0) | 14.905614 | 121.043617 |
| Obando | 3021 | Obando, Bulacan | (Obando, Bulacan, Central Luzon, 3021, Philipp... | (14.7203043, 120.91724419894557, 0.0) | 14.720304 | 120.917244 |
| Pandi | 3014 | Pandi, Bulacan | (Pandi, Bulacan, Central Luzon, 3022, Philippi... | (14.8633419, 120.9557404, 0.0) | 14.863342 | 120.955740 |
| Paombong | 3001 | Paombong, Bulacan | (Paombong, Bulacan, Central Luzon, 3000, Phil... | (14.8362243, 120.7868318, 0.0) | 14.836224 | 120.786832 |
| Plaridel | 3004 | Plaridel, Bulacan | (Plaridel, Bulacan, Central Luzon, 3004, Phil... | (14.8853685, 120.8586337, 0.0) | 14.885369 | 120.858634 |
| Pulilan | 3005 | Pulilan, Bulacan | (Pulilan, Bulacan, Central Luzon, 3005, Philip... | (14.9017958, 120.8471247, 0.0) | 14.901796 | 120.847125 |
| San Ildefonso | 3010 | San Ildefonso, Bulacan | (San Ildefonso, Bulacan, Central Luzon, 3010, ... | (15.0781219, 120.9398068, 0.0) | 15.078122 | 120.939807 |
| San Jose del Monte | 3023 | San Jose del Monte, Bulacan | (San Jose del Monte, Bulacan, Central Luzon, 3... | (14.8110432, 121.0491569, 0.0) | 14.811043 | 121.049157 |
| San Miguel | 3011 | San Miguel, Bulacan | (San Miguel, Bulacan, Central Luzon, 3011, Phi... | (15.1457465, 120.9742207, 0.0) | 15.145746 | 120.974221 |
| San Rafael | 3008 | San Rafael, Bulacan | (San Rafael, Bulacan, Central Luzon, 3008, Phi... | (14.995004649999998, 120.96386524465689, 0.0) | 14.995005 | 120.963865 |
| Santa Maria | 3020 | Santa Maria, Bulacan | (Santa Maria, Bulacan, Central Luzon, 3318, Ph... | (14.8204996, 120.9606151, 0.0) | 14.820500 | 120.960615 |
| Sapang Palay | 3024 | Sapang Palay, Bulacan | (Sapang Palay Proper, San Jose del Monte, Bula... | (14.8393635, 121.0431077, 0.0) | 14.839363 | 121.043108 |

After identifying the coordinates, the Foursquare API was to identify all important venues within the immediate vicinity of each town/city.

