

The background of the slide features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic visual effect.

Exploring the Atlanta Metropolitan area with a purpose of finding a suitable location to start a new health food business

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Objective: to find suitable city inside Metro Atlanta to start a health food business

Factors to be considered:

- Demographics
- Psychographics
- Income Levels
- Crime Rate
- Accessibility



Data Sources



1. Income data:

[https://en.wikipedia.org/wiki/List_of_Georgia_\(U.S._state\)_locations_by_per_capita_income](https://en.wikipedia.org/wiki/List_of_Georgia_(U.S._state)_locations_by_per_capita_income)

2. Crime data:

<https://www.alarms.org/safest-cities-in-georgia/>

3. Locational data:

[Foursquare.com](https://www.foursquare.com)

Data Wrangling

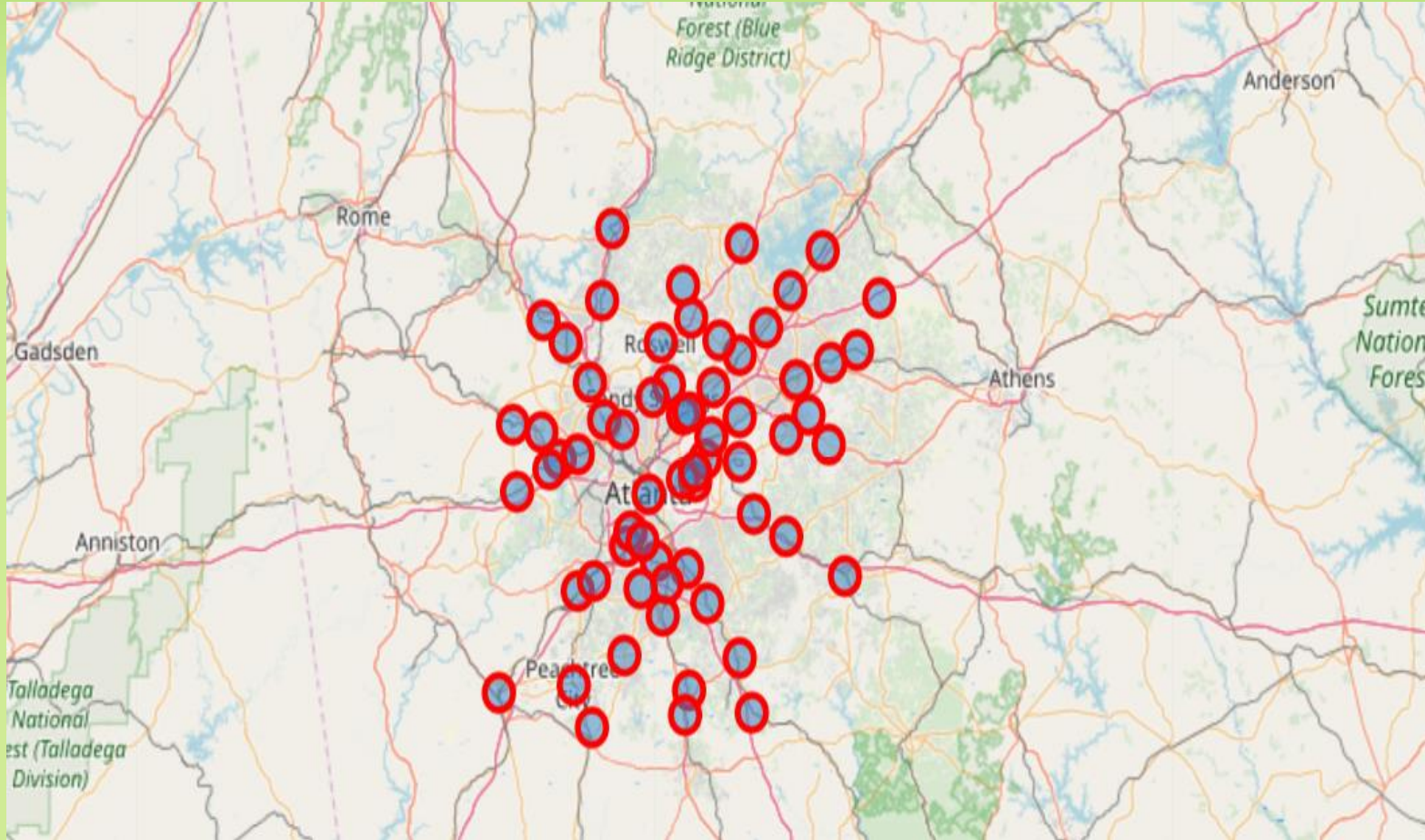


- Remove unnecessary data points (for ex: the cities lying outside the Metropolitan Area)
- Remove unnecessary/redundant features (for ex: Crime numbers and Crime rate are redundant columns)
