For apartment building development project

LOCATION RECOMMENDATION

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BACKGROUNDS

› This project is commissioned by an overseas real estate developer is looking to take advantage of the current housing shortage problem in London as an opportunity to enter the UK real estate market

› The locational scope of this project should be expanded to the Greater London area given potential affordability constraint in Central London

› The developer's plan is to build 2-4 bedroom apartments

› Key strategy / consideration: locations with close proximity to schools that are likely to be favoured by young families with kids

DATA ACQUISITION

> **Postal areas and its corresponding postcodes in Greater London**

> **Latitudes and Longitudes of all postal areas fetched**

> **All school venues in the specified postal areas. This also includes additional details about these venues, e.g. venue categories, geo coordinates, etc.**

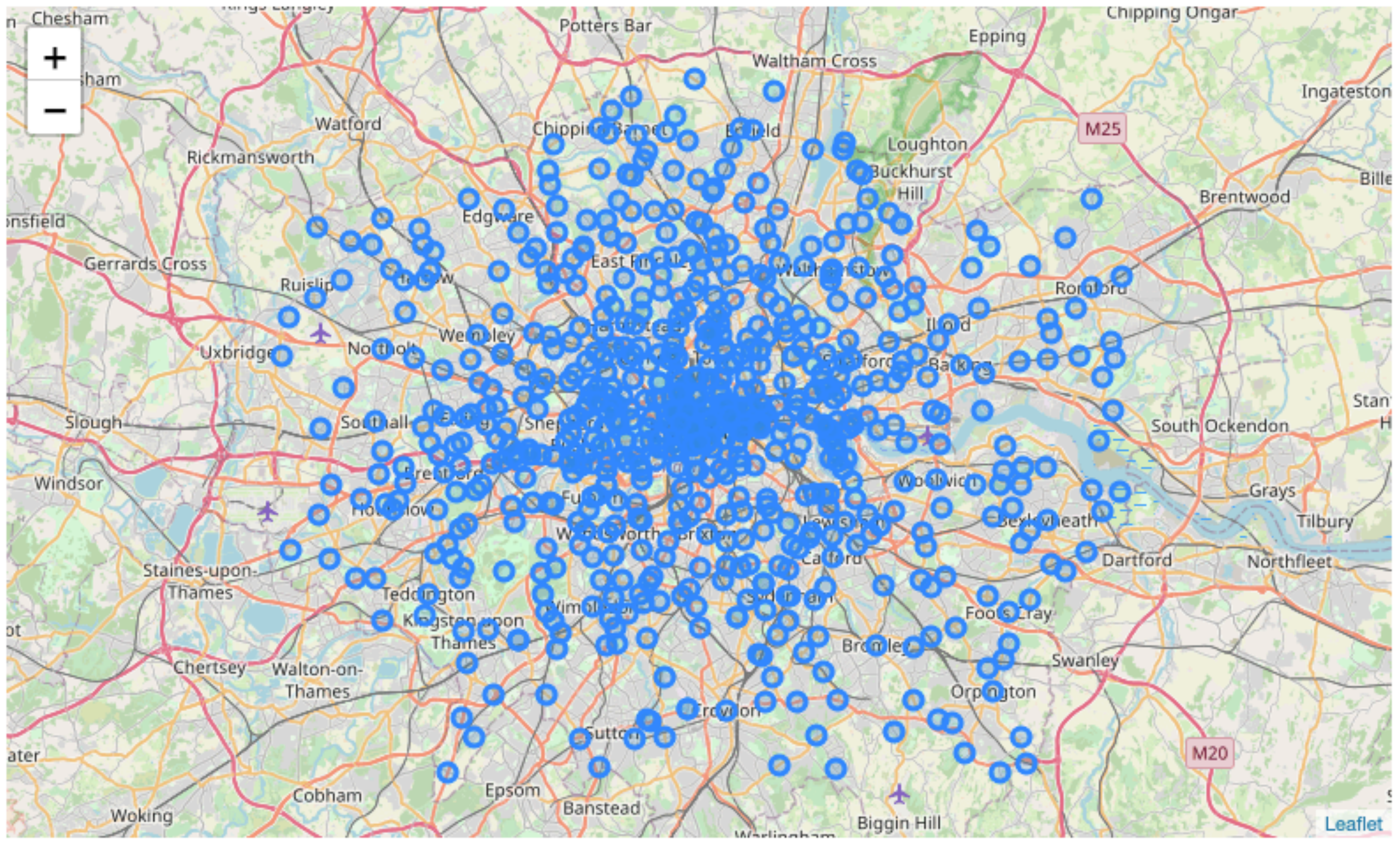Source: www.worldpostalcode.com

Source: Geopy library

Source: Foursquare API

DATA CLEANING - REMOVE LOCATION OUTLIERS
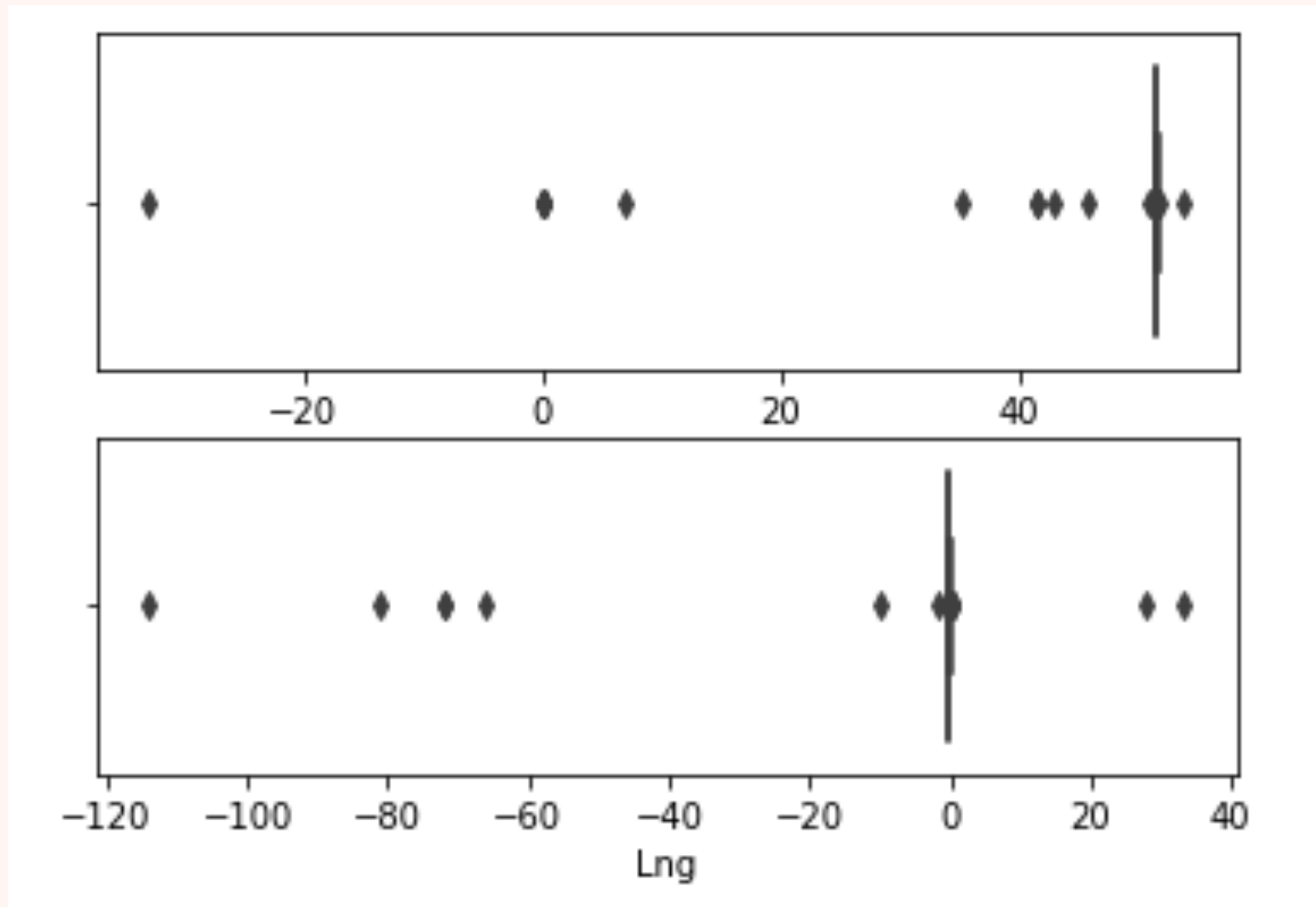
> 40 outlier locations are removed

