

Food Distribution in Downtown Houston, and its Business Implication

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Outline

Introduction, and business problem

Data and Methodology

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Introduction and Business problem

- The city of Houston, Texas is a multicultural hub with a wide variety of international restaurants.
- To support those business throughout the city, the supply chain has to set up efficiently to reduce transportation time.
- In this report, we will compare Japanese and French restaurant location to help client to make decision where to set up local supply centers to meet demands from different cuisine.

Data and Methodology

Data

Following data will be used for the analysis.

- Foursquare location data to find out existing restaurants in downtown Houston area.
- Geopy to find out longitude/ latitude of Houston, TX

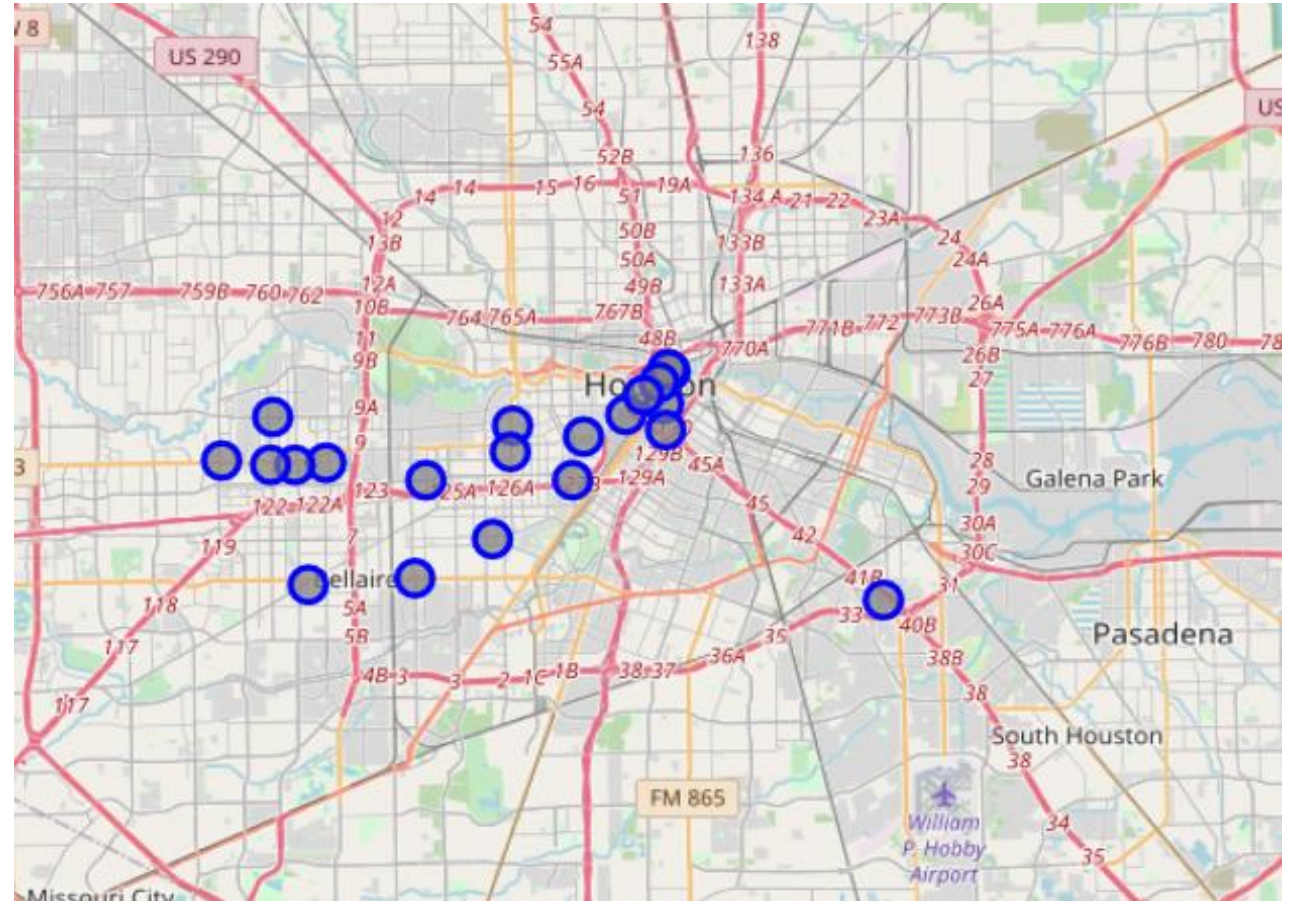
Methodology

- The FourSquare API was used to retrieve the location of each cuisine around downtown Houston, TX area
- The restaurants were then plotted on a folium map and colour-coded depending on their cuisine.
- KMean is used to cluster restaurants

