



THE BEST LOCATIONS TO OPEN A SPORTS BAR/PUB USING UK FOOTBALL STADIUMS DATA

PREDICTING BEST LOCATIONS TO OPEN A SPORTS BAR/PUB

- **Aim:** to predict the best locations to open a new sports bar/pub within close proximity to a football stadium in the UK.
- **Stakeholders:** the data is of interest to owners of existing sports bar/pub chains who are looking to expand.
- **Hypothesis:** football stadiums with the highest capacity (most potential customers) and lowest number of existing pubs/bars (least competition) are likely to provide the best locations for a new venue.

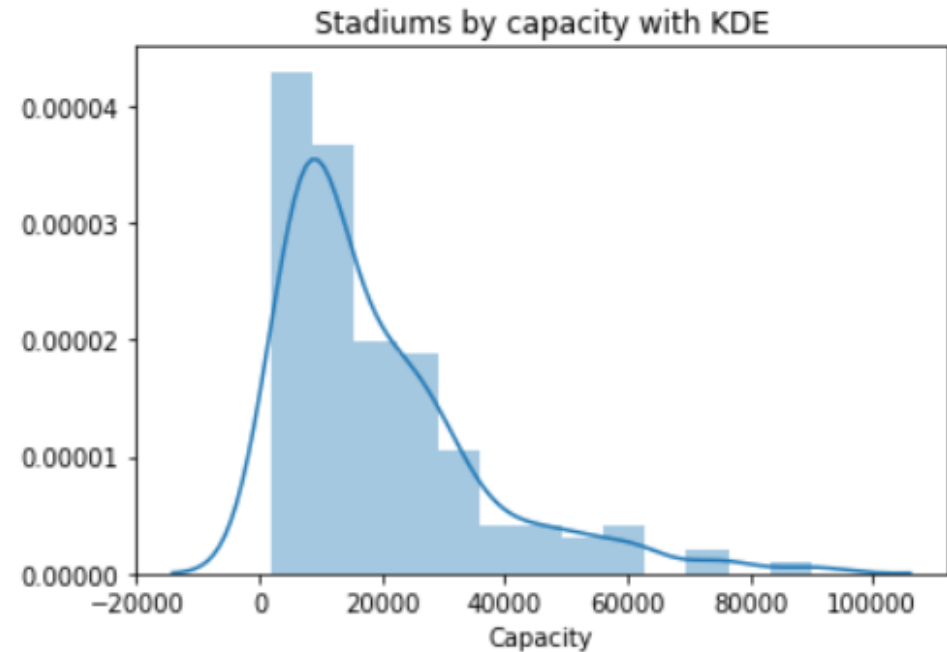
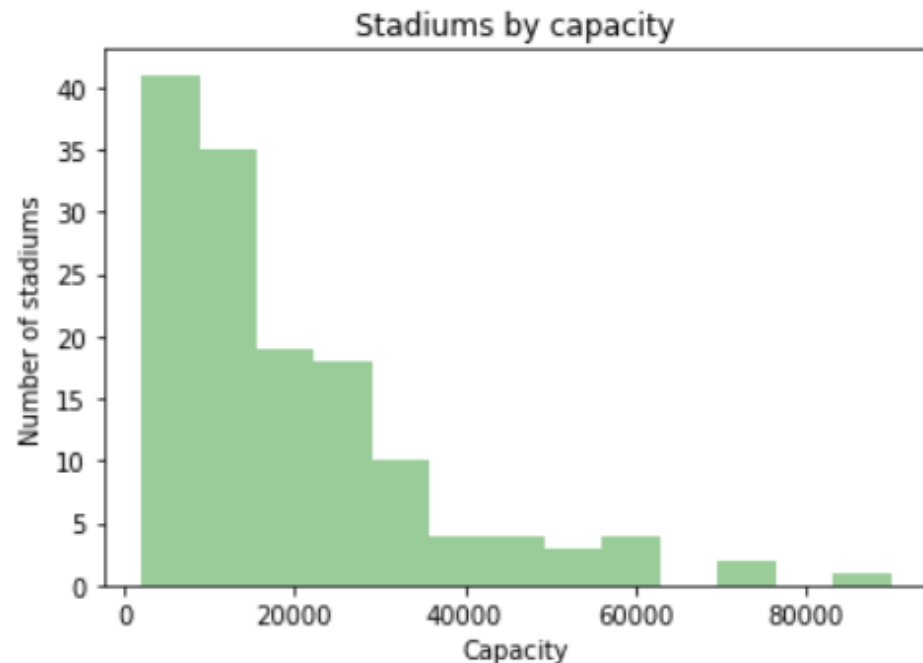
DATA ACQUISITION AND CLEANING

- Data obtained from <https://www.doogal.co.uk/FootballStadiums.php>
- Data contains stadium name, football club, maximum capacity, longitude and latitude coordinates for all top 5 English leagues and top 4 Scottish leagues.
- Data contains 141 stadiums.

