

Business Location Analysis Report

Geospatial Clustering & Location Recommendation for Cafe in delhi

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Analysis Area: 5.0 km radius from city center

Business Type: Cafe

City: delhi

Executive Summary

This report presents a comprehensive geospatial analysis for identifying optimal locations to establish a new **cafe** business in **delhi**. The analysis covers a 5.0 km radius from the city center and utilizes data from OpenStreetMap to evaluate potential sites based on multiple factors including demand, competition, accessibility, and infrastructure.

Key Findings

- **1149** Points of Interest analyzed
- **9** distinct business clusters identified
- **3** high-density hotspot areas detected
- **88** existing competitors found
- **147** candidate locations evaluated
- Top location score: **0.807**

Methodology

The analysis employs a multi-factor scoring model that evaluates each candidate location based on four key dimensions:

Scoring Weights

Factor	Weight	Description
Demand	36%	Based on supporting POIs and foot traffic indicators
Competition	27%	Inverse of competitor density (lower = better)
Accessibility	18%	Transport links and road connectivity
Infrastructure	18%	Nearby essential services (banks, hospitals, schools)

Algorithms Used

DBSCAN Clustering: Density-Based Spatial Clustering with haversine distance metric for identifying natural groupings of POIs.

Kernel Density Estimation: For creating smooth heatmaps of POI distribution and competition density.

K-D Tree Spatial Indexing: For efficient nearest-neighbor queries when computing proximity scores.

Analysis Results

Cluster Analysis

The spatial clustering analysis identified **9** distinct clusters of Points of Interest within the search area. **174** POIs were classified as noise (isolated points not belonging to any cluster).

Top Clusters by Size

Cluster ID	POI Count	Avg Radius (km)	Density
0	700	1.39	503.0
2	119	0.93	127.9
1	65	0.40	160.6
3	21	0.34	61.3
5	21	0.14	151.5

Hotspot Areas

3 high-density hotspot areas were identified. These areas show significant concentration of business activity and may represent both opportunities (high foot traffic) and challenges (intense competition).

Recommended Locations

Based on the multi-factor analysis, the following locations are recommended for establishing a new **cafe** business. Locations are ranked by their composite score, with higher scores indicating more favorable conditions.

Top 10 Recommended Locations

Rank	Latitude	Longitude	Final Score	Demand	Competition	Access.	Infra.
1	19.0614	72.8352	0.814	1.00	0.65	0.50	1.00
2	19.0550	72.8352	0.797	0.78	0.85	0.83	0.72
3	19.0550	72.8284	0.755	0.81	0.45	1.00	0.85
4	19.0679	72.8352	0.641	0.85	0.75	0.00	0.69
5	19.0614	72.8284	0.612	1.00	0.05	0.33	0.96
6	19.0614	72.8420	0.611	0.50	1.00	0.33	0.53
7	19.0550	72.8420	0.540	0.30	1.00	0.50	0.38
8	19.0679	72.8284	0.522	0.65	0.65	0.00	0.60
9	19.0679	72.8420	0.498	0.37	1.00	0.17	0.33
10	19.0743	72.8284	0.496	0.41	0.85	0.33	0.31

Top 3 Location Details

#1 - Gold Location

Coordinates: (19.06143, 72.83516)

This location scores highest in demand, with a final composite score of **0.814**.

#2 - Silver Location

Coordinates: (19.05500, 72.83516)

This location scores highest in multiple factors, with a final composite score of **0.797**.

#3 - Bronze Location

Coordinates: (19.05500, 72.82836)

This location scores highest in multiple factors, with a final composite score of **0.755**.

Conclusion

This geospatial analysis has identified multiple viable locations for establishing a **cafe** business in **delhi**. The top recommended location achieves a score of **0.814**, with the top 10 locations averaging **0.629**.

Key recommendations:

- Consider the top 3 locations for detailed site visits
- Evaluate local real estate availability and costs at recommended coordinates
- Conduct on-ground competitor analysis to validate the competition scores

- Assess foot traffic patterns at different times of day
- Consider seasonal variations in business activity

Note: This analysis is based on OpenStreetMap data and algorithmic scoring. Actual business viability depends on many factors not captured in this model, including local regulations, real estate costs, and market conditions. Professional consultation is recommended before making investment decisions.