Japanese Restaurant distribution

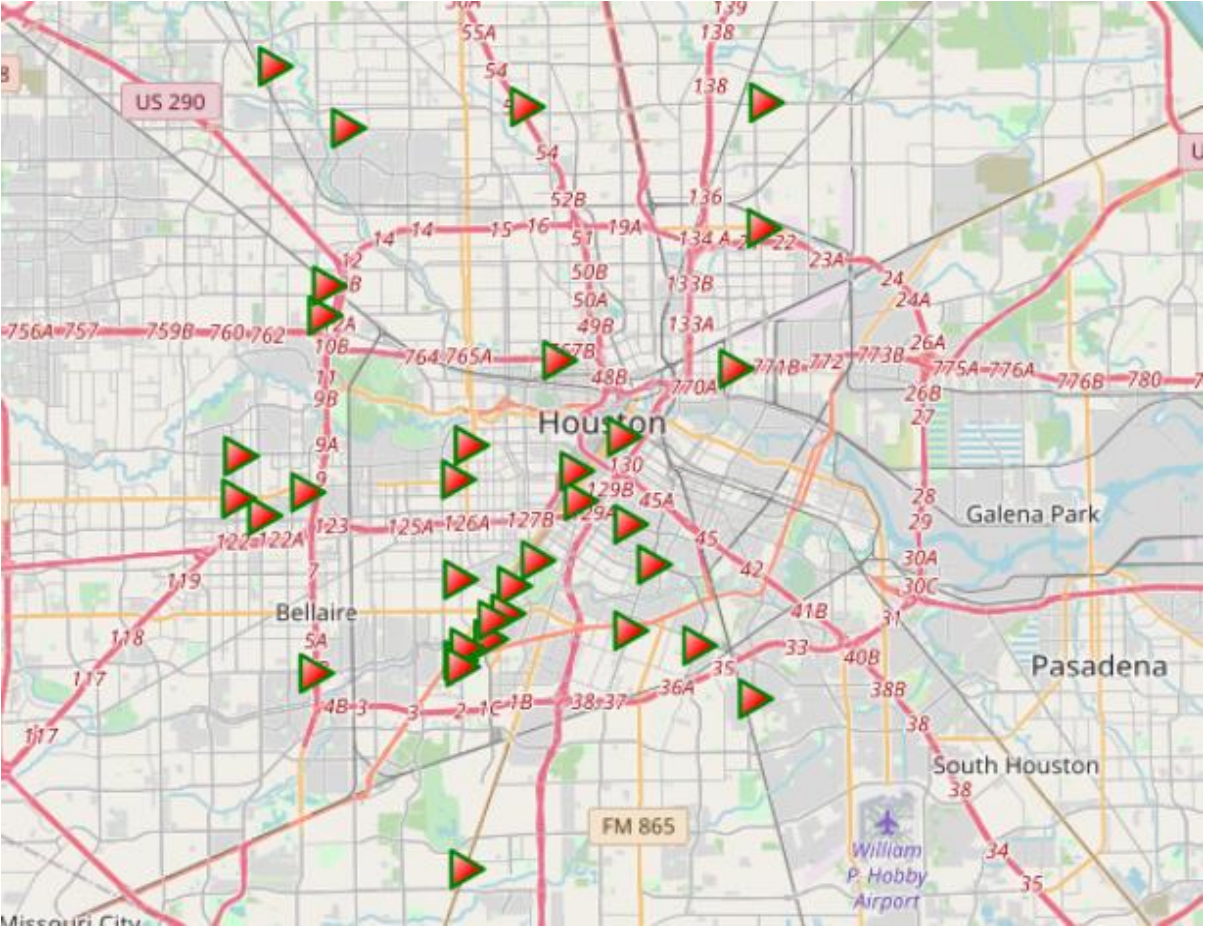
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0	52b17a3b498eeab2c01eb03d	Gyu-Kaku Japanese BBQ	[[{"id": "4bf58dd8d48988d1d931735", "name": "B..."}]]	1614054456	v-	False	510 Gray St Ste A	29.750747 -95.375275	[[{"label": "display", "lat": 29.75074688956035...
1	4f32a79019836c91c7ecd3e5	Wasabi Japanese Restaurant	[[{"id": "4d4b7105d754a06374d81259", "name": "F..."}]]	1614054456	v-	False	908 Congress St	29.762432 -95.361374	[[{"label": "display", "lat": 29.76243209838867...
2	4bb650d02ea19521197bab2f	Olshii Japanese Restaurant & Sushi Bar	[[{"id": "4bf58dd8d48988d1d2941735", "name": "S..."}]]	1614054456	v-	False	3764 Richmond Ave	29.732796 -95.436760	[[{"label": "display", "lat": 29.73279566286011...
3	4f44a55e19836ed00195857a	Daiji's Japanese Tapas Bar	[[{"id": "4d4b7105d754a06374d81259", "name": "F..."}]]	1614054456	v-	False	1201 Caroline St	29.753565 -95.363438	[[{"label": "display", "lat": 29.75356500000000...
4	5b819553464d65002c8ddfd7	Sapporo Japanese Bistro & Sushi Bar	[[{"id": "4bf58dd8d48988d1d2941735", "name": "S..."}]]	1614054456	v-	False	801 Congress St	29.763384 -95.362053	[[{"label": "display", "lat": 29.76338386535644...

