

Analysis of the amenities around airports in the United States

1 Introduction/Business problem

The goal of this study is to analyze the amenities available around the busiest airports in the US.

A first point of interest of the analysis consists of clustering the airports according to their surrounding amenities and defining similarities and differences between the clusters.

A second point of interest is to determine hidden dependencies of the clusters on a priori unrelated factors. An example of such factors is the geographical location of the airports. For instance, we might notice some differences in trends according to whether a given airport is located in a coastal area or not, or whether the airport is located in a warm area or a cold area. Another possible dependent factor is the amount of passenger traffic. We could imagine that some amenities might be more pronounced in areas with the most traffic.

The use of foursquare will come into play after gathering the necessary data, in order to fetch the available amenities around each airport considered.

A possible application of this study could be to give indications to local authorities about which business to promote around their airport in order to develop the currently lacking amenities.

2 Data

The data is extracted from Wikipedia. For this study, we will use the list of the 60 busiest airports per boarding passenger on page [List of the busiest airports in the United States](#), see Figure 1, that features, for instance, the names of the airports, IATA codes, cities, and passenger traffic from year 2014 to 2020. We will only use the most recent of data, that is, from 2020. Each airport name is linked to another Wikipedia page that fully describes the airport, from which we can get the geographic location, see example in Figure 2. We store the result into a dataframe, of which the first nine elements are given in Figure 3 and illustrated on the map in Figure 4.

Rank (2020)	Airports (large hubs)	IATA Code	Major city served	State	2020**	2019 ^[3]	2018 ^[4]	2017 ^[5]	2016 ^[6]	2015 ^[7]	2014 ^[8]	2013 ^[9]	2012 ^[10]	2011 ^[11]	2010 ^[12]	2009 ^[13]
1	Hartsfield-Jackson International Airport	ATL	Atlanta	GA	42,918,685	53,505,795	51,866,464	50,251,964	50,501,858	49,340,732	46,604,273	45,308,407	45,798,809	44,414,121	43,130,585	42,280,868
2	Dallas/Fort Worth International Airport	DFW	Dallas	TX	39,364,990	35,778,573	32,800,721	31,816,933	31,283,579	31,589,832	30,766,940	29,038,128	28,022,877	27,518,358	27,100,656	26,663,984
3	Denver International Airport	DEN	Denver	CO	33,741,129	33,592,945	31,363,573	29,809,097	28,267,394	26,280,043	26,000,591	25,496,885	25,799,832	25,667,499	25,241,962	24,013,669
4	O'Hare International Airport	ORD	Chicago	IL	30,860,251	40,871,223	39,874,879	38,593,028	37,589,899	36,305,668	33,686,811	32,317,835	32,171,743	31,892,301	32,171,831	31,135,732
5	Los Angeles International Airport	LAX	Los Angeles	CA	28,779,527	42,939,104	42,626,783	41,232,432	39,636,042	36,351,226	34,314,197	32,425,892	31,326,268	30,528,737	28,857,755	27,439,897
6	Charlotte Douglas International Airport	CLT	Charlotte	NC	27,205,082	24,199,888	22,283,574	22,011,251	21,511,880	21,913,166	21,542,277	21,346,601	20,032,426	19,022,535	18,629,181	18,165,476
7	George Bush Intercontinental Airport	IAH	Houston	TX	24,690,222	21,905,309	21,157,948	19,603,731	20,062,072	20,595,874	19,772,054	18,952,840	19,038,958	19,306,660	19,528,631	19,290,239
8	McCarran International Airport	LAS	Las Vegas	NV	22,201,479	24,728,361	23,655,285	23,364,393	22,833,267	21,824,231	20,551,016	19,946,179	19,941,173	19,854,759	18,996,738	19,445,952
9	Phoenix Sky Harbor International Airport	PHX	Phoenix	AZ	21,978,708	22,433,552	21,623,842	21,185,458	20,896,265	21,351,445	20,344,867	19,525,109	19,556,189	19,750,306	18,907,171	18,559,647
10	Orlando International Airport	MCO	Orlando	FL	21,817,803	24,562,271	23,184,634	21,565,448	20,283,541	18,759,938	17,278,608	16,884,524	17,159,425	17,250,415	17,017,491	16,371,016

Figure 1: First ten lines of the airport data table on the Wikipedia page.

Hartsfield–Jackson Atlanta International Airport

From Wikipedia, the free encyclopedia
(Redirected from Hartsfield-Jackson International Airport)

Coordinates: 33°38′12″N 084°25′41″W﻿ / ﻿33.63667°N 84.42806°W﻿ / 33.63667; -84.42806

"Atlanta Airport" redirects here. For the airport in Idaho, see Atlanta Airport (Idaho). For the airport in Atlanta, Texas, see Hall–Miller Municipal Airport.

Hartsfield–Jackson Atlanta International Airport (IATA: **ATL**, ICAO: **KATL**, FAA LID: **ATL**), also known as **Atlanta Hartsfield–Jackson International Airport**, **Atlanta Airport**, **Hartsfield**, **Hartsfield–Jackson** or by its airport code **ATL** is the primary international airport serving Atlanta, Georgia, United States. The airport is located 7 mi (11 km) south of the Downtown Atlanta district. It is named after former Atlanta mayors William B. Hartsfield and Maynard Jackson.^[2] ATL covers 4,700 acres (1,902 ha) of land and has five parallel runways.^{[3][2]} It was the world's busiest airport by passenger traffic from 1998 to 2019, losing its title in 2020 due to the effect of the COVID-19 pandemic in the United States and being surpassed by Guangzhou Baiyun International Airport as of a result.^[4]

Hartsfield–Jackson is the primary hub of Delta Air Lines, and is a focus city for low-cost carriers Frontier Airlines and Southwest Airlines. With just over 1,000 flights a day to 225 domestic and international destinations, the Delta hub is the world's largest airline hub.^{[5][6]} In addition to hosting Delta's corporate headquarters, Hartsfield–Jackson is also the home of Delta's



Figure 2: Example of latitude/longitude information at a given airport from its Wikipedia page.

	Airport name	Code	City	State	Passengers	Latitude	Longitude
0	Hartsfield-Jackson International Airport	ATL	Atlanta	GA	42,918,685	33.63667	-84.42806
1	Dallas/Fort Worth International Airport	DFW	Dallas & Ft. Worth	TX	39,364,990	32.89694	-97.03806
2	Denver International Airport	DEN	Denver	CO	33,741,129	39.86167	-104.67306
3	O'Hare International Airport	ORD	Chicago	IL	30,860,251	41.97861	-87.90472
4	Los Angeles International Airport	LAX	Los Angeles	CA	28,779,527	33.94250	-118.40806
5	Charlotte Douglas International Airport	CLT	Charlotte	NC	27,205,082	35.21389	-80.94306
6	McCarran International Airport	LAS	Las Vegas	NV	22,201,479	36.08000	-115.15222
7	Phoenix Sky Harbor International Airport	PHX	Phoenix	AZ	21,978,708	33.43417	-112.01167
8	Orlando International Airport	MCO	Orlando	FL	21,617,803	28.42944	-81.30889
9	Seattle–Tacoma International Airport	SEA	Seattle	WA	20,061,507	47.44889	-122.30944

Figure 3: Location of the main airports

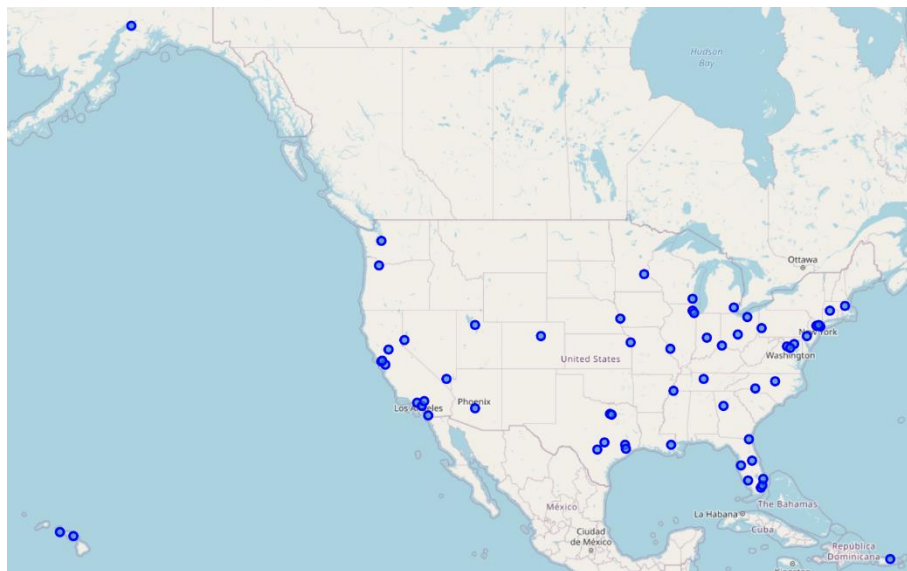


Figure 4: Map of the major airports in the United States.