- Merge the fragmented data to give a consolidated picture

Crime data merged with income data

	City	Per Capita Income	Rank	Violent Crimes	Property Crimes	Violent Crime Rate	Property Crime Rate
0	Johns Creek	65994	4	25	575	0.294	6.761
1	Dunwoody	62523	64	63	2,003	1.277	40.612
2	Milton	49628	3	9	298	0.228	7.566
3	Roswell	40106	8	108	1,616	1.130	16.903
4	Braselton	35921	2	12	94	1.115	8.735
5	Atlanta	35662	37	4,504	22,991	9.357	47.764
6	Peachtree City	31667	7	14	591	0.397	16.742
7	Suwanee	29712	19	32	520	1.585	25.760
8	Decatur	29363	20	40	531	1.711	22.714
9	Duluth	29185	6	33	557	1.108	18.694
10	Smyrna	27637	30	172	1,544	2.987	26.817
11	Chamblee	27481	33	135	951	4.727	33.301
12	Kennesaw	27165	5	72	480	2.108	14.054
13	Fayetteville	26551	11	34	468	1.916	26.368
14	Snellville	26131	32	39	697	1.952	34.881
15	Woodstock	25586	17	35	601	1.084	18.611
16	Marietta	23409	35	215	2,209	3.488	35.834
17	Holly Springs	22992	1	12	144	1.030	12.357
18	Lilburn	22503	36	36	479	2.803	37.294
19	Douglasville	22283	57	244	2,099	7.253	62.396
20	Rincon	22023	45	12	351	1.188	34.749