5 rows x 23 columns

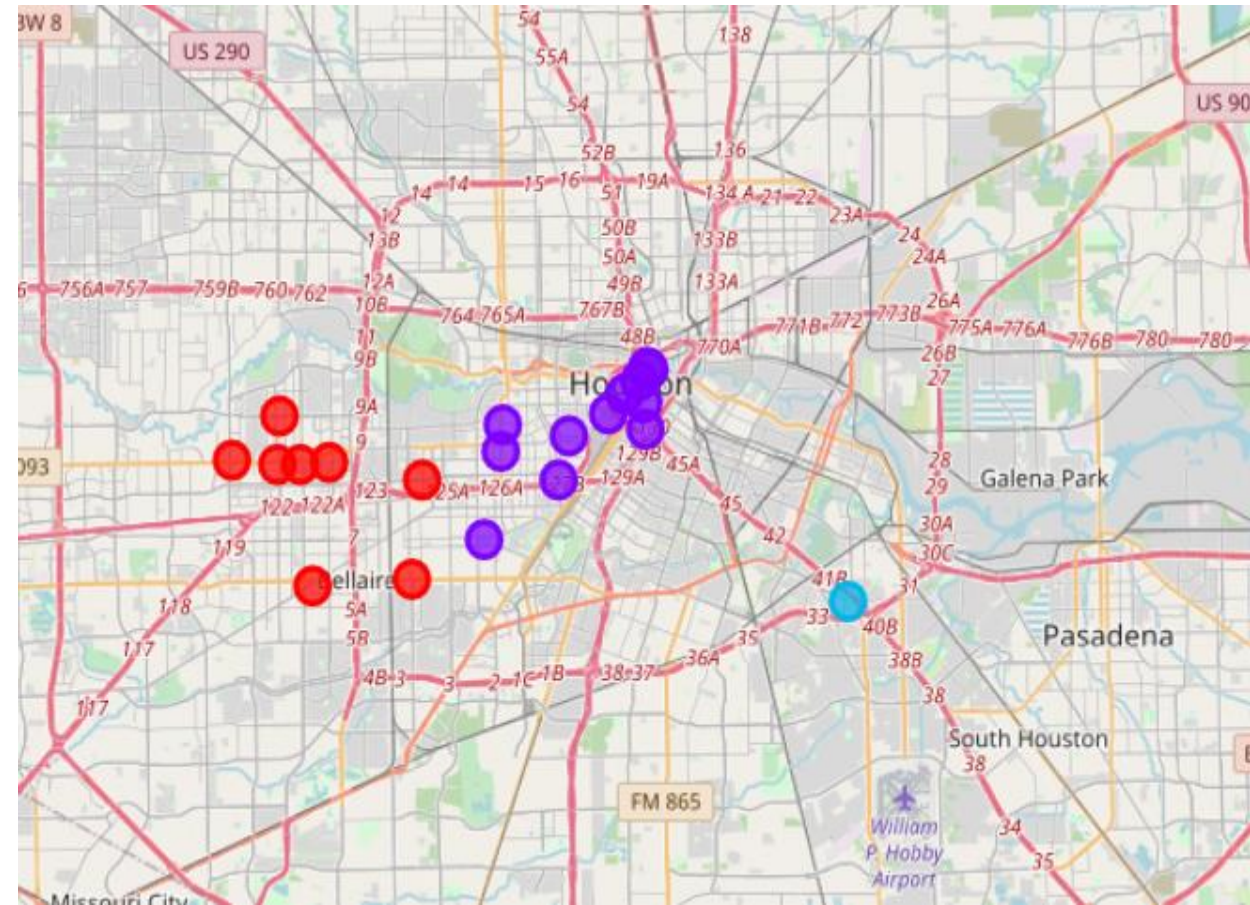