	Stadium_name	Team_name	Capacity	Latitude	Longitude
0	Abbey Stadium	Cambridge United	10847	52.212799	0.154298
1	Adams Park	Wycombe Wanderers	10284	51.630600	-0.800299
2	Alexandra Stadium	Crewe Alexandra	10153	53.087502	-2.435690
3	Almondvale Stadium	Livingston	10122	55.886398	-3.522070
4	Amex Stadium	Brighton and Hove Albion	22374	50.860901	-0.080140
5	Anfield	Liverpool	45522	53.430801	-2.960960
6	Ashton Gate	Bristol City	21497	51.439999	-2.620210
7	B2net Stadium	Chesterfield	10400	53.253502	-1.427200
8	Balmoor	Peterhead	4000	57.511200	-1.795990
9	Bayview Stadium	East Fife	2000	56.188900	-2.999140

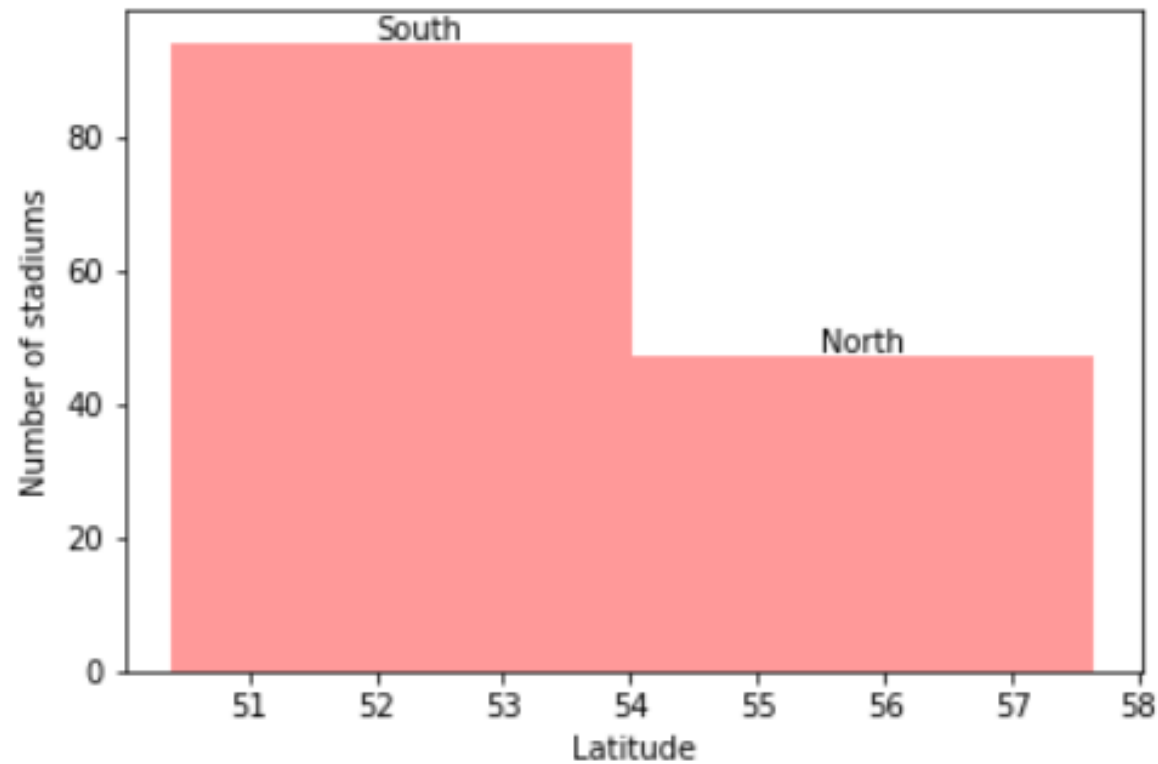
STADIUM CAPACITY

- A large number of stadiums have a capacity of 20000 or less.
- Small number of stadiums with very large capacities.