Next, in order to determine which amenities are available, we call foursquare with a radius of 10km from each airport location, resulting in the dataframe in Figure 5.

	Airport name	Venue name	Venue type
0	Hartsfield-Jackson International Airport	Chicken & Beer	Fried Chicken Joint
1	Hartsfield-Jackson International Airport	One Flew South	Sushi Restaurant
2	Hartsfield-Jackson International Airport	Delta Sky Club	Airport Lounge
3	Hartsfield-Jackson International Airport	The Sky Deck	Roof Deck
4	Hartsfield-Jackson International Airport	Delta Sky Club	Airport Lounge
...
5992	Reno-Tahoe International Airport	The Daily Bagel	Café
5993	Reno-Tahoe International Airport	Bistro 7	American Restaurant
5994	Reno-Tahoe International Airport	Grand Sierra Resort and Casino	Resort
5995	Reno-Tahoe International Airport	The Shore Riverfront Dining	American Restaurant
5996	Reno-Tahoe International Airport	The Brewer's Cabinet	Pub

Figure 5: Description and airport location of the venues.

3 Methodology

The methodology consists of four parts:

1. Compute the proportion of each venue category around each airport;
2. Cluster the airport based on the distribution of the venue categories;
3. Compare each cluster to the passenger traffic for each airport;
4. Run another clustering of the airports, according to their surrounding restaurants only.

3.1 Compute the proportion of each venue category

We will notice that this paragraph will require some data pre-processing that was not planned. After a first attempt to compute the proportion of each type of venue for each airport, we display the 10 venues with the highest proportion in Figure 6.

	Airport name	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
0	Austin-Bergstrom International Airport	Coffee Shop	Food Truck	Brewery	Pizza Place	Convenience Store	Hotel	Music Venue	BBQ Joint	Trail	Racetrack
1	Baltimore/Washington International Airport	Hotel	Sandwich Place	Seafood Restaurant	American Restaurant	Fast Food Restaurant	Toy / Game Store	Pizza Place	Mexican Restaurant	Convenience Store	Asian Restaurant
2	Bradley International Airport	Hotel	American Restaurant	Sandwich Place	Italian Restaurant	Donut Shop	Pizza Place	Breakfast Spot	Pharmacy	Asian Restaurant	Liquor Store
3	Charlotte Douglas International Airport	Brewery	Bar	BBQ Joint	Mexican Restaurant	Grocery Store	Restaurant	Deli / Bodega	American Restaurant	Sushi Restaurant	Bakery
4	Chicago Midway International Airport	Pizza Place	Mexican Restaurant	Ice Cream Shop	Grocery Store	Brewery	Breakfast Spot	Liquor Store	Hot Dog Joint	American Restaurant	Bakery

Figure 6: First attempt to display the 10 venues with the highest proportion at each airport; C1 is the most represented venue type, while C10 is the 10th.

Unfortunately, we can see that a lots of venues that appear in different categories are actually similar. For example, several types of restaurants appear in separate categories, such as "Seafood Restaurant", or "Mexican Restaurant. This has the strong potential for biasing our study, since each specific restaurant category will have the same weight as another, separate category such as "Hotel". For the purpose of this study, it makes more sense to group similar categories into a single category. For

instance, we will group all the restaurant as the "Restaurant" category, and all the bars as the "Bar" category, which includes "Pub", "Beer Garden", etc...

We will actually study the proportion of the different types of restaurants in a subsequent section.

After careful examination of the data, we carry out our grouping by creating the following categories:

- Category 'Restaurant': all categories whose name contains 'restaurant', 'joint', 'place', 'food truck', 'steakhouse', 'noodle house', 'diner', 'breakfast' or 'bagel';
- Category 'Bar': all categories whose name contains 'bar', 'pub', 'brewery', 'beer garden' or 'bodega';
- Category 'Groceries': all categories whose name contains 'market' or 'grocer';
- Category 'Gym': all categories whose name contains 'gym' or 'fitness center';
- Category 'Ice Cream': all categories whose name contains 'ice cream' or 'frozen yogurt';
- Category 'Coffee Place': all categories whose name contains 'coffee shop' or 'donut';
- Category 'Airport', that captures all the venues inside airport terminals: all categories whose name contains 'airport'.

Re-computing the 10 venue types with the highest proportion, illustrated in Figure 7, we observed that the 'Restaurant' category was always the most populated, for each airport. Consequently, the category 'Restaurant' is not specific enough for our study and was discarded to obtain our final input data, suited for clustering, in Figure 8.

	Airport name	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
0	Austin-Bergstrom International Airport	Restaurant	Bar	Coffee Place	Convenience Store	Hotel	Racetrack	Trail	Music Venue	Garden Center	Discount Store
1	Baltimore/Washington International Airport	Restaurant	Hotel	Bar	Coffee Place	Convenience Store	Toy / Game Store	Warehouse Store	Scenic Lookout	Liquor Store	Ice Cream
2	Bradley International Airport	Restaurant	Hotel	Bar	Coffee Place	Gym	Pharmacy	Groceries	Convenience Store	Liquor Store	Museum
3	Charlotte Douglas International Airport	Restaurant	Bar	Groceries	Gym	Bakery	Clothing Store	Park	Gift Shop	Convenience Store	Miscellaneous Shop
4	Chicago Midway International Airport	Restaurant	Bar	Ice Cream	Groceries	Coffee Place	Liquor Store	Bakery	Clothing Store	Military Base	Soccer Stadium

Figure 7: Ten venue types with the highest proportion after grouping similar categories.

	Airport name	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
0	Austin-Bergstrom International Airport	Bar	Coffee Place	Convenience Store	Hotel	Racetrack	Trail	Music Venue	Ice Cream	Discount Store	Garden Center
1	Baltimore/Washington International Airport	Hotel	Bar	Coffee Place	Toy / Game Store	Convenience Store	Ice Cream	Liquor Store	Scenic Lookout	Warehouse Store	Pet Store
2	Bradley International Airport	Hotel	Bar	Coffee Place	Gym	Pharmacy	Groceries	Convenience Store	Liquor Store	Museum	Pet Store
3	Charlotte Douglas International Airport	Bar	Groceries	Gym	Bakery	Clothing Store	Park	Gift Shop	Convenience Store	Miscellaneous Shop	Coffee Place
4	Chicago Midway International Airport	Bar	Ice Cream	Groceries	Coffee Place	Liquor Store	Bakery	Clothing Store	Military Base	Soccer Stadium	Other Great Outdoors

Figure 8: Final input data (after dropping the 'Restaurant' category).

3.2 Cluster the airport

In this section, we cluster the airports according to the grouped venue categories obtained above by using the k-means algorithm. The k-means algorithm is particularly well suited for the clustering because it needs no a priori estimate of the residual error within each group. In order to determine the optimum order of the algorithm for our data, we scan the residual error from several k-means, from $k=2, \dots, 10$, see Figure 9, defined as the mean squared distance of clusters points to their centroid. It can be observed that the graph shows a reduction in efficiency after $k=4$, which indicates that 4-means should be used to cluster our data. There is an interesting drop of the error at $k=8$; however, as our dataset only contains 60 airports, using $k=8$ may increase the risk for over-fitting.