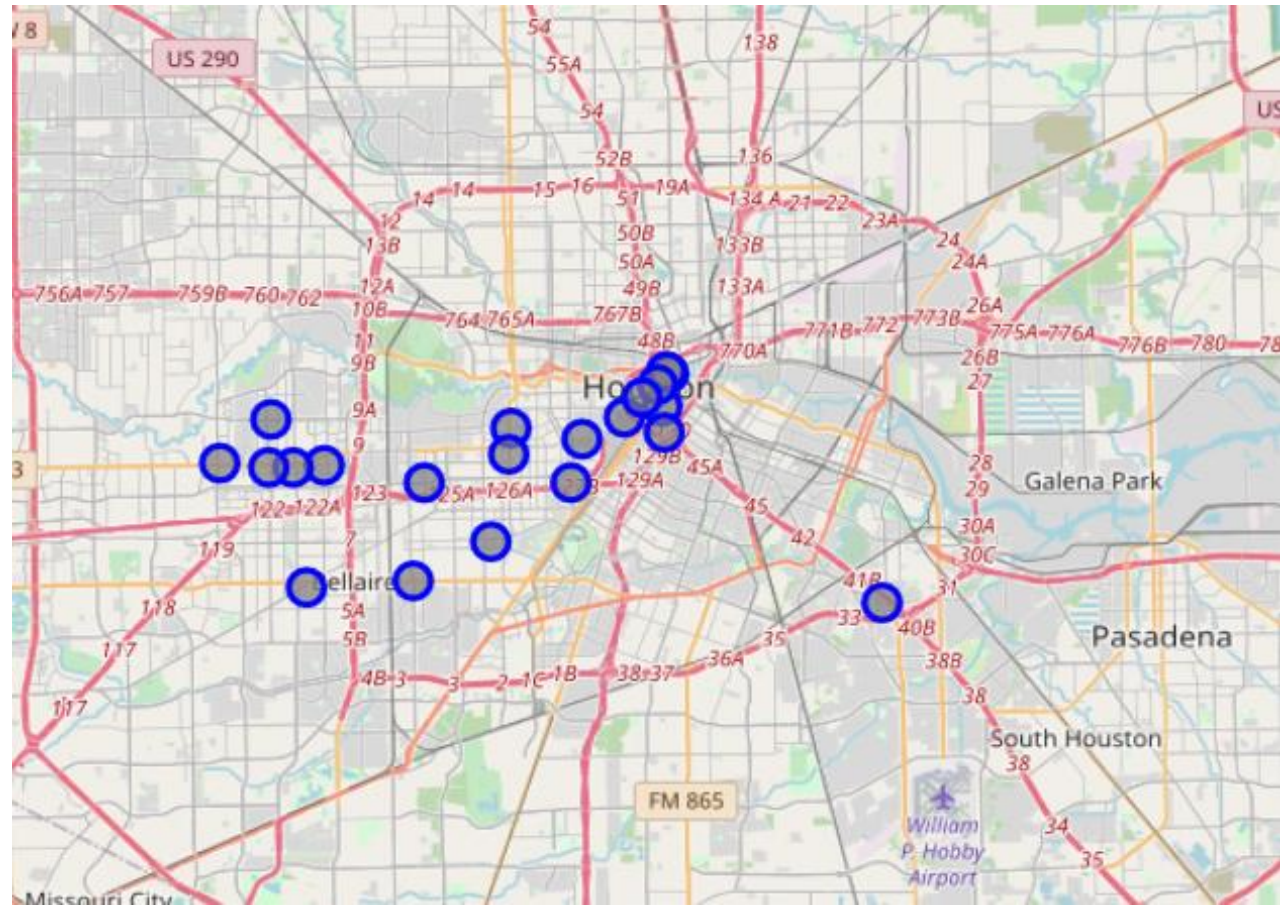