Locational map with cities

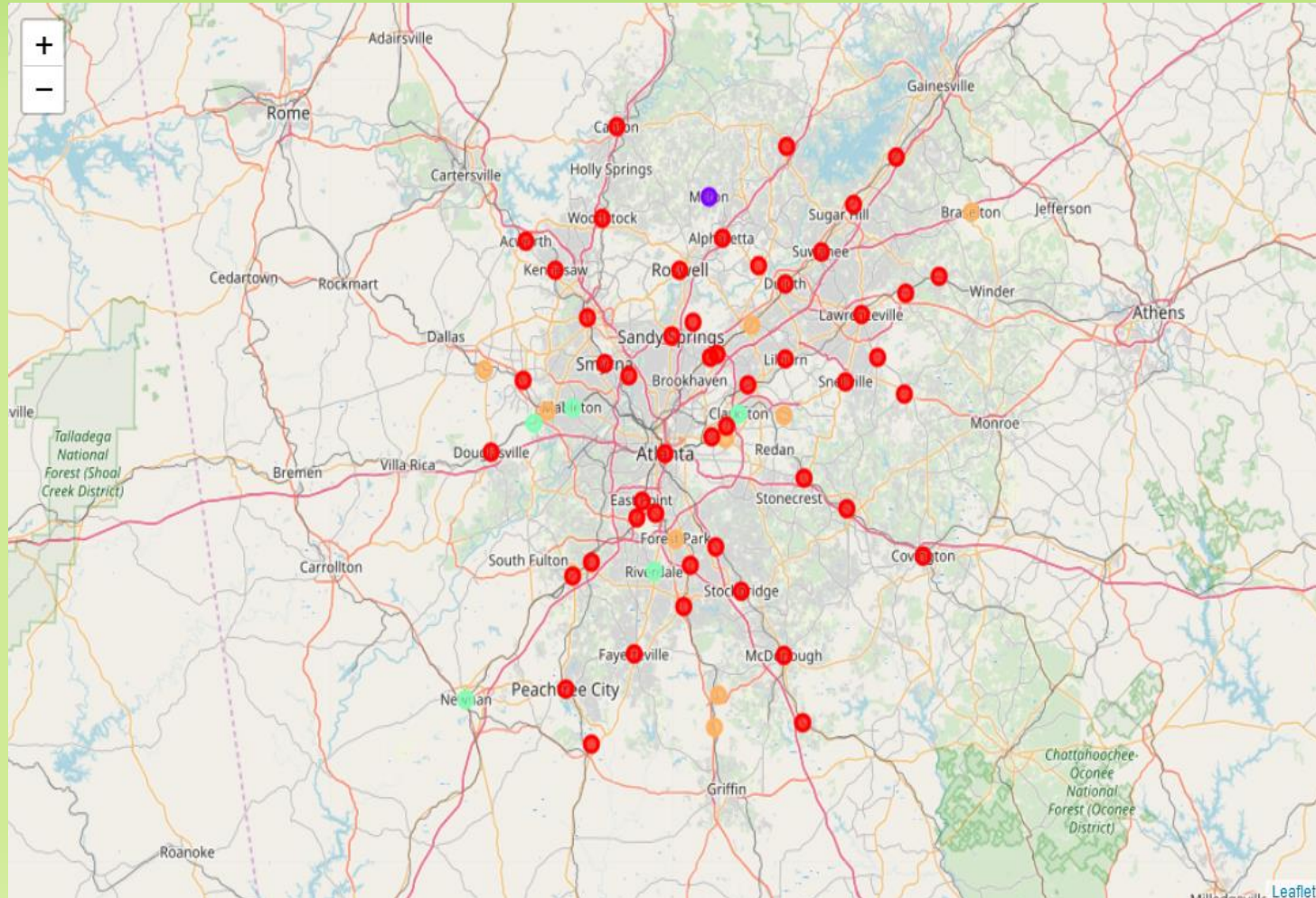


Cluster data after using K-means algorithm

	City	Accessories Store	American Restaurant	Antique Shop	Arcade	Arepa Restaurant	Art Gallery	Arts & Crafts Store	Asian Restaurant	Athletics & Sports	Automotive Shop	BBQ Joint	Bagel Shop	Bakery
0	Acworth	0.000000	0.142857	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.071429
1	Alpharetta	0.000000	0.043478	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.021739	0.000000
2	Atlanta	0.000000	0.100000	0.000000	0.000000	0.000000	0.100000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3	Auburn	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.200000	0.000000	0.000000
4	Austell	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5	Avondale Estates	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6	Braselton	0.000000	0.125000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7	Buford	0.000000	0.100000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

	City	Latitude	Longitude	Cluster Labels	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
0	Acworth	34.065933	-84.676880	0	American Restaurant	Sporting Goods Shop	Bakery	Pharmacy	Wine Shop	Food Court	Bike Shop	New American Restaurant	Italian Restaurant	Health & Beauty Service
1	Alpharetta	34.070958	-84.274733	0	Clothing Store	Furniture / Home Store	New American Restaurant	Kids Store	Women's Store	Sushi Restaurant	American Restaurant	Plaza	Coffee Shop	Pizza Place
2	Atlanta	33.749099	-84.390185	0	Event Space	Rental Car Location	American Restaurant	Caribbean Restaurant	Intersection	Music Venue	Art Gallery	Breakfast Spot	Food Court	College Basketball Court
3	Auburn	34.013662	-83.827350	0	Convenience Store	BBQ Joint	Baseball Field	City Hall	Chinese Restaurant	Dessert Shop	Event Space	French Restaurant	Football Stadium	Food Truck
4	Austell	33.812606	-84.634378	4	Mexican Restaurant	Gift Shop	Pharmacy	Pet Store	Park	Diner	Yoga Studio	Food Truck	Food Court	Food & Drink Shop

Visual representation of Clusters



Conclusion



Suggested cities:

- ☐ Johns Creek
- ☐ Alpharetta
- ☐ Sandy Springs
- ☐ Dunwoody
- ☐ Milton

These are top few cities with high per capita income and low crime rate, hence good candidates for starting the mentioned business.