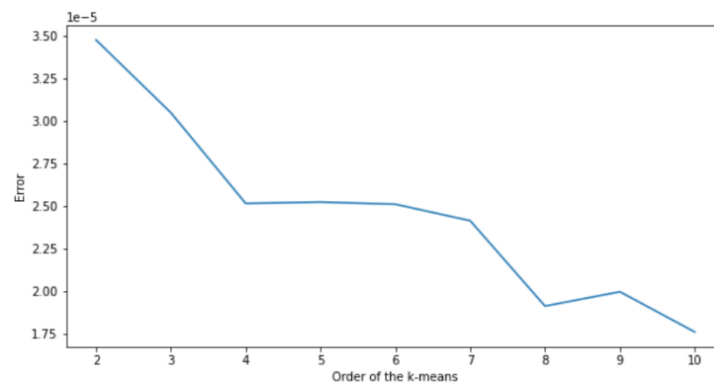


Figure 9: Residual error for the k-means clustering of all venues except restaurants.

3.3 Cluster the airports according to the surrounding restaurants

The 'Restaurant' category was omitted from the previous section because it was the most represented category for all airports. In this section, we consider all the categories that were grouped into the 'Restaurant' category in section 3.1. With the hope to cluster airports according to the different types of cuisines, we discard all other categories and determine the 10 most represented restaurant types, as shown in Figure 10.

	Airport name	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
0	Austin-Bergstrom International Airport	Food Truck	Pizza Place	BBQ Joint	Italian Restaurant	Restaurant	Taco Place	Burger Joint	Vietnamese Restaurant	Asian Restaurant	Bagel Shop
1	Baltimore/Washington International Airport	Seafood Restaurant	Sandwich Place	American Restaurant	Fast Food Restaurant	Mexican Restaurant	Pizza Place	Asian Restaurant	Italian Restaurant	Snack Place	Sushi Restaurant
2	Bradley International Airport	American Restaurant	Italian Restaurant	Sandwich Place	Breakfast Spot	Pizza Place	Asian Restaurant	Diner	Bagel Shop	Wings Joint	Vietnamese Restaurant
3	Charlotte Douglas International Airport	Mexican Restaurant	BBQ Joint	Restaurant	Greek Restaurant	American Restaurant	Pizza Place	Asian Restaurant	Sushi Restaurant	Southern / Soul Food Restaurant	Mediterranean Restaurant
4	Chicago Midway International Airport	Pizza Place	Mexican Restaurant	Breakfast Spot	American Restaurant	Hot Dog Joint	BBQ Joint	Middle Eastern Restaurant	Taco Place	Italian Restaurant	Diner

Figure 10: Ten restaurant types with the highest proportion.

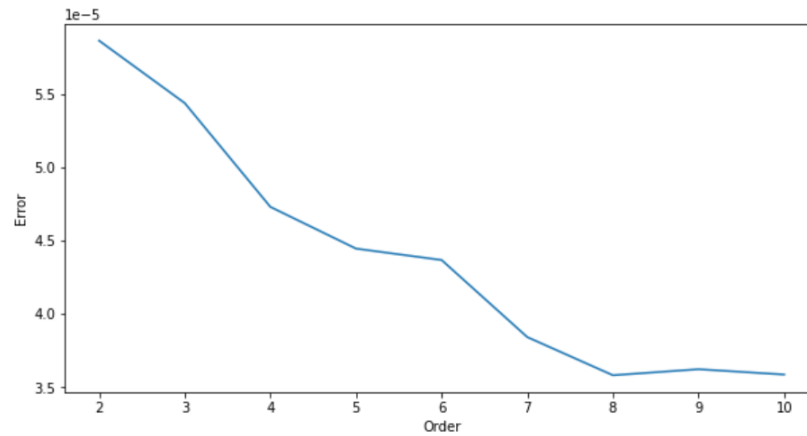


Figure 11: Residual error for the k-means clustering for the restaurants only.

Then, we look for the optimal order for k-means clustering and find that $k=5$ is suitable, see Figure 11.

4 Results

4.1 Clustering of the airports based on all venues except restaurants

The result of 4-means clustering from paragraph 3.2 is displayed in Figure 12 while the clusters for all airports are given in the tables in appendix 1. Due to the high occurrence of bars and coffee shops in all four clusters, we omit these two items from our analysis. We can then describe the clusters accordingly as:

- Cluster 0, with high concentration of zoos, parks, art venues such as music venues and theaters, and no liquor stores
- Cluster 1, with a high concentration of grocery stores, parks, gyms, beaches, gardens and trails
- Cluster 2, with a high concentration of gyms, parks, beaches, home stores as well as some golf courses and museums
- Cluster, dominated by hotels and with a high concentration of cosmetic shops, convenience stores and rental car agencies

	Airport name	Label	Code	City	State	Passengers	Latitude	Longitude
0	Austin–Bergstrom International Airport	0	AUS	Austin	TX	6,472,579	30.19444	-97.67000
1	Baltimore/Washington International Airport	3	BWI	Baltimore	MD	11,204,511	39.17528	-76.66833
2	Bradley International Airport	3	BDL	Hartford	CT	2,427,478	41.93917	-72.68333
3	Charlotte Douglas International Airport	2	CLT	Charlotte	NC	27,205,082	35.21389	-80.94306
4	Chicago Midway International Airport	2	MDW	Chicago	IL	8,853,948	41.78611	-87.75250
5	Cincinnati/Northern Kentucky International Air...	1	CVG	Cincinnati/Covington	OH/KY	3,615,139	39.04889	-84.66778
6	Cleveland Hopkins International Airport	0	CLE	Cleveland	OH	4,122,517	41.41167	-81.84972
7	Dallas Love Field	2	DAL	Dallas	TX	7,684,653	32.84722	-96.85167
8	Dallas/Fort Worth International Airport	3	DFW	Dallas & Ft. Worth	TX	39,364,990	32.89694	-97.03806
9	Daniel K. Inouye International Airport	2	HNL	Honolulu	HI	6,656,825	21.31861	-157.92250
10	Denver International Airport	3	DEN	Denver	CO	33,741,129	39.86167	-104.67306
11	Detroit Metropolitan Airport	3	DTW	Detroit	MI	14,105,007	42.21250	-83.35333

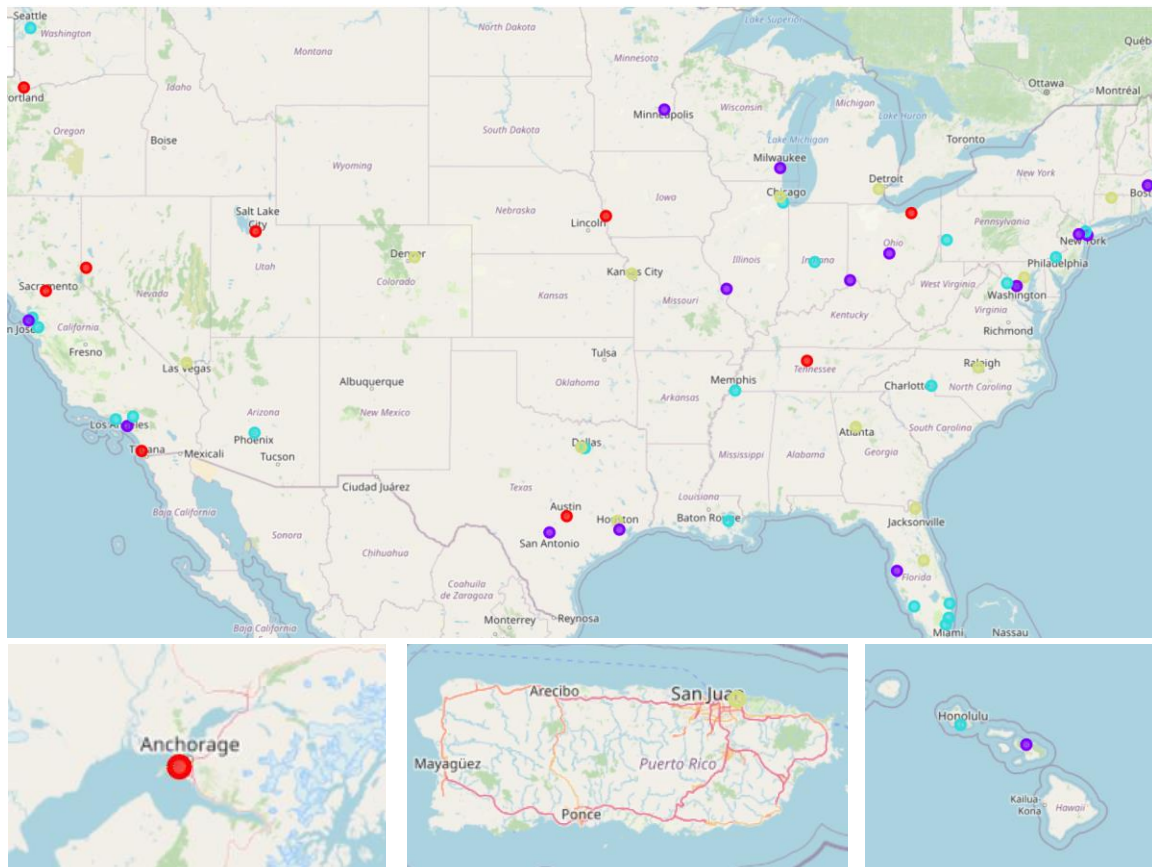


Figure 12: Clustering of the airports according to their surrounding venue distribution, excluding restaurants; result table (top), in which the cluster number lies in the column 'Label', and map (bottom), using cluster 0:red; cluster 1: purple; cluster 2: cyan; cluster 3: green.