Review and Analysis of Data

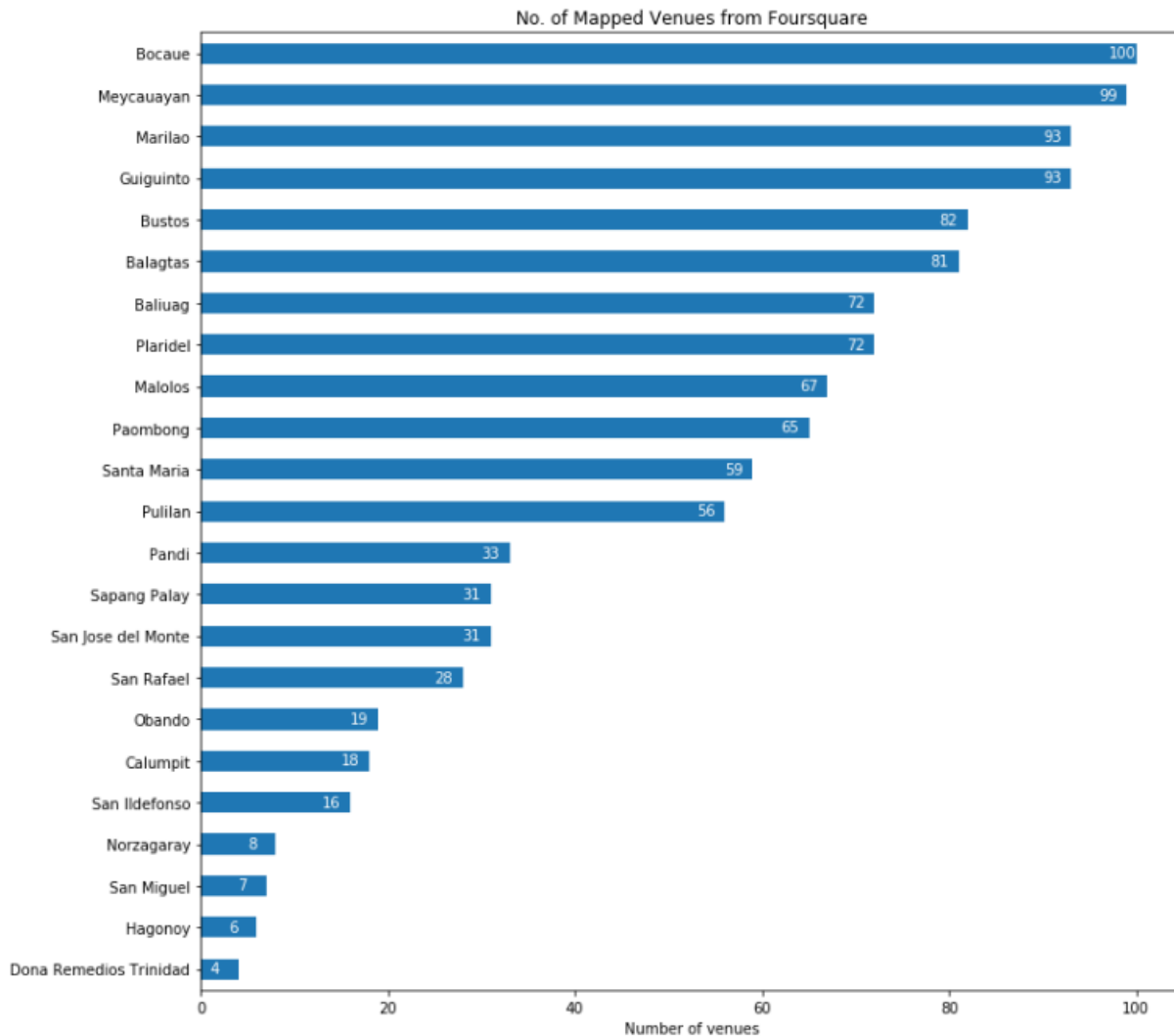
From the data extracted thru Foursquare API, venues were reviewed based on their category and location using python. Top 10 venues per Town/city was also identified to provide a view of what are the predominant venues or businesses that are present in each location.

K-means clustering was used to cluster the towns into three. The clustering was done to aggregate the data points and identify similarities among the towns/cities.

RESULTS AND DISCUSSION

Number of Popular Venues

Using the Foursquare API, the query returned 1,145 venues. The table below describes the number of venues found per town/city:

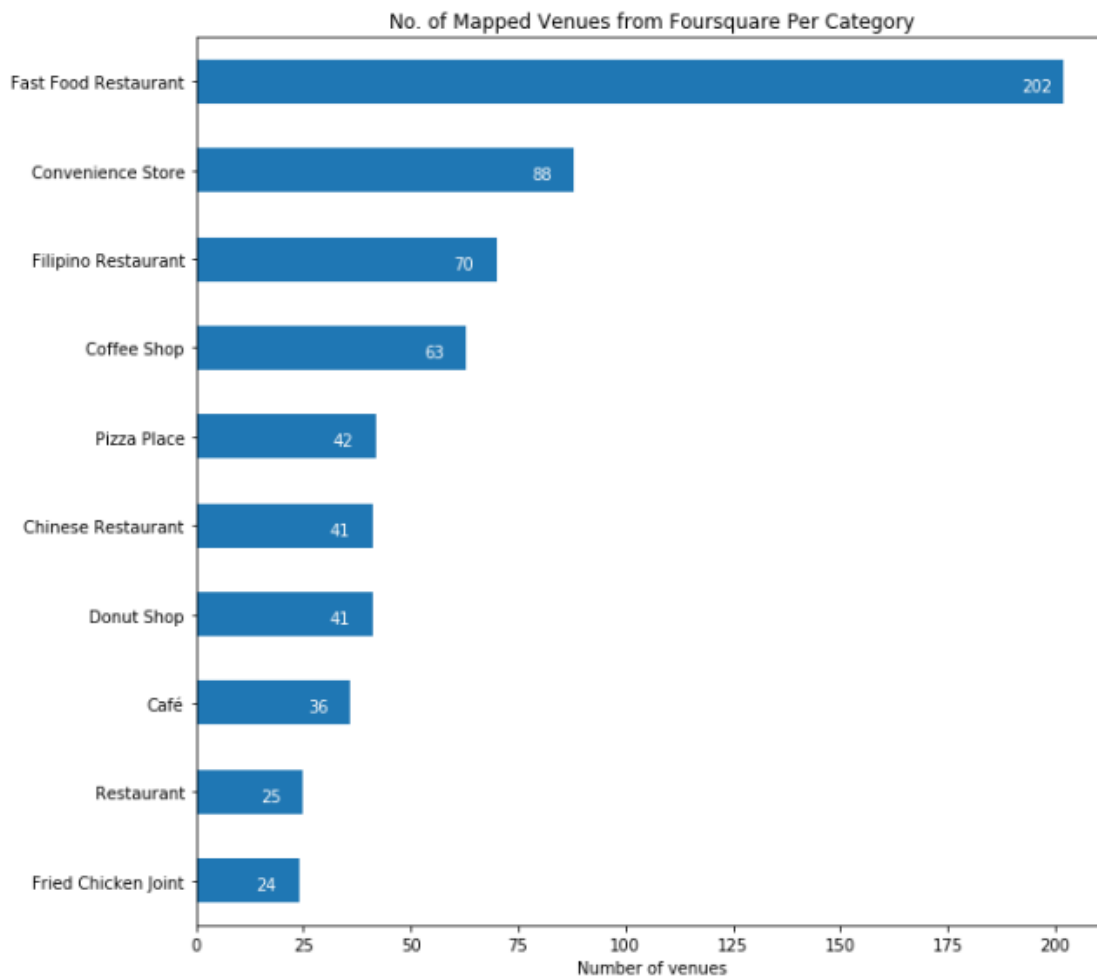


The towns of Bocaue, Meycauayan , Marilao, and Guiguinto has the most number of recognizable venues according to the Foursquare, with number of venues that ranges from 90 to 100.

The towns Norzagaray, San Miguel , Hagonoy, and Dona Remedios Trinidad has the least number of recognizable venues according to the Foursquare, with venues of less than 10.

Top Ten Venue Categories in Bulacan

Out of the 1,145 venues, all of the top 10 categories are related to food business in one way or another. The table below provides a good idea of the different types of food establishments that made it to the top 10 categories.



Fast Food Restaurants got the top spot with a huge difference from its far second. Fast food restaurants are known to be the fastest go-to places to eat before going home after a long day of work. Convenience store follows next for people who prefer to grab instant foods that they can immediately consume as soon as they are home. The rest of the categories in the top 10 are also related to food establishment where people come to spend time to eat with friends and families.

Top 10 Venues Categories per Town/City

The table below shows the tops venue categories per town or city:

| Town | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | 4th Most Common Venue | 5th Most Common Venue | 6th Most Common Venue | 7th Most Common Venue | 8th Most Common Venue | 9th Most Common Venue | 10th Most Common Venue |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|-----------------------|-------------------------|------------------------|
| Balagtas | Fast Food Restaurant | Convenience Store | Coffee Shop | Donut Shop | Chinese Restaurant | Pizza Place | Bakery | Breakfast Spot | Shopping Mall | Diner |
| Baliuag | Fast Food Restaurant | Convenience Store | Filipino Restaurant | Fried Chicken Joint | Pizza Place | Bakery | Restaurant | Japanese Restaurant | Movie Theater | Coffee Shop |
| Bocaue | Fast Food Restaurant | Donut Shop | Convenience Store | Coffee Shop | Filipino Restaurant | Pizza Place | Asian Restaurant | Breakfast Spot | Chinese Restaurant | Bar |
| Bustos | Fast Food Restaurant | Convenience Store | Pizza Place | Bakery | Filipino Restaurant | Ice Cream Shop | Café | Soup Place | Comfort Food Restaurant | Coffee Shop |
| Calumpit | Fast Food Restaurant | Convenience Store | Resort | BBQ Joint | Café | Department Store | Dessert Shop | Filipino Restaurant | Pharmacy | Asian Restaurant |
| Dona Remedios Trinidad | Pool | Resort | Waterfall | Trail | Fast Food Restaurant | Donut Shop | Church | Coffee Shop | Comfort Food Restaurant | Convenience Store |
| Guiguinto | Fast Food Restaurant | Coffee Shop | Convenience Store | Chinese Restaurant | Filipino Restaurant | Pizza Place | Café | Shopping Mall | Donut Shop | Diner |
| Hagonoy | Grocery Store | Fast Food Restaurant | Filipino Restaurant | Gas Station | Garden Center | Coffee Shop | Comfort Food Restaurant | Convenience Store | Cupcake Shop | Deli / Bodega |
| Malolos | Filipino Restaurant | Convenience Store | Fast Food Restaurant | Pizza Place | Asian Restaurant | Breakfast Spot | Japanese Restaurant | Korean Restaurant | Restaurant | Resort |
| Marilao | Fast Food Restaurant | Coffee Shop | Bar | Restaurant | Donut Shop | Filipino Restaurant | Fried Chicken Joint | Breakfast Spot | Diner | Grocery Store |
| Meycauayan | Fast Food Restaurant | Convenience Store | Coffee Shop | Bar | Donut Shop | Fried Chicken Joint | Chinese Restaurant | Grocery Store | Spa | Café |
| Norzagaray | Convenience Store | Bubble Tea Shop | Farm | Supermarket | Donut Shop | Filipino Restaurant | Waterfall | Coffee Shop | Comfort Food Restaurant | Cupcake Shop |
| Obando | Fast Food Restaurant | Grocery Store | Convenience Store | Spa | Resort | Restaurant | Burger Joint | Diner | Donut Shop | Bistro |
| Pandi | Fast Food Restaurant | Filipino Restaurant | Convenience Store | Restaurant | Donut Shop | Shop & Service | Park | Campground | Multiplex | Pool |
| Paombong | Filipino Restaurant | Fast Food Restaurant | Convenience Store | Pizza Place | Asian Restaurant | Korean Restaurant | Supermarket | Coffee Shop | Tea Room | Restaurant |
| Plaridel | Fast Food Restaurant | Filipino Restaurant | Chinese Restaurant | Convenience Store | Café | Pizza Place | Coffee Shop | Outlet Store | Pool | Fried Chicken Joint |
| Pulilan | Fast Food Restaurant | Convenience Store | Café | Chinese Restaurant | Filipino Restaurant | Pizza Place | Coffee Shop | Pool | Spa | Restaurant |
| San Ildefonso | Diner | Donut Shop | Filipino Restaurant | National Park | Spa | Fast Food Restaurant | Shopping Mall | Café | Coffee Shop | Gas Station |
| San Jose del Monte | Fast Food Restaurant | Chinese Restaurant | Coffee Shop | Pizza Place | Filipino Restaurant | Shopping Mall | Other Great Outdoors | Pool | Resort | Donut Shop |
| San Miguel | Convenience Store | Fast Food Restaurant | Diner | Café | Rest Area | Restaurant | Dessert Shop | Bubble Tea Shop | Snack Place | Chinese Restaurant |
| San Rafael | Fast Food Restaurant | Pool | Hotel | Resort | Café | Soup Place | Snack Place | Nature Preserve | Bubble Tea Shop | Donut Shop |
| Santa Maria | Fast Food Restaurant | Convenience Store | Filipino Restaurant | Donut Shop | Coffee Shop | Asian Restaurant | Breakfast Spot | Fried Chicken Joint | Multiplex | BBQ Joint |
| Sapang Palay | Fast Food Restaurant | Convenience Store | Pizza Place | Café | Filipino Restaurant | Grocery Store | Basketball Court | Bus Station | Coffee Shop | Snack Place |

Consistent with the previous tables, Fast Food Restaurants and other food-related establishments are on the top spot of what you can see in almost every town in Bulacan. Someone moving to Bulacan will surely not run out of options on where and what to eat.