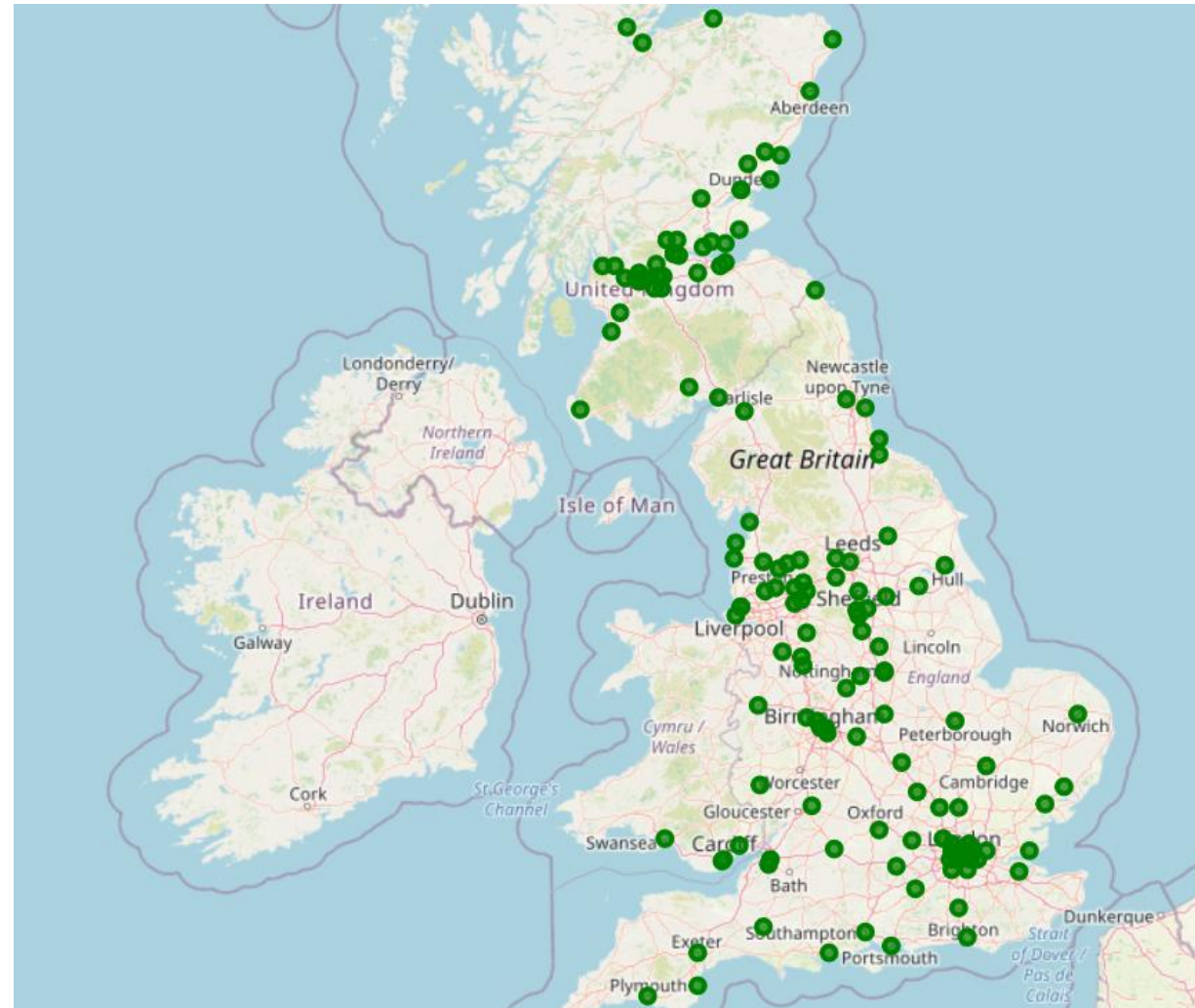


STADIUM NORTH/SOUTH DIVIDE

- More stadiums located in the south of the UK.