A first remark that can be made from the map in Figure 12 is that there is not much correlation between cluster numbers and their geographic location, as all clusters are represented across all of the US. To push the analysis a little further, let us look at the possible correlation between clusters and passenger

traffic. Interestingly enough, in Figure 13, we can observe that the cluster numbers increasingly include higher and higher passenger traffic. As a reminder, passenger traffic was not used for clustering, so this relationship between clusters and passenger traffic is an inference from the data, without any a priori bias.

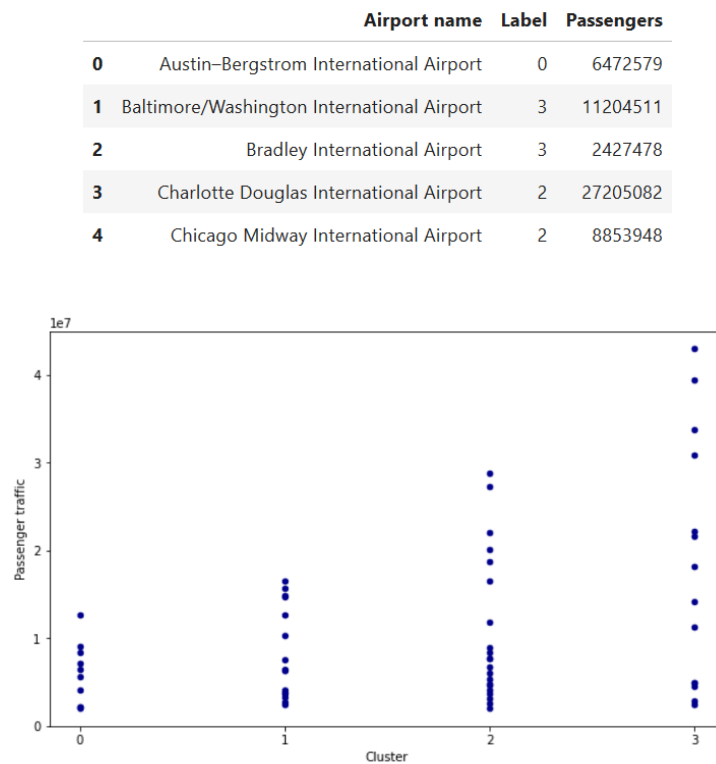


Figure 13: Passenger traffic vs. cluster as a data table (top), and scattered plot (bottom).

4.2 Clustering of the airports based on restaurants only

The first elements of the result of 5-means clustering of the restaurants from paragraph 3.3 are displayed in **Error! Reference source not found.** and Figure 15 while the clusters for all airports are given in the tables in appendix 2.

	Airport name	Label	Code	City	State	Passengers	Latitude	Longitude
0	Austin–Bergstrom International Airport	0	AUS	Austin	TX	6,472,579	30.19444	-97.67000
1	Baltimore/Washington International Airport	3	BWI	Baltimore	MD	11,204,511	39.17528	-76.66833
2	Bradley International Airport	4	BDL	Hartford	CT	2,427,478	41.93917	-72.68333
3	Charlotte Douglas International Airport	0	CLT	Charlotte	NC	27,205,082	35.21389	-80.94306
4	Chicago Midway International Airport	2	MDW	Chicago	IL	8,853,948	41.78611	-87.75250

Figure 14: Result of the clustering of the restaurant types. The cluster number lies in the column 'Label'.

Since Mexican restaurants account for one of the most represented category in all clusters, their specificity in our analysis is low and we omit them. Also, we include pizza places into the “Italian restaurant” category where both categories “Italian Restaurant” and “Pizza Place” are present. We can then describe the clusters as follows:

- Cluster 0 has a high concentration of Italian restaurants, BBQs and fast-food, but less than average Asian restaurants;
- Cluster 1 has a high concentration of seafood and American restaurants;
- Cluster 2 has a high concentration of Italian and American restaurants;
- Cluster 3 has a high concentration of pizza places, fast food, American, seafood restaurants and steak houses;
- Cluster 4 has a high concentration of American restaurants, fast food, Italian and Asian restaurants.

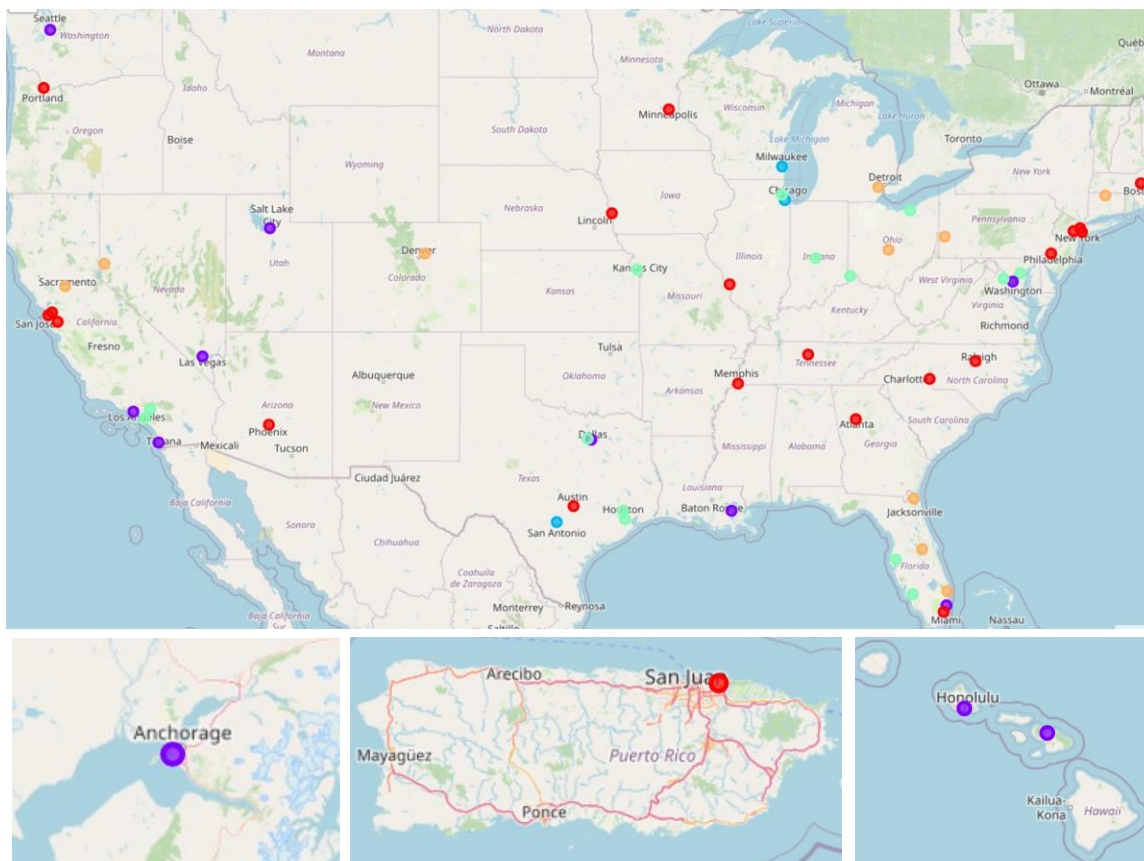


Figure 15: Map of the 5-means restaurant type clustering using cluster 0:red; cluster 1: purple; cluster 2: blue; cluster 3: cyan; cluster 4: orange.