> This could either be errors from worldpostalcode.com or the Geopy library

> However given the size of Greater London, these outliers have simply been removed without further investigation (680 areas fetched after the removal of outliers)

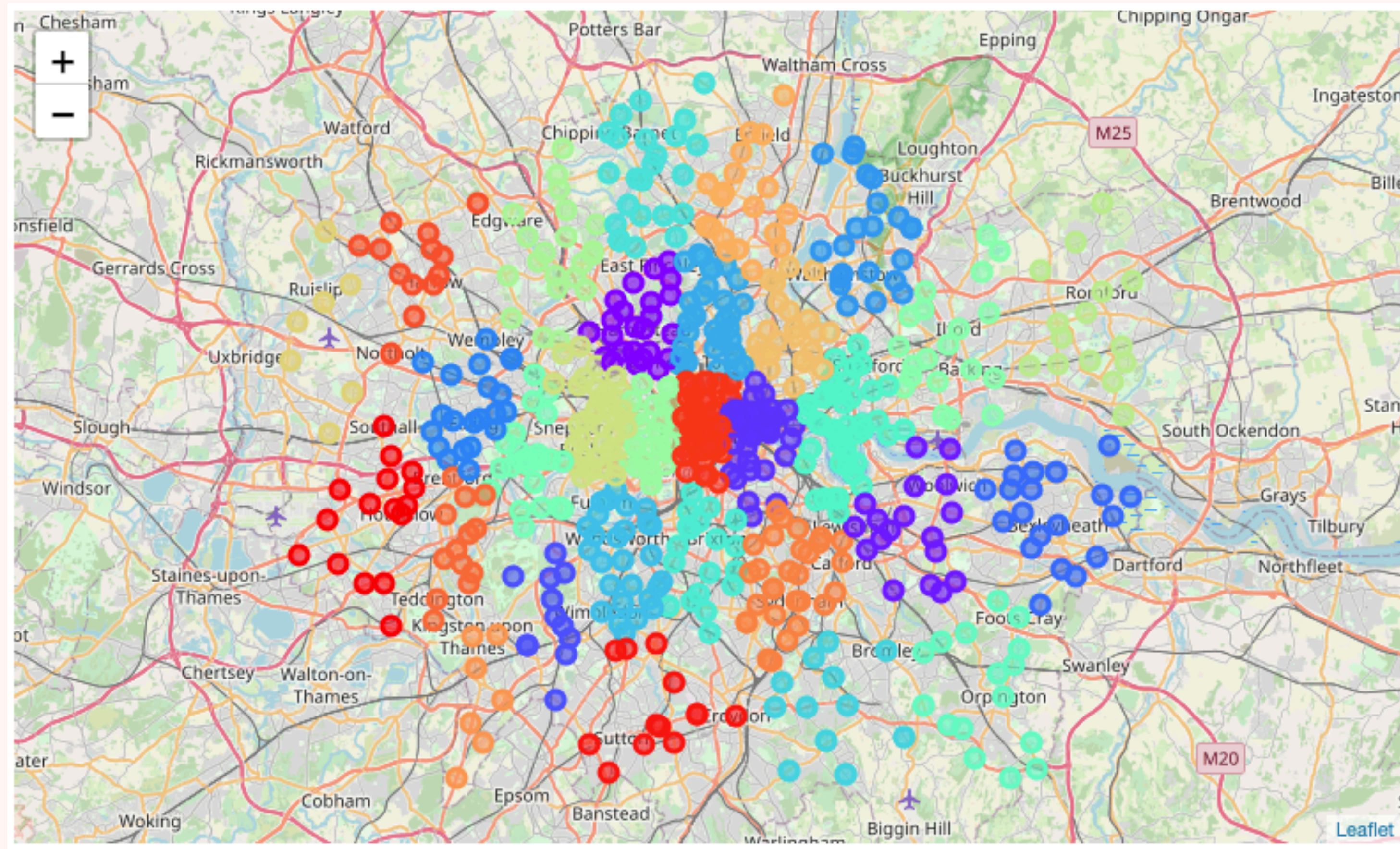# MAPPING ALL POSTAL AREAS IN LONDON
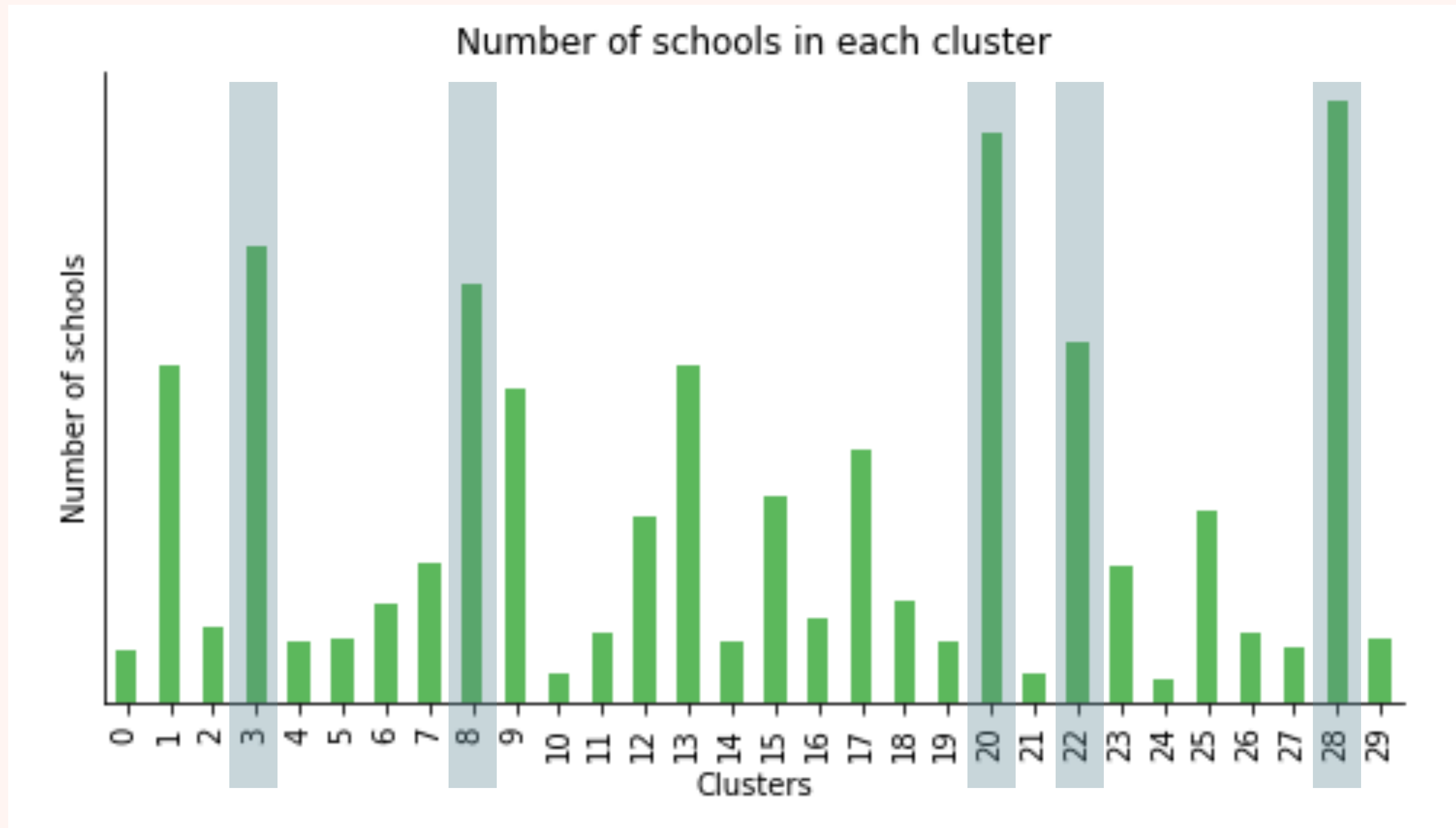
K-MEANS CLUSTER - FIND THE OPTIMAL K