French Restaurant distribution

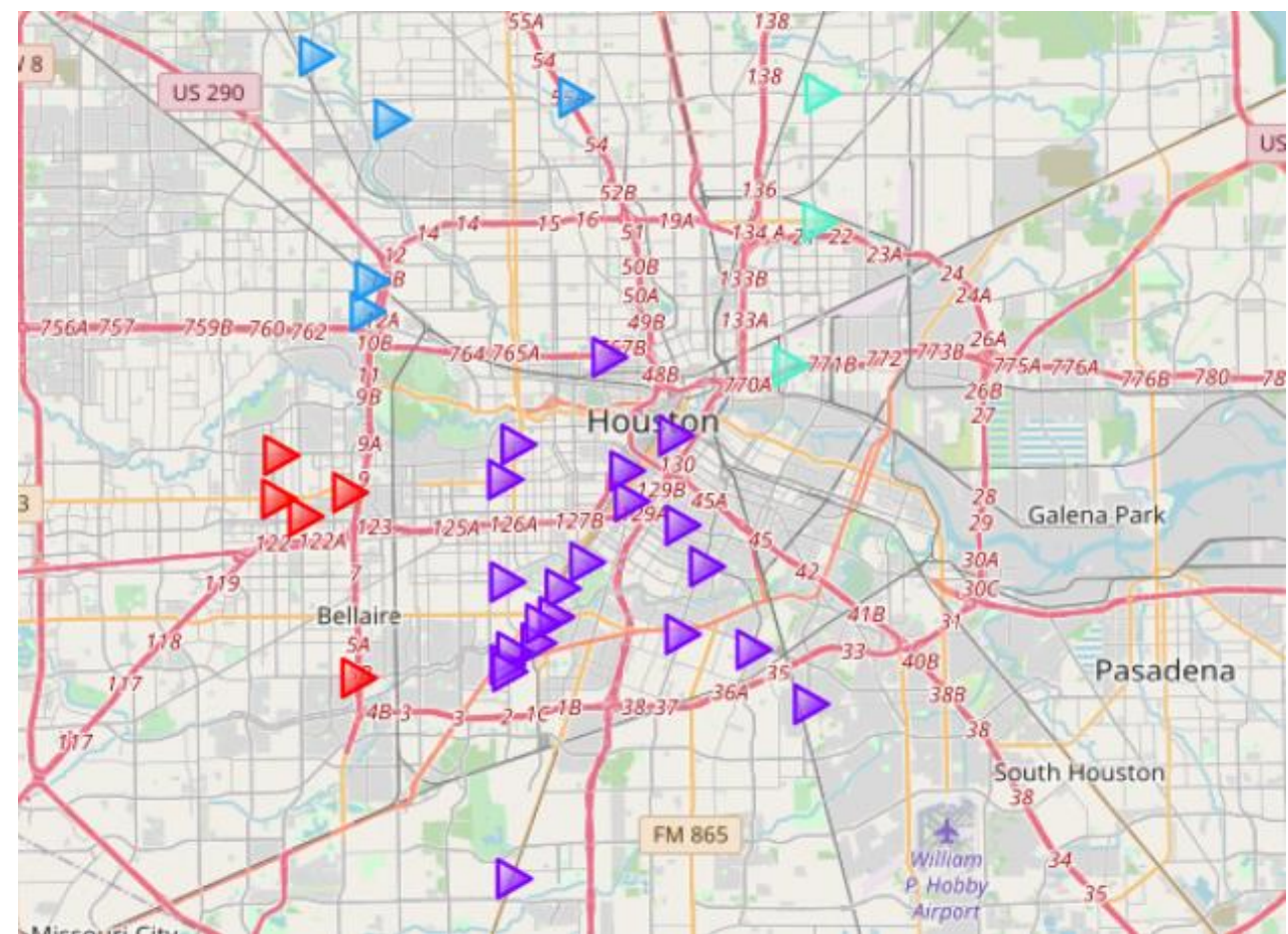
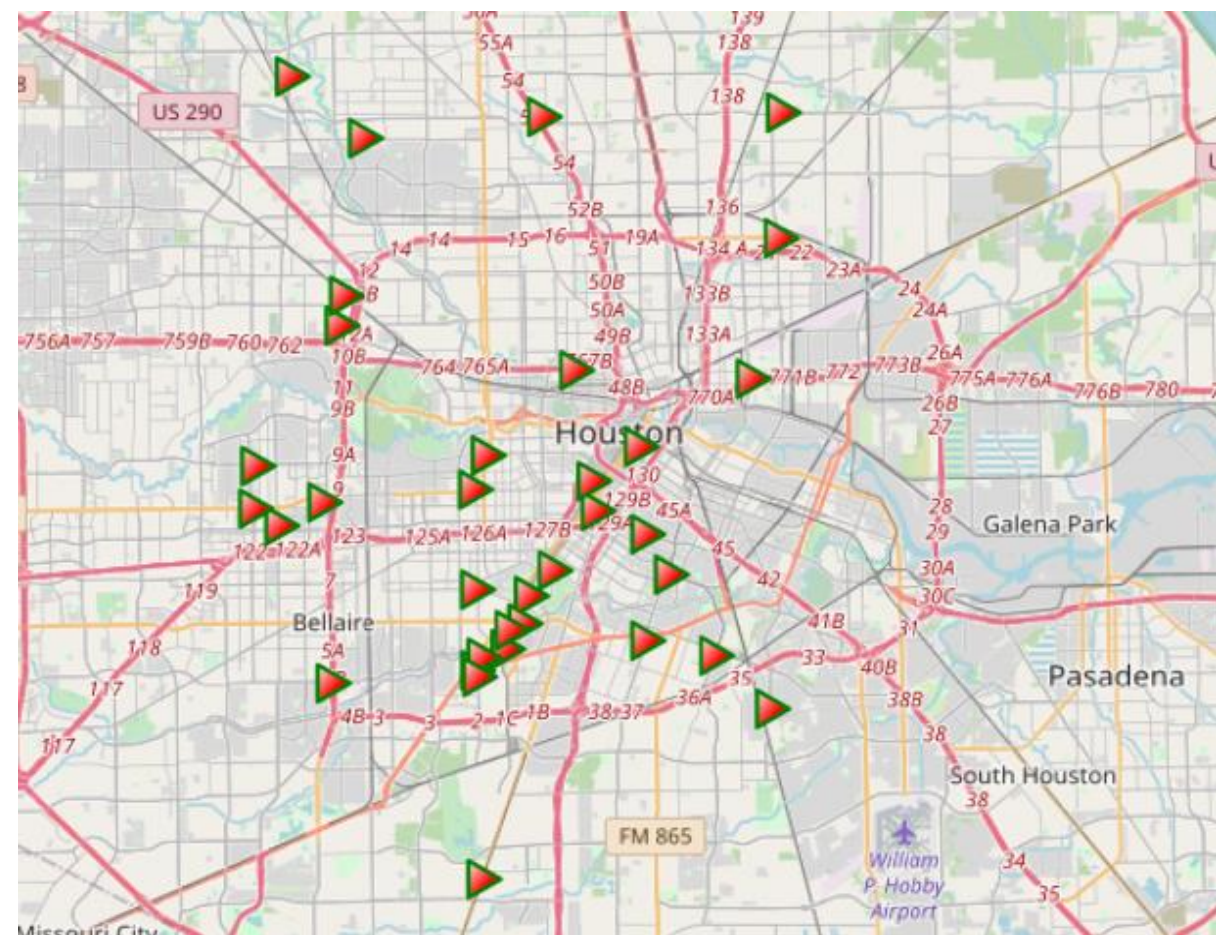
	id	name	categories	referralId	hasPerk	location.address	location.crossStreet	location.lat	location.lng	loc
0	53b19449498e6360c185c939	la Madeleine French Bakery & Café Sawyer Heights	[[{"id": "4bf58dd8d48988d10c941735", "name": "F..."}]]	1614054427	v-False	2423 Katy Fwy Ste E	Taylor	29.776412	-95.382407	
1	4d482971f046a1cd21e20ef6	The French Corner-Catering	[[{"id": "4bf58dd8d48988d1e0931735", "name": "C..."}]]	1614054427	v-False	1001 Fannin St	NaN	29.754899	-95.361724	
2	4b108f0df964a520d27223e3	la Madeleine French Bakery & Café River Oaks	[[{"id": "4bf58dd8d48988d10c941735", "name": "F..."}]]	1614054427	v-False	2047 W Gray St Ste A	at Shepherd	29.752343	-95.410441	
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4	4b084369f964a520a60723e3	French Riviera Bakery & Cafe	[[{"id": "4bf58dd8d48988d16d941735", "name": "C..."}]]	1614054427	v-False	3100 Chimney Rock Rd	NaN	29.732631	-95.476584	