The map in Figure 15 exhibits some geographical dependencies of the clusters. In Figure 16 for example, clusters 0 and 2 are mostly located on the Eastern half of the country, that is, to the East of line 1, while cluster 1 appears mostly below the North-West to South-East diagonal, line 2. Cluster 3 lies mostly

below a South-West to North-East diagonal, line 3, and cluster 4 is absent from the South of the country, with the exception of Florida, box 4.

This may denote some difference in food preference according to these respective areas.

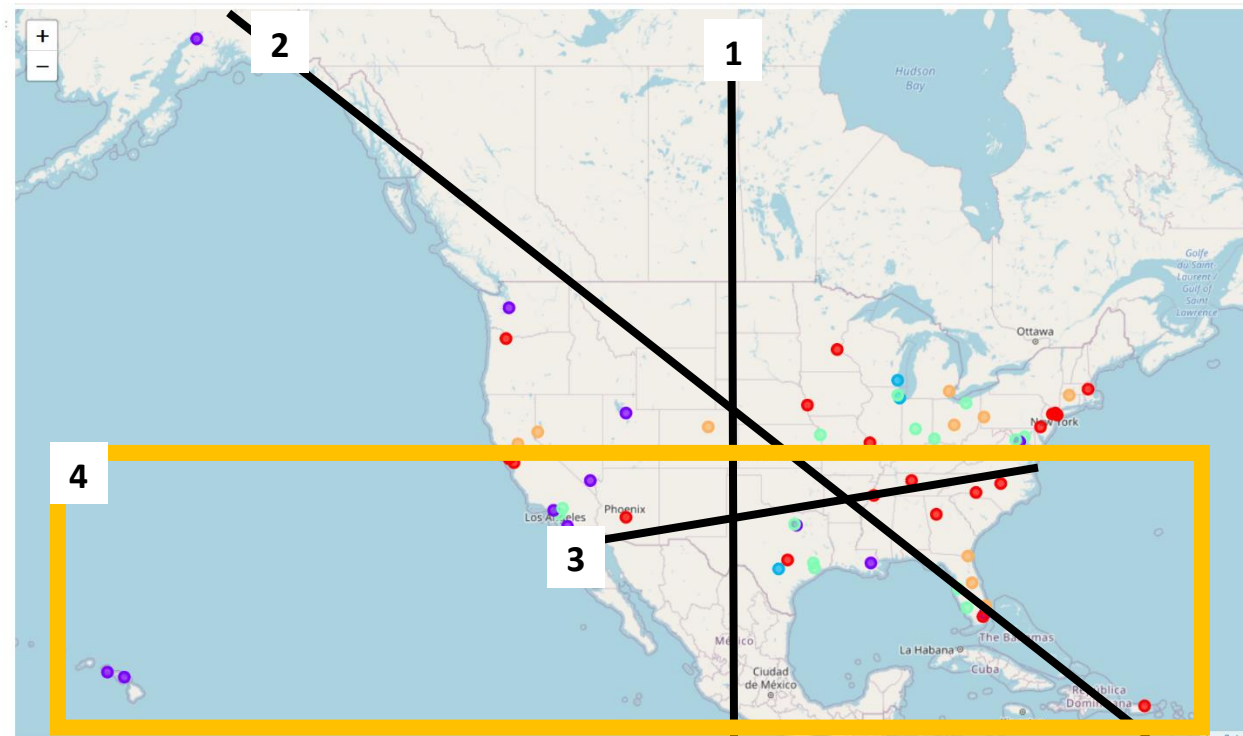


Figure 16: Geographical dependency of the restaurant types.

5 Discussion

Owing to section 4.1, clustering the airports according to the venue distribution excluding restaurant leads to three main conclusions:

1. There is no geographic dependency of the venue distributions for each airport across the country;
2. Cluster 0, that has the least passenger traffic, has zoos and art venues, but lacks liquor stores;
3. Airports with the most traffic have the most concentration of hotels, and secondarily, cosmetics shops.

This may suggest that to accompany smaller airport growth, the proportion of hotels compared to other venues, not only their actual number, may need to be increased. Also, liquor stores might find some business opportunities for the airports in Cluster 0. Other business opportunities consist of creating venues that are in lesser proportion in a given cluster compared to another.

It is also worth noting that 'bars' was an omnisciently represented category for all clusters.

In terms of clustering according to the restaurant distribution, the results in section 4.2 strongly suggest a geographical dependency of the different cuisines across the country. Mexican food is the most prominent cuisine in all areas. Italian and Fast food are the most pronounced the Eastern half of the country, while Sea food and American restaurant are more present below the North-West to South-East diagonal. American, sea food and steak houses lie mostly below a South-West to North-East diagonal. An interesting point to study would be whether the restaurant concentration is a consequence of the food preference from local people, or if the missing categories are really lacking and could be filled in order to accommodate for the taste of more passengers or inhabitants. The former might create a business opportunity for the missing cuisines.

6 Conclusion

The data was successfully extracted from a combination of internet searches and foursquare calls. The k-means algorithm was well suited for this study. For each of our two types of clustering, the acceptable number of clusters was determined by averaging and analyzing the mean square distance to the centroids. We believe that we were able to define numbers of clusters descriptive enough, without over-fitting.

We found some expected geographical dependencies of the various cuisines of the restaurants near airports, and also an unexpected dependency between the non-restaurant venue distribution and passenger traffic.

Some of the difficulties that we faced in this study include the fact that the venues around most airports are very well diversified, and thus difficult to cluster. As a result, apart from the few details described in section 5 it was difficult to find lots of discrepancies and general trends of missing venues around most airports.

Using the same data hereby extracted, this study could be extended further by analyzing the presence of any specific type of venues around airports. For instance, it could be analyzed how many grocery stores, or any other type of venue there are per passenger.

Appendix 1

This appendix shows the detailed results of the venue clustering of section 4.1. that excludes restaurants.

Cluster 0:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
0	Austin-Bergstrom International Airport	0	Bar	Coffee Place	Convenience Store	Hotel	Racetrack	Trail	Music Venue	Ice Cream	Discount Store	Garden Center
6	Cleveland Hopkins International Airport	0	Bar	Park	Coffee Place	Ice Cream	Gym	Bakery	Groceries	Chocolate Shop	Café	Hotel
12	Eppley Airfield	0	Bar	Hotel	Coffee Place	Ice Cream	Zoo Exhibit	Rental Car Location	Historic Site	Lounge	Candy Store	Monument / Landmark
33	Nashville International Airport	0	Bar	Coffee Place	Trail	Dog Run	Music Venue	Café	Pet Store	Park	Gym	Groceries
44	Portland International Airport	0	Bar	Coffee Place	Groceries	Ice Cream	Hotel	Park	Café	Bakery	Pet Store	Beer Store
46	Reno-Tahoe International Airport	0	Bar	Coffee Place	Café	Spa	Gym	Sporting Goods Shop	Groceries	Miscellaneous Shop	Art Gallery	Shoe Store
48	Sacramento International Airport	0	Bar	Coffee Place	Rental Car Location	Park	Groceries	Gym	Ice Cream	Hotel	Bubble Tea Shop	Electronics Store
49	Salt Lake City International Airport	0	Bar	Coffee Place	Hotel	Groceries	Bakery	Theater	Park	Paper / Office Supplies Store	Scenic Lookout	Basketball Stadium
51	San Diego International Airport	0	Bar	Zoo Exhibit	Coffee Place	Park	Groceries	Hotel	Museum	Theater	Bakery	Zoo
57	Ted Stevens Anchorage International Airport	0	Coffee Place	Bar	Park	Groceries	Sporting Goods Shop	Gift Shop	Bakery	Hardware Store	Rental Car Location	Café