Clustering

The clustering analysis using K-means shows that 22 out of the 24 towns or cities of Bulacan belong to one cluster. These towns have equally diverse venues and consistently have Fast Food and other types of restaurants in their top spots. The towns that belong to the first cluster as follows:

| Town | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | 4th Most Common Venue | 5th Most Common Venue | 6th Most Common Venue | 7th Most Common Venue | 8th Most Common Venue | 9th Most Common Venue | 10th Most Common Venue |
|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|------------------------|
| Balagtas | Fast Food Restaurant | Convenience Store | Coffee Shop | Donut Shop | Chinese Restaurant | Pizza Place | Bakery | Breakfast Spot | Shopping Mall | Diner |
| Baliuag | Fast Food Restaurant | Convenience Store | Filipino Restaurant | Fried Chicken Joint | Pizza Place | Bakery | Restaurant | Japanese Restaurant | Movie Theater | Coffee Shop |
| Bocaue | Fast Food Restaurant | Donut Shop | Convenience Store | Coffee Shop | Filipino Restaurant | Pizza Place | Asian Restaurant | Breakfast Spot | Chinese Restaurant | Bar |
| Bustos | Fast Food Restaurant | Convenience Store | Pizza Place | Bakery | Filipino Restaurant | Ice Cream Shop | Café | Soup Place | Comfort Food Restaurant | Coffee Shop |
| Calumpit | Fast Food Restaurant | Convenience Store | Resort | BBQ Joint | Café | Department Store | Dessert Shop | Filipino Restaurant | Pharmacy | Asian Restaurant |
| Guiguinto | Fast Food Restaurant | Coffee Shop | Convenience Store | Chinese Restaurant | Filipino Restaurant | Pizza Place | Café | Shopping Mall | Donut Shop | Diner |
| Malolos | Filipino Restaurant | Convenience Store | Fast Food Restaurant | Pizza Place | Asian Restaurant | Breakfast Spot | Japanese Restaurant | Korean Restaurant | Restaurant | Resort |
| Marilao | Fast Food Restaurant | Coffee Shop | Bar | Restaurant | Donut Shop | Filipino Restaurant | Fried Chicken Joint | Breakfast Spot | Diner | Grocery Store |
| Meycauayan | Fast Food Restaurant | Convenience Store | Coffee Shop | Bar | Donut Shop | Fried Chicken Joint | Chinese Restaurant | Grocery Store | Spa | Café |
| Norzagaray | Convenience Store | Bubble Tea Shop | Farm | Supermarket | Donut Shop | Filipino Restaurant | Waterfall | Coffee Shop | Comfort Food Restaurant | Cupcake Shop |
| Obando | Fast Food Restaurant | Grocery Store | Convenience Store | Spa | Resort | Restaurant | Burger Joint | Diner | Donut Shop | Bistro |
| Pandi | Fast Food Restaurant | Filipino Restaurant | Convenience Store | Restaurant | Donut Shop | Shop & Service | Park | Campground | Multiplex | Pool |
| Paombong | Filipino Restaurant | Fast Food Restaurant | Convenience Store | Pizza Place | Asian Restaurant | Korean Restaurant | Supermarket | Coffee Shop | Tea Room | Restaurant |
| Plaridel | Fast Food Restaurant | Filipino Restaurant | Chinese Restaurant | Convenience Store | Café | Pizza Place | Coffee Shop | Outlet Store | Pool | Fried Chicken Joint |
| Pulilan | Fast Food Restaurant | Convenience Store | Café | Chinese Restaurant | Filipino Restaurant | Pizza Place | Coffee Shop | Pool | Spa | Restaurant |
| San Ildefonso | Diner | Donut Shop | Filipino Restaurant | National Park | Spa | Fast Food Restaurant | Shopping Mall | Café | Coffee Shop | Gas Station |
| San Jose del Monte | Fast Food Restaurant | Chinese Restaurant | Coffee Shop | Pizza Place | Filipino Restaurant | Shopping Mall | Other Great Outdoors | Pool | Resort | Donut Shop |
| San Miguel | Convenience Store | Fast Food Restaurant | Diner | Café | Rest Area | Restaurant | Dessert Shop | Bubble Tea Shop | Snack Place | Chinese Restaurant |
| San Rafael | Fast Food Restaurant | Pool | Hotel | Resort | Café | Soup Place | Snack Place | Nature Preserve | Bubble Tea Shop | Donut Shop |
| Santa Maria | Fast Food Restaurant | Convenience Store | Filipino Restaurant | Donut Shop | Coffee Shop | Asian Restaurant | Breakfast Spot | Fried Chicken Joint | Multiplex | BBQ Joint |
| Sapang Palay | Fast Food Restaurant | Convenience Store | Pizza Place | Café | Filipino Restaurant | Grocery Store | Basketball Court | Bus Station | Coffee Shop | Snack Place |