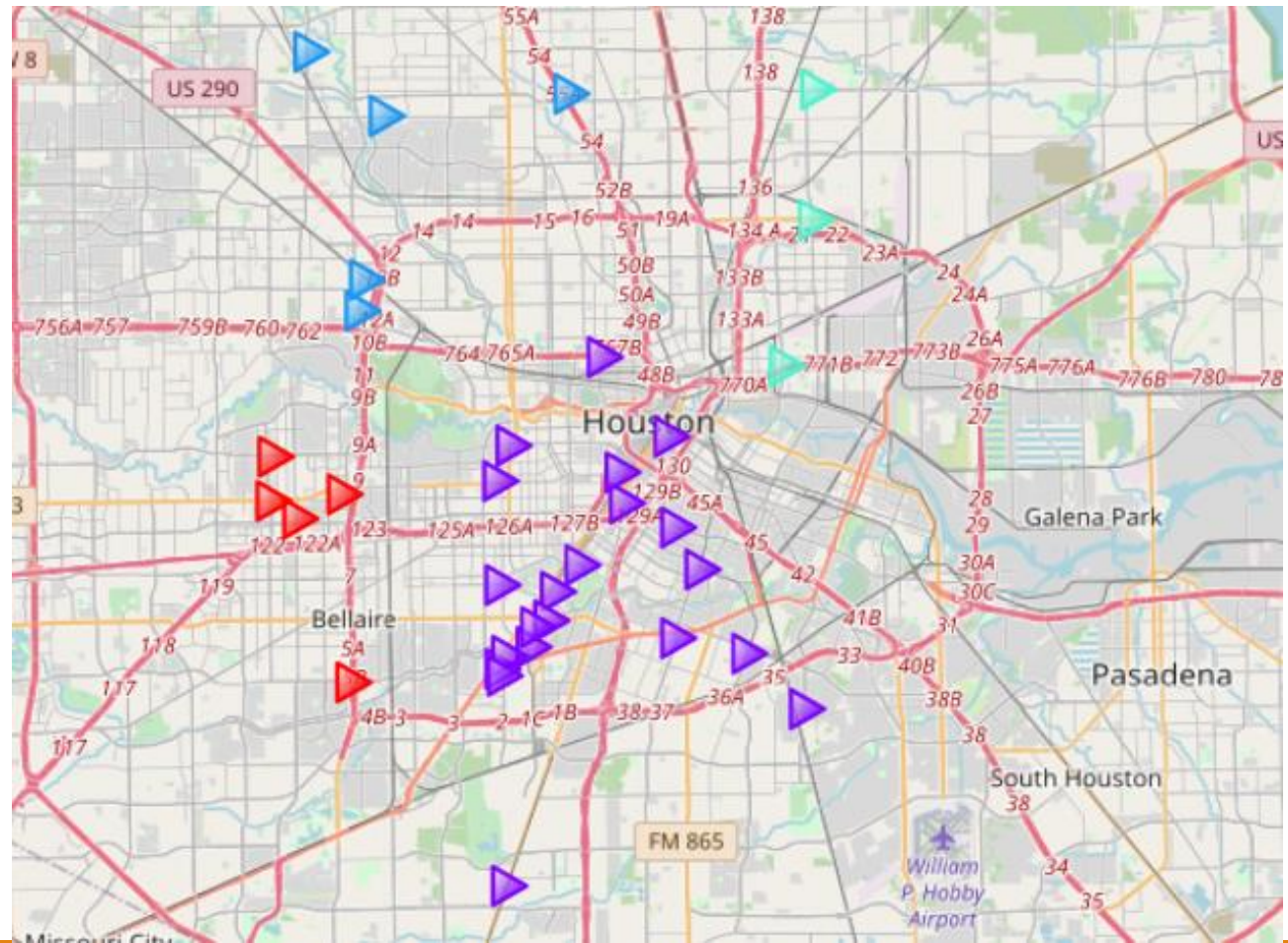
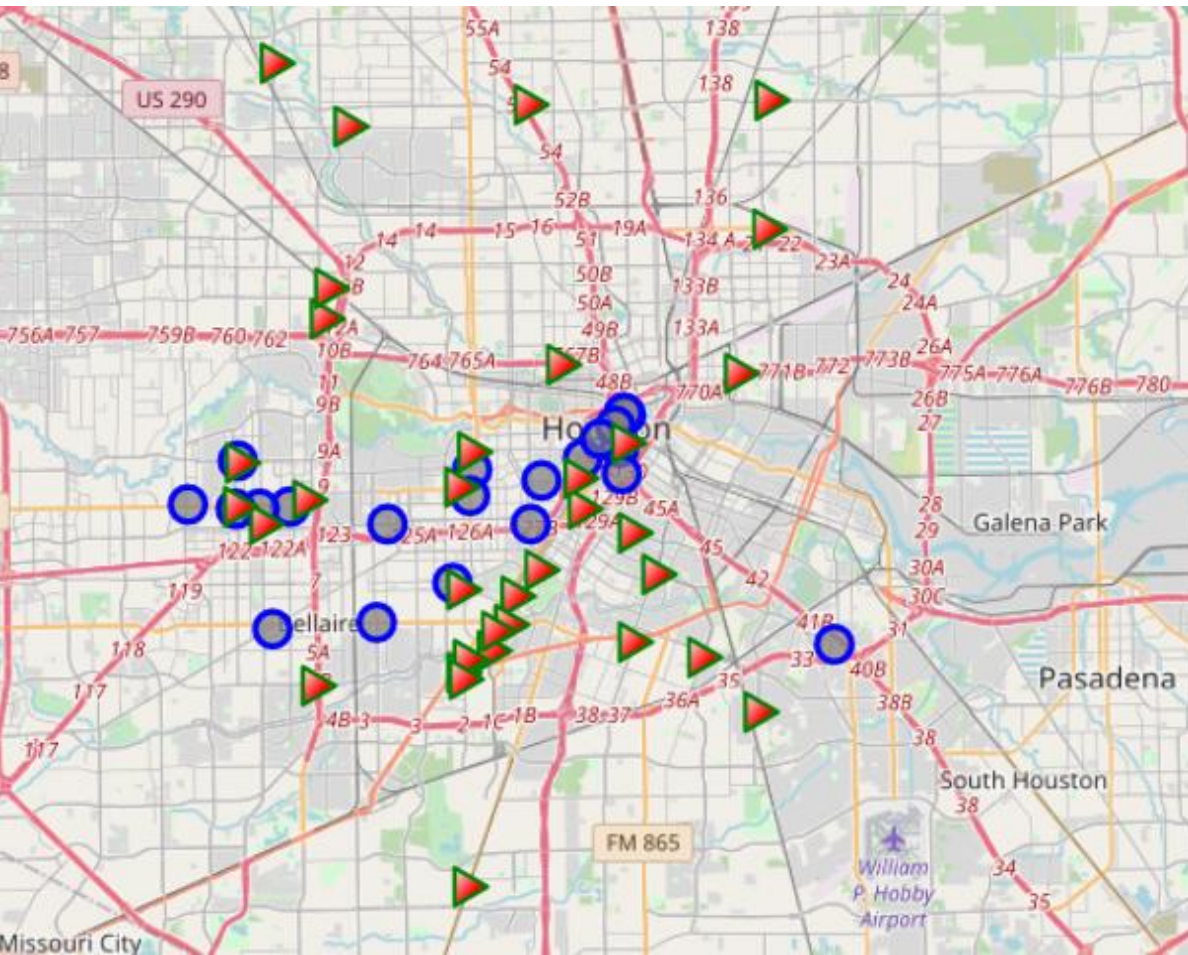
Japanese Restaurant Clustering



French Restaurant Clustering



Both Restaurant together



Discussion and conclusion

From distribution, we can see that Japanese restaurant is more concentrated at center and west, while French restaurant is more spread out, especially at north and south area there are quite some French restaurant.

For future supply chain location selection. We recommend that at center area, French and Japanese can share supply center. while at North and south area, a dedicate center is needed for French restaurant only.