Cluster 1:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
5	Cincinnati/Northern Kentucky International Air...	1	Ice Cream	Bar	Gym	Coffee Place	Liquor Store	Hotel	Rental Car Location	Groceries	Yoga Studio	Office
18	John F. Kennedy International Airport	1	Beach	Bar	Coffee Place	Bakery	Surf Spot	Groceries	Gym	Sporting Goods Shop	Clothing Store	Pool
19	John Glenn Columbus International Airport	1	Ice Cream	Coffee Place	Groceries	Bar	Furniture / Home Store	Gym	Cosmetics Shop	Park	Garden	Smoke Shop
20	John Wayne Airport	1	Groceries	Coffee Place	Gym	Bar	Shopping Mall	Furniture / Home Store	Park	Bakery	Liquor Store	Women's Store
21	Kahului Airport	1	Groceries	Café	Coffee Place	Ice Cream	Bar	Beach	Bakery	Miscellaneous Shop	Department Store	Rental Car Location
24	Logan International Airport	1	Park	Bar	Bakery	Coffee Place	Hotel	Groceries	Historic Site	Gym	Science Museum	Pet Store
31	Milwaukee Mitchell International Airport	1	Bar	Coffee Place	Park	Groceries	Gym	Dog Run	Hotel	Record Shop	Beach	Music Venue
32	Minneapolis-Saint Paul International Airport	1	Bar	Coffee Place	Groceries	Trail	Liquor Store	Hotel	Bakery	Park	Lake	Cosmetics Shop
34	Newark Liberty International Airport	1	Clothing Store	Bar	Park	Lounge	Bakery	Café	Coffee Place	Groceries	Ice Cream	Liquor Store
47	Ronald Reagan Washington National Airport	1	Monument / Landmark	Park	Art Museum	Hotel	Coffee Place	Groceries	Bar	Gym	Garden	Plaza
50	San Antonio International Airport	1	Coffee Place	Bar	Groceries	Park	Shopping Mall	Ice Cream	Furniture / Home Store	Bakery	Bookstore	Movie Theater
52	San Francisco International Airport	1	Gym	Park	Groceries	Coffee Place	Ice Cream	Clothing Store	Trail	Rental Car Location	Bubble Tea Shop	Warehouse Store
55	St. Louis Lambert International Airport	1	Coffee Place	Groceries	Convenience Store	Bar	Park	Ice Cream	Bakery	Pharmacy	Gym	Pet Store
56	Tampa International Airport	1	Groceries	Bar	Gym	Hotel	Football Stadium	Ice Cream	Park	Nail Salon	Shopping Plaza	Shopping Mall
59	William P. Hobby Airport	1	Coffee Place	Park	Bar	Sporting Goods Shop	Bakery	Groceries	Discount Store	Liquor Store	Shoe Store	Pharmacy

Cluster 2:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
3	Charlotte Douglas International Airport	2	Bar	Groceries	Gym	Bakery	Clothing Store	Park	Gift Shop	Convenience Store	Miscellaneous Shop	Coffee Place
4	Chicago Midway International Airport	2	Bar	Ice Cream	Groceries	Coffee Place	Liquor Store	Bakery	Clothing Store	Military Base	Soccer Stadium	Other Great Outdoors
7	Dallas Love Field	2	Bar	Coffee Place	Groceries	Shopping Mall	Park	Spa	Gym	Liquor Store	Gourmet Shop	Furniture / Home Store
9	Daniel K. Inouye International Airport	2	Bar	Bakery	Historic Site	Coffee Place	Groceries	History Museum	Lounge	Paper / Office Supplies Store	Spa	Café
13	Fort Lauderdale-Hollywood International Airport	2	Bar	Beach	Park	Groceries	Hotel	Ice Cream	Coffee Place	Gym	Lounge	Nature Preserve
16	Indianapolis International Airport	2	Bar	Coffee Place	Groceries	Bookstore	Gym	Racetrack	Pet Store	Spa	Cosmetics Shop	Bakery
23	LaGuardia Airport	2	Bar	Park	Gym	Bakery	Ice Cream	Exhibit	Museum	Butcher	Tennis Stadium	Art Museum
25	Los Angeles International Airport	2	Bar	Groceries	Coffee Place	Bakery	Ice Cream	Beach	Dog Run	Park	Liquor Store	Café
26	Louis Armstrong New Orleans International Airport	2	Bar	Coffee Place	Groceries	Smoothie Shop	Café	Pet Service	Gym	Bakery	Dessert Shop	Gaming Cafe
29	Memphis International Airport	2	Bar	Coffee Place	Liquor Store	Museum	Pharmacy	Café	Groceries	Hotel	Historic Site	Gym
30	Miami International Airport	2	Bar	Groceries	Gym	Bakery	Ice Cream	Golf Course	Bookstore	Cosmetics Shop	Café	Coffee Place
35	Norman Y. Mineta San José International Airport	2	Bar	Groceries	Gym	Coffee Place	Furniture / Home Store	Café	Pharmacy	Ice Cream	Garden	Clothing Store
37	Oakland International Airport	2	Bar	Coffee Place	Beach	Groceries	Garden Center	Bakery	Ice Cream	Shopping Mall	State / Provincial Park	Sporting Goods Shop
38	Ontario International Airport	2	Bar	Coffee Place	Bakery	Warehouse Store	Movie Theater	Clothing Store	Convenience Store	Ice Cream	Cupcake Shop	Sporting Goods Shop
40	Palm Beach International Airport	2	Groceries	Bar	Coffee Place	Spa	Park	Art Museum	Smoke Shop	Shopping Plaza	Shopping Mall	Shoe Store
41	Philadelphia International Airport	2	Bar	Bakery	Ice Cream	Hotel	Gym	Park	Convenience Store	Pharmacy	Dessert Shop	Café
42	Phoenix Sky Harbor International Airport	2	Bar	Coffee Place	Hotel	Groceries	Music Venue	Park	Bakery	Lounge	Mountain	Art Gallery
43	Pittsburgh International Airport	2	Bar	Coffee Place	Trail	Furniture / Home Store	Ice Cream	Groceries	Hotel	Golf Course	Smoke Shop	Gas Station
53	Seattle-Tacoma International Airport	2	Bar	Coffee Place	Café	Groceries	Furniture / Home Store	Bakery	Ice Cream	Pet Store	Butcher	Hotel
54	Southwest Florida International Airport[15]	2	Bar	Golf Course	Groceries	Coffee Place	Dessert Shop	Rental Car Location	Gas Station	Convenience Store	Café	Baseball Stadium
58	Washington Dulles International Airport	2	Bar	Coffee Place	Groceries	Exhibit	Bakery	Gym	Furniture / Home Store	Warehouse Store	Movie Theater	Museum

Cluster 3:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
1	Baltimore/Washington International Airport	3	Hotel	Bar	Coffee Place	Toy / Game Store	Convenience Store	Ice Cream	Liquor Store	Scenic Lookout	Warehouse Store	Pet Store
2	Bradley International Airport	3	Hotel	Bar	Coffee Place	Gym	Pharmacy	Groceries	Convenience Store	Liquor Store	Museum	Pet Store
8	Dallas/Fort Worth International Airport	3	Coffee Place	Bar	Hotel	Groceries	Bakery	Bowling Alley	Gym	Health Food Store	Sporting Goods Shop	Spa
10	Denver International Airport	3	Hotel	Bar	Coffee Place	Rental Car Location	Train Station	Cosmetics Shop	Convenience Store	Groceries	Ice Cream	Basketball Court
11	Detroit Metropolitan Airport	3	Coffee Place	Bar	Hotel	Groceries	Park	Liquor Store	Hardware Store	Butcher	Cosmetics Shop	Rental Car Location
14	George Bush Intercontinental Airport	3	Coffee Place	Bar	Hotel	Rental Car Location	Furniture / Home Store	Sporting Goods Shop	Health & Beauty Service	Pharmacy	Department Store	Gym
15	Hartsfield-Jackson International Airport	3	Hotel	Bar	Exhibit	Coffee Place	Groceries	Ice Cream	Smoothie Shop	Cosmetics Shop	Discount Store	Café
17	Jacksonville International Airport	3	Discount Store	Coffee Place	Gas Station	Hotel	Pharmacy	Bar	Groceries	Cosmetics Shop	Department Store	Convenience Store
22	Kansas City International Airport	3	Bar	Hotel	Gym	Groceries	Golf Course	Pharmacy	Baseball Field	Gas Station	Rental Car Location	Cosmetics Shop
27	Luis Muñoz Marín International Airport	3	Beach	Coffee Place	Bar	Café	Hotel	Surf Spot	Movie Theater	Pool	Pharmacy	Bakery
28	McCarran International Airport	3	Hotel	Casino	Nightclub	Bar	Shopping Mall	Coffee Place	Theater	Spa	Hotel Pool	Electronics Store
36	O'Hare International Airport	3	Groceries	Bar	Hotel	Coffee Place	Clothing Store	Bakery	Plaza	Ice Cream	Yoga Studio	Accessories Store
39	Orlando International Airport	3	Hotel	Bar	Coffee Place	Convenience Store	Groceries	Pharmacy	Discount Store	Cosmetics Shop	Ice Cream	Sporting Goods Shop
45	Raleigh-Durham International Airport	3	Hotel	Bar	Coffee Place	Wine Shop	Gym	State / Provincial Park	Convenience Store	Trail	Beer Store	Bakery

Appendix 2

This appendix shows the detailed results of the clustering of section 4.2. that features restaurants only.