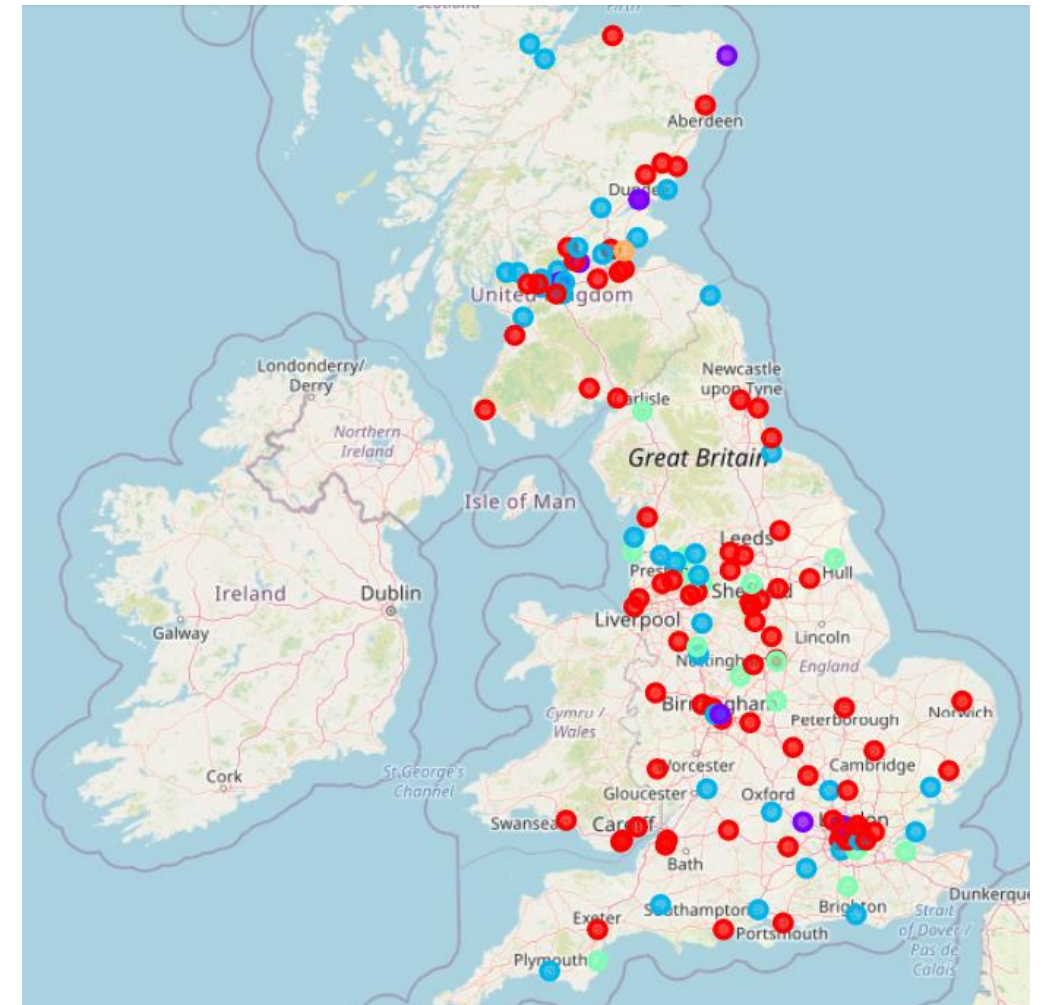


LOCATIONS OF STADIUMS ON UK MAP



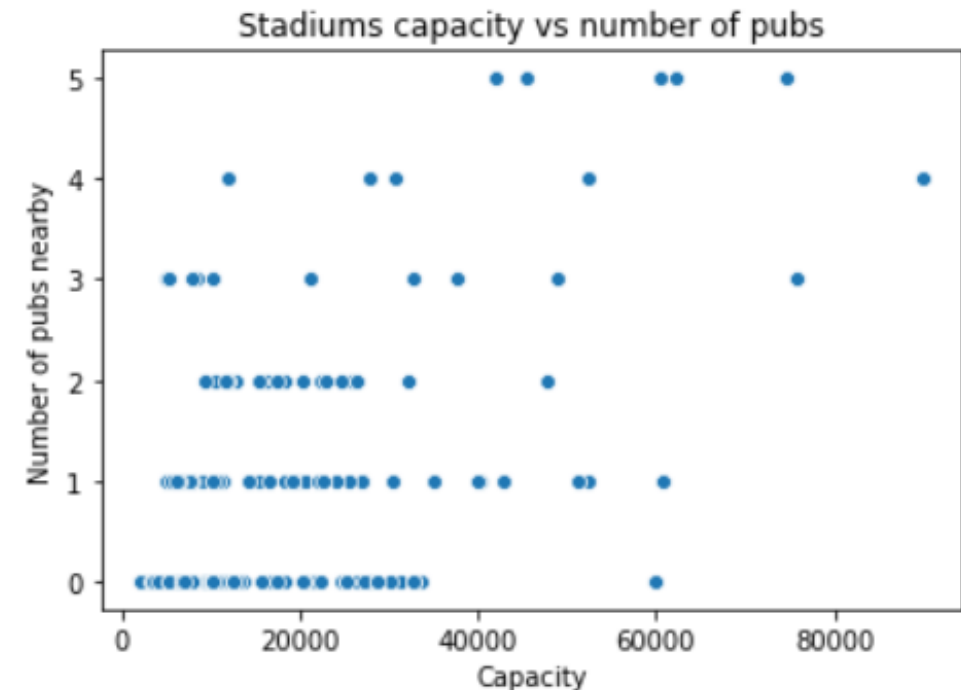
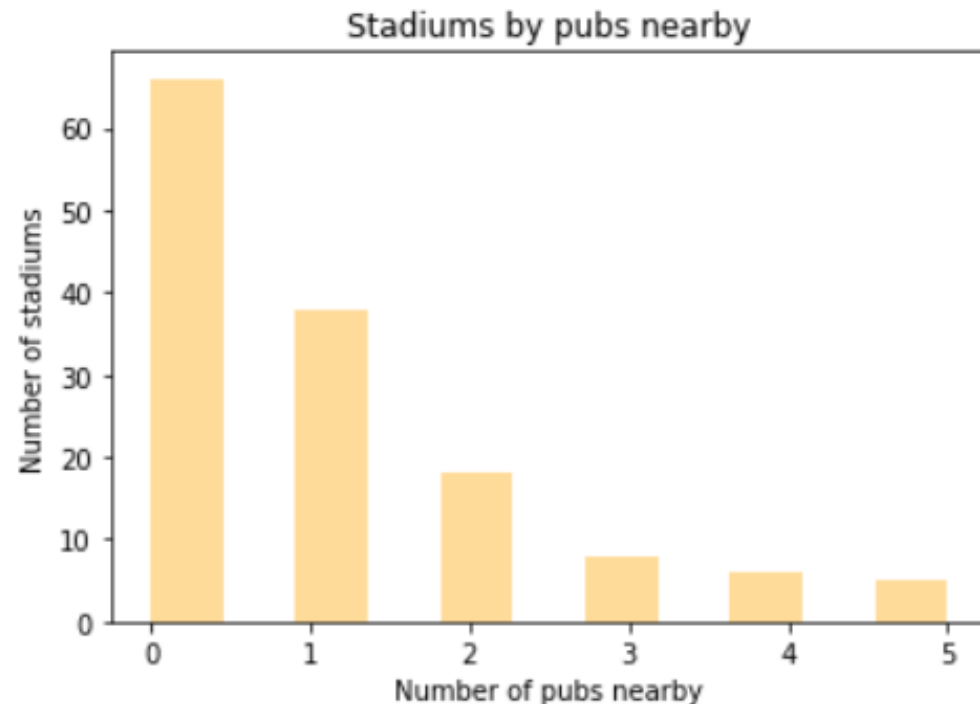
SPLITTING OF STADIUM INTO CLUSTERS

- Foursquare used to obtain information of nearby venues close to stadiums.
- K-means clustering used to split the stadiums into 5 clusters with similar surrounding venues.