Only 1 town was categorized under the second cluster. While the top categories are consistently related to food business, the number of venues in this town is comparatively lesser than those that are in numbers.

| Town | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | 4th Most Common Venue | 5th Most Common Venue | 6th Most Common Venue | 7th Most Common Venue | 8th Most Common Venue | 9th Most Common Venue | 10th Most Common Venue |
|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|------------------------|
| Hagonoy | Grocery Store | Fast Food Restaurant | Filipino Restaurant | Gas Station | Garden Center | Coffee Shop | Comfort Food Restaurant | Convenience Store | Cupcake Shop | Deli / Bodega |

Only 1 town was also categorized under the third cluster. Unlike the other towns in Bulacan, Dona Remedios Trinidad has more alternative life experience to offer than Fast Food and other restaurants. It's top spots belongs to Pool, resorts, and waterfall

| Town | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | 4th Most Common Venue | 5th Most Common Venue | 6th Most Common Venue | 7th Most Common Venue | 8th Most Common Venue | 9th Most Common Venue | 10th Most Common Venue |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|------------------------|
| Dona Remedios Trinidad | Pool | Resort | Waterfall | Trail | Fast Food Restaurant | Donut Shop | Church | Coffee Shop | Comfort Food Restaurant | Convenience Store |

CONCLUSION

Bulacan as an alternative suburban living paradise has all the basic things in life that will guarantee convenient survival. Food establishments are abundant, dominated by Fast Food Restaurants, Convenience Stores, Coffee Shops, and Filipino or Chinese Restaurants. Groceries and supermarkets are also abundant. For a typical family, Bulacan is a good place to live.

Bulacan is also a hope to several resorts, pools, waterfall, and national parks! Basic needs described above plus these extra perks of living in Bulacan are perfect recipes for an ideal get away from the the busy hustle of Metro Manila especially during weekend rest days.

But unlike Metro Manila, Bulacan has significantly less to offer when it comes to nightlife gigs and bars. The profile of venues within even the busiest towns doesn't have these establishments in their top list. If you are a party person and a bar hopper, you might need to find these places in Quezon City in Metro Manila, so be ready to travel a bit for a dose of nightlife.

The clustering also confirms that the general profile and establishments in most of the towns of Bulacan are generally homogenous. Living within any of the town will provide access to all the basic needs particularly of Food Establishments such as Fast Food Chains, Fast Food Restaurants, Convenience Stores, Coffee Shops, and other Restaurants. If you are up for more choices, you may consider moving to areas of Bocaue, Meycauayan, Marilao, and Guiguinto.

<https://pursuitofpassion.ph/places/reasons-living-in-bulacan-ideal-family/>