Cluster 0:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
0	Austin-Bergstrom International Airport	0	Food Truck	Pizza Place	BBQ Joint	Italian Restaurant	Restaurant	Taco Place	Burger Joint	Vietnamese Restaurant	Asian Restaurant	Bagel Shop
3	Charlotte Douglas International Airport	0	Mexican Restaurant	BBQ Joint	Restaurant	Greek Restaurant	American Restaurant	Pizza Place	Asian Restaurant	Sushi Restaurant	Southern / Soul Food Restaurant	Mediterranean Restaurant
12	Eppley Airfield	0	Pizza Place	Steakhouse	Sushi Restaurant	Mexican Restaurant	Seafood Restaurant	Burger Joint	Breakfast Spot	BBQ Joint	Fast Food Restaurant	New American Restaurant
15	Hartsfield-Jackson International Airport	0	Burger Joint	Pizza Place	Breakfast Spot	Seafood Restaurant	Mexican Restaurant	BBQ Joint	Restaurant	Burrito Place	Southern / Soul Food Restaurant	Taco Place
18	John F. Kennedy International Airport	0	Caribbean Restaurant	Pizza Place	Burger Joint	Italian Restaurant	Bagel Shop	Mexican Restaurant	Sushi Restaurant	Greek Restaurant	BBQ Joint	Seafood Restaurant
23	LaGuardia Airport	0	Pizza Place	Bagel Shop	Thai Restaurant	Food Truck	Italian Restaurant	Greek Restaurant	Sandwich Place	Tibetan Restaurant	Indian Restaurant	Vietnamese Restaurant
24	Logan International Airport	0	Pizza Place	Seafood Restaurant	Italian Restaurant	Restaurant	New American Restaurant	Mexican Restaurant	Sandwich Place	French Restaurant	Greek Restaurant	Breakfast Spot
27	Luis Mufioz Marin International Airport	0	Caribbean Restaurant	Food Truck	Latin American Restaurant	BBQ Joint	Restaurant	Spanish Restaurant	Seafood Restaurant	Italian Restaurant	Mexican Restaurant	Pizza Place
29	Memphis International Airport	0	BBQ Joint	Fried Chicken Joint	Burger Joint	Steakhouse	Mexican Restaurant	Sandwich Place	Southern / Soul Food Restaurant	American Restaurant	Pizza Place	Asian Restaurant
30	Miami International Airport	0	Pizza Place	Italian Restaurant	Cuban Restaurant	Spanish Restaurant	American Restaurant	Restaurant	Argentinian Restaurant	Japanese Restaurant	Mexican Restaurant	Greek Restaurant
32	Minneapolis-Saint Paul International Airport	0	Italian Restaurant	Pizza Place	Burger Joint	American Restaurant	Mexican Restaurant	Breakfast Spot	Southern / Soul Food Restaurant	English Restaurant	Restaurant	Sandwich Place
33	Nashville International Airport	0	Thai Restaurant	American Restaurant	Pizza Place	Greek Restaurant	Taco Place	Sandwich Place	Southern / Soul Food Restaurant	New American Restaurant	BBQ Joint	Burger Joint
34	Newark Liberty International Airport	0	Portuguese Restaurant	Spanish Restaurant	Pizza Place	Brazilian Restaurant	BBQ Joint	Italian Restaurant	Sandwich Place	Diner	Tapas Restaurant	Bagel Shop
35	Norman Y. Mineta San José International Airport	0	Sandwich Place	Mexican Restaurant	Pizza Place	Vegetarian / Vegan Restaurant	Seafood Restaurant	Breakfast Spot	German Restaurant	Japanese Restaurant	Cajun / Creole Restaurant	Korean Restaurant
37	Oakland International Airport	0	Vietnamese Restaurant	Pizza Place	Mexican Restaurant	Food Truck	Fast Food Restaurant	Italian Restaurant	Breakfast Spot	German Restaurant	American Restaurant	Diner
41	Philadelphia International Airport	0	Italian Restaurant	Pizza Place	Sandwich Place	Seafood Restaurant	Diner	Burger Joint	BBQ Joint	Restaurant	Vegetarian / Vegan Restaurant	Fried Chicken Joint
42	Phoenix Sky Harbor International Airport	0	Pizza Place	Mexican Restaurant	Taco Place	Sandwich Place	Thai Restaurant	Breakfast Spot	Burger Joint	Vegetarian / Vegan Restaurant	American Restaurant	Food Truck
44	Portland International Airport	0	Pizza Place	Thai Restaurant	Sandwich Place	BBQ Joint	Mexican Restaurant	New American Restaurant	Southern / Soul Food Restaurant	Wings Joint	Seafood Restaurant	American Restaurant
45	Raleigh-Durham International Airport	0	Pizza Place	Mexican Restaurant	Breakfast Spot	American Restaurant	Fast Food Restaurant	Peruvian Restaurant	Food Truck	Mediterranean Restaurant	Sushi Restaurant	Burger Joint
52	San Francisco International Airport	0	Pizza Place	Mexican Restaurant	Sandwich Place	Japanese Restaurant	Breakfast Spot	Chinese Restaurant	Filipino Restaurant	Vietnamese Restaurant	Sushi Restaurant	Wings Joint
55	St. Louis Lambert International Airport	0	Mexican Restaurant	Italian Restaurant	Fast Food Restaurant	Pizza Place	Sandwich Place	Diner	Chinese Restaurant	Restaurant	BBQ Joint	Caribbean Restaurant

Cluster 1:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
7	Dallas Love Field	1	American Restaurant	Seafood Restaurant	French Restaurant	Mexican Restaurant	Burger Joint	Steakhouse	New American Restaurant	Greek Restaurant	Fast Food Restaurant	Taco Place
9	Daniel K. Inouye International Airport	1	Japanese Restaurant	Pizza Place	Seafood Restaurant	Breakfast Spot	Hawaiian Restaurant	Chinese Restaurant	Restaurant	American Restaurant	Noodle House	Thai Restaurant
13	Fort Lauderdale-Hollywood International Airport	1	Seafood Restaurant	American Restaurant	Mexican Restaurant	Restaurant	Sushi Restaurant	Pizza Place	Latin American Restaurant	Hot Dog Joint	Sandwich Place	Italian Restaurant
21	Kahului Airport	1	Asian Restaurant	Food Truck	Restaurant	Vegetarian / Vegan Restaurant	Seafood Restaurant	Hawaiian Restaurant	Japanese Restaurant	Comfort Food Restaurant	Pizza Place	New American Restaurant
25	Los Angeles International Airport	1	American Restaurant	Mexican Restaurant	Fast Food Restaurant	Vegetarian / Vegan Restaurant	Seafood Restaurant	Italian Restaurant	Sushi Restaurant	Salad Place	Steakhouse	New American Restaurant
26	Louis Armstrong New Orleans International Airport	1	Seafood Restaurant	American Restaurant	Chinese Restaurant	Vietnamese Restaurant	Italian Restaurant	Burger Joint	Mexican Restaurant	Sushi Restaurant	Fast Food Restaurant	Fried Chicken Joint
28	McCarran International Airport	1	Steakhouse	Burger Joint	American Restaurant	Seafood Restaurant	French Restaurant	Fast Food Restaurant	Snack Place	Mexican Restaurant	Japanese Restaurant	Taco Place
47	Ronald Reagan Washington National Airport	1	American Restaurant	Mediterranean Restaurant	Indian Restaurant	Thai Restaurant	Food Truck	Seafood Restaurant	Portuguese Restaurant	Sushi Restaurant	Salad Place	New American Restaurant
49	Salt Lake City International Airport	1	Mexican Restaurant	Burger Joint	Italian Restaurant	Pizza Place	Seafood Restaurant	Fast Food Restaurant	Middle Eastern Restaurant	New American Restaurant	Vegetarian / Vegan Restaurant	Japanese Restaurant
51	San Diego International Airport	1	Seafood Restaurant	New American Restaurant	Taco Place	Italian Restaurant	Steakhouse	Sushi Restaurant	Sandwich Place	Restaurant	Breakfast Spot	Mexican Restaurant
53	Seattle-Tacoma International Airport	1	Burger Joint	Mexican Restaurant	Seafood Restaurant	Italian Restaurant	Pizza Place	Diner	Mediterranean Restaurant	Chinese Restaurant	Caribbean Restaurant	Salad Place
57	Ted Stevens Anchorage International Airport	1	Seafood Restaurant	Steakhouse	Burger Joint	Sushi Restaurant	Pizza Place	Mexican Restaurant	Vietnamese Restaurant	Restaurant	Breakfast Spot	Mediterranean Restaurant