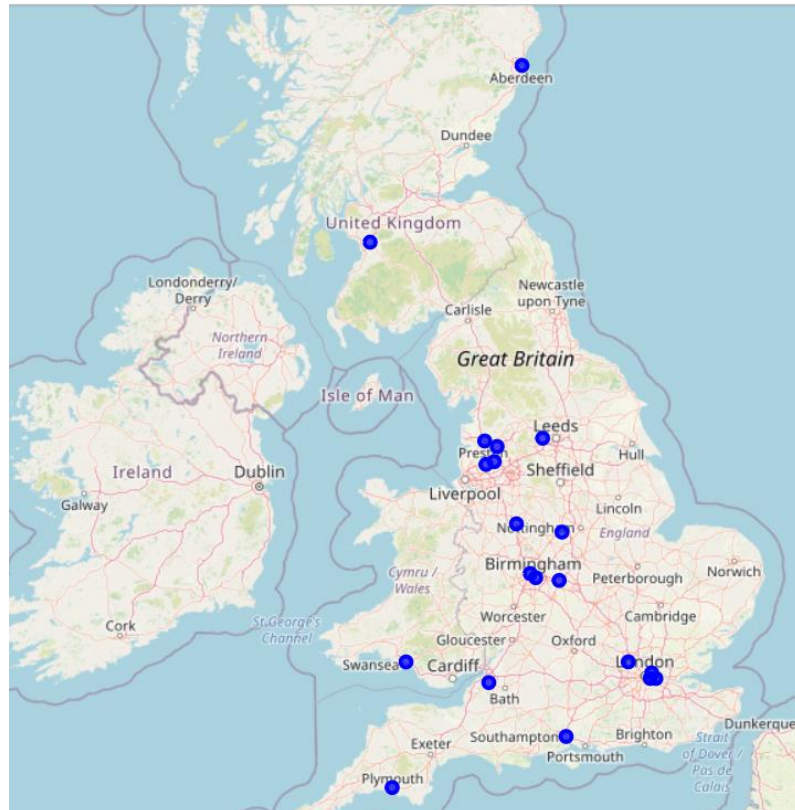
USE OF FOURSQUARE TO DETERMINE NUMBER OF PUBS (& BARS) NEAR EACH STADIUM

- Many stadiums have no pubs within 500 meters.
- So significant correlation between stadium size and number of pubs nearby.



BEST STADIUMS TO OPEN A NEW VENUE

- 20 stadiums with the largest capacities and no existing pubs/bars nearby were identified.



	Stadium_name	Team_name	Capacity	Latitude	Longitude	Number of pubs nearby
0	Olympic Stadium	West Ham	60000	51.538300	-0.016587	0
1	Pride Park	Derby County	33597	52.914902	-1.447270	0
2	St Mary's Stadium	Southampton	32689	50.905800	-1.391140	0
3	Ricoh Arena	Coventry City	32609	52.448101	-1.495630	0
4	Ewood Park	Blackburn Rovers	31154	53.728600	-2.489370	0
5	St Andrews	Birmingham City	30009	52.475601	-1.868240	0
6	University of Bolton Stadium	Bolton Wanderers	28723	53.580502	-2.535710	0
7	Britannia Stadium	Stoke City	27902	52.988400	-2.175420	0
8	The Valley	Charlton Athletic	27111	51.486500	0.036757	0
9	The Hawthorns	West Bromwich Albion	26272	52.508999	-1.964180	0
10	DW Stadium	Wigan Athletic	25138	53.547699	-2.654150	0
11	Valley Parade	Bradford City	25136	53.804199	-1.759020	0
12	Deepdale	Preston North End	24500	53.771999	-2.688320	0
13	Pittodrie	Aberdeen	22199	57.159302	-2.088720	0
14	Ashton Gate	Bristol City	21497	51.439999	-2.620210	0
15	Liberty Stadium	Swansea City	20532	51.642799	-3.934730	0
16	The Den	Millwall	20146	51.485901	-0.050743	0
17	Rugby Park	Kilmarnock	18128	55.604599	-4.508460	0
18	Vicarage Road	Watford	17477	51.649799	-0.401569	0
19	Home Park	Plymouth Argyle	16388	50.388199	-4.150760	0

CONCLUSIONS

- The best locations to open a new sports bar/pub within close proximity to football stadiums in the UK were identified based on stadium capacity (potential customers) and existing pubs/bars (potential competition).
- 20 stadiums with the largest capacities and no existing pubs/bars nearby were identified.
- K-means clustering was also used to identify stadiums with similar nearby venues, splitting them into 5 clusters.
- **Model criticism:** Current results are based on venues within a 500 meter radius. The model can be expanded to gain a better understanding of the local area close to each stadium and improve the data set. Temporary 'popup' venues such as food trucks which open on football matchdays only do not usually appear in Foursquare data, however they will lead to additional competition.