Cluster 2:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
4	Chicago Midway International Airport	2	Pizza Place	Mexican Restaurant	Breakfast Spot	American Restaurant	Hot Dog Joint	BBQ Joint	Middle Eastern Restaurant	Taco Place	Italian Restaurant	Diner
31	Milwaukee Mitchell International Airport	2	Pizza Place	Mexican Restaurant	American Restaurant	Fast Food Restaurant	Italian Restaurant	Restaurant	Vietnamese Restaurant	Sushi Restaurant	New American Restaurant	Middle Eastern Restaurant
50	San Antonio International Airport	2	Mexican Restaurant	Pizza Place	American Restaurant	Thai Restaurant	Seafood Restaurant	Sushi Restaurant	BBQ Joint	Italian Restaurant	Sandwich Place	Burger Joint

Cluster 3:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
1	Baltimore/Washington International Airport	3	Seafood Restaurant	Sandwich Place	American Restaurant	Fast Food Restaurant	Mexican Restaurant	Pizza Place	Asian Restaurant	Italian Restaurant	Snack Place	Sushi Restaurant
5	Cincinnati/Northern Kentucky International Airport	3	American Restaurant	Mexican Restaurant	Sandwich Place	Pizza Place	Steakhouse	Fast Food Restaurant	Breakfast Spot	Burger Joint	Fried Chicken Joint	Hot Dog Joint
6	Cleveland Hopkins International Airport	3	Mexican Restaurant	Sandwich Place	Burger Joint	Diner	American Restaurant	Pizza Place	Chinese Restaurant	Asian Restaurant	Latin American Restaurant	Seafood Restaurant
8	Dallas/Fort Worth International Airport	3	Mexican Restaurant	Fast Food Restaurant	Sandwich Place	Seafood Restaurant	Pizza Place	Food Truck	BBQ Joint	Breakfast Spot	Steakhouse	Burger Joint
14	George Bush Intercontinental Airport	3	Mexican Restaurant	Sandwich Place	Seafood Restaurant	American Restaurant	Fried Chicken Joint	Chinese Restaurant	Steakhouse	Pizza Place	Food Truck	Cajun / Creole Restaurant
16	Indianapolis International Airport	3	Mexican Restaurant	Fast Food Restaurant	American Restaurant	Breakfast Spot	Thai Restaurant	Burger Joint	Pizza Place	Restaurant	Sandwich Place	Steakhouse
20	John Wayne Airport	3	Fast Food Restaurant	American Restaurant	Italian Restaurant	Steakhouse	Tapas Restaurant	Seafood Restaurant	Sandwich Place	Japanese Restaurant	Mexican Restaurant	Vegetarian / Vegan Restaurant
22	Kansas City International Airport	3	Fast Food Restaurant	Pizza Place	American Restaurant	Mexican Restaurant	Sandwich Place	Sushi Restaurant	Indian Restaurant	Burger Joint	Breakfast Spot	Steakhouse
36	O'Hare International Airport	3	Pizza Place	Sandwich Place	Hot Dog Joint	Mexican Restaurant	Italian Restaurant	Steakhouse	Snack Place	American Restaurant	Fast Food Restaurant	Seafood Restaurant
38	Ontario International Airport	3	Fast Food Restaurant	Mexican Restaurant	Italian Restaurant	Sandwich Place	Sushi Restaurant	Breakfast Spot	Pizza Place	Restaurant	Burger Joint	Steakhouse
54	Southwest Florida International Airport[15]	3	Restaurant	Pizza Place	Fast Food Restaurant	Mexican Restaurant	Italian Restaurant	Steakhouse	American Restaurant	Seafood Restaurant	Breakfast Spot	Southern / Soul Food Restaurant
56	Tampa International Airport	3	American Restaurant	Sandwich Place	Fast Food Restaurant	Mexican Restaurant	Vietnamese Restaurant	New American Restaurant	Seafood Restaurant	Sushi Restaurant	Steakhouse	Cuban Restaurant
58	Washington Dulles International Airport	3	Fast Food Restaurant	American Restaurant	Pizza Place	Mexican Restaurant	Turkish Restaurant	Middle Eastern Restaurant	Korean Restaurant	Kebab Restaurant	Peruvian Restaurant	Japanese Restaurant
59	William P. Hobby Airport	3	Burger Joint	Fast Food Restaurant	Mexican Restaurant	Vietnamese Restaurant	BBQ Joint	Pizza Place	Diner	Cajun / Creole Restaurant	Restaurant	Seafood Restaurant

Cluster 4:

	Airport name	Label	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
2	Bradley International Airport	4	American Restaurant	Italian Restaurant	Sandwich Place	Breakfast Spot	Pizza Place	Asian Restaurant	Diner	Bagel Shop	Wings Joint	Vietnamese Restaurant
10	Denver International Airport	4	American Restaurant	Sandwich Place	Fast Food Restaurant	Pizza Place	Burger Joint	Sushi Restaurant	Steakhouse	Restaurant	Snack Place	Breakfast Spot
11	Detroit Metropolitan Airport	4	Fast Food Restaurant	Sandwich Place	American Restaurant	Italian Restaurant	Pizza Place	Chinese Restaurant	Middle Eastern Restaurant	Steakhouse	Mexican Restaurant	Diner
17	Jacksonville International Airport	4	Sandwich Place	Pizza Place	American Restaurant	Chinese Restaurant	Seafood Restaurant	BBQ Joint	Steakhouse	Breakfast Spot	Fast Food Restaurant	Mexican Restaurant
19	John Glenn Columbus International Airport	4	American Restaurant	Mexican Restaurant	Pizza Place	Italian Restaurant	Mediterranean Restaurant	Sushi Restaurant	Steakhouse	Comfort Food Restaurant	Diner	Mongolian Restaurant
39	Orlando International Airport	4	American Restaurant	Steakhouse	Sandwich Place	Seafood Restaurant	Mexican Restaurant	New American Restaurant	Pizza Place	Tex-Mex Restaurant	Fast Food Restaurant	Burger Joint
40	Palm Beach International Airport	4	American Restaurant	Italian Restaurant	Cuban Restaurant	Diner	Mexican Restaurant	Sandwich Place	Restaurant	Steakhouse	Sushi Restaurant	Pizza Place
43	Pittsburgh International Airport	4	Italian Restaurant	Mexican Restaurant	American Restaurant	Wings Joint	Burger Joint	Pizza Place	BBQ Joint	Restaurant	Bagel Shop	Sushi Restaurant
46	Reno-Tahoe International Airport	4	American Restaurant	Breakfast Spot	Sandwich Place	Fast Food Restaurant	Italian Restaurant	Burger Joint	Sushi Restaurant	Steakhouse	Fried Chicken Joint	Mexican Restaurant
48	Sacramento International Airport	4	American Restaurant	Sushi Restaurant	Sandwich Place	Mexican Restaurant	Thai Restaurant	Chinese Restaurant	New American Restaurant	Burger Joint	Fast Food Restaurant	Pizza Place