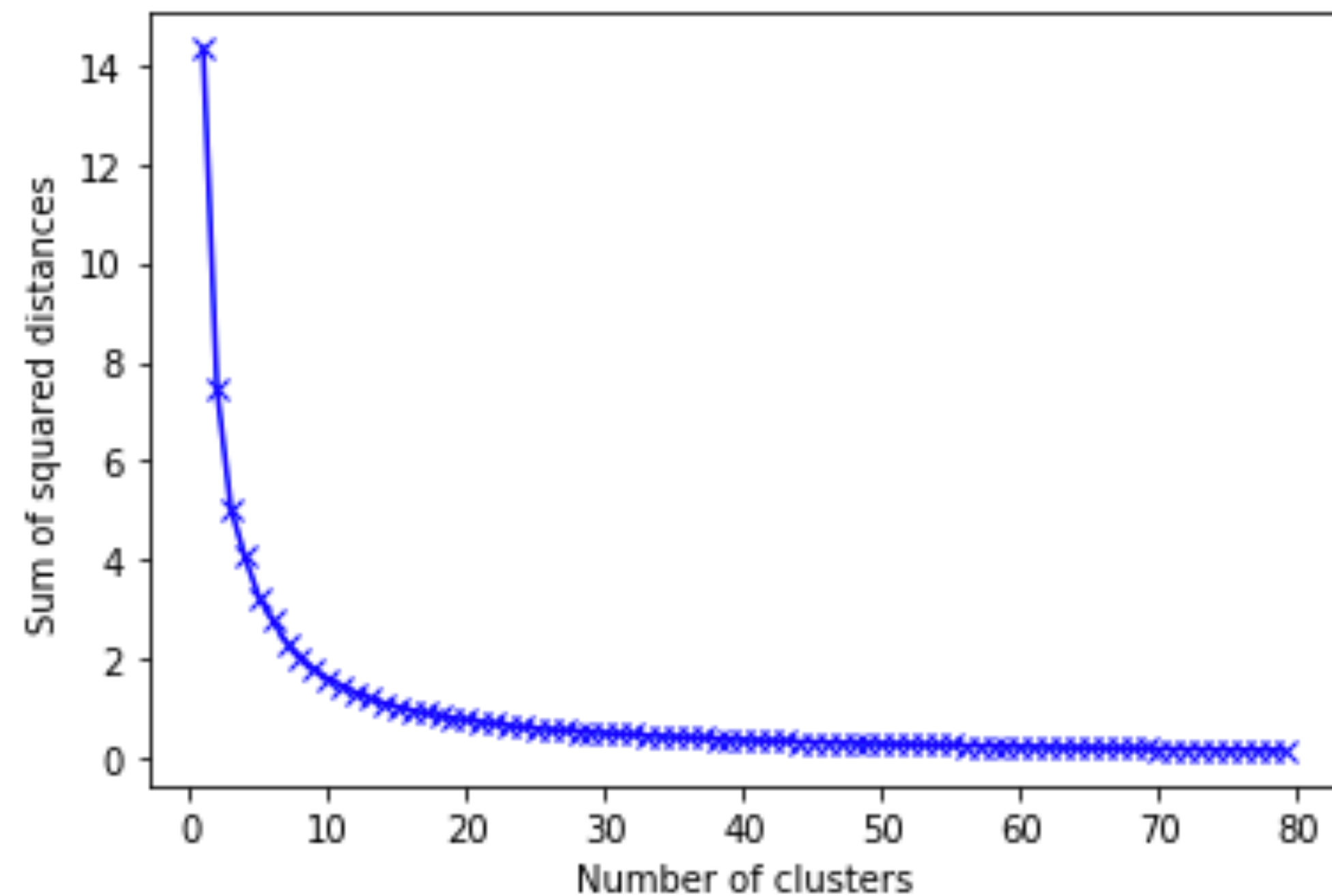
› k=30 appears to be a good optimal point

› Any further increases in clusters yield little reduction in error (sum of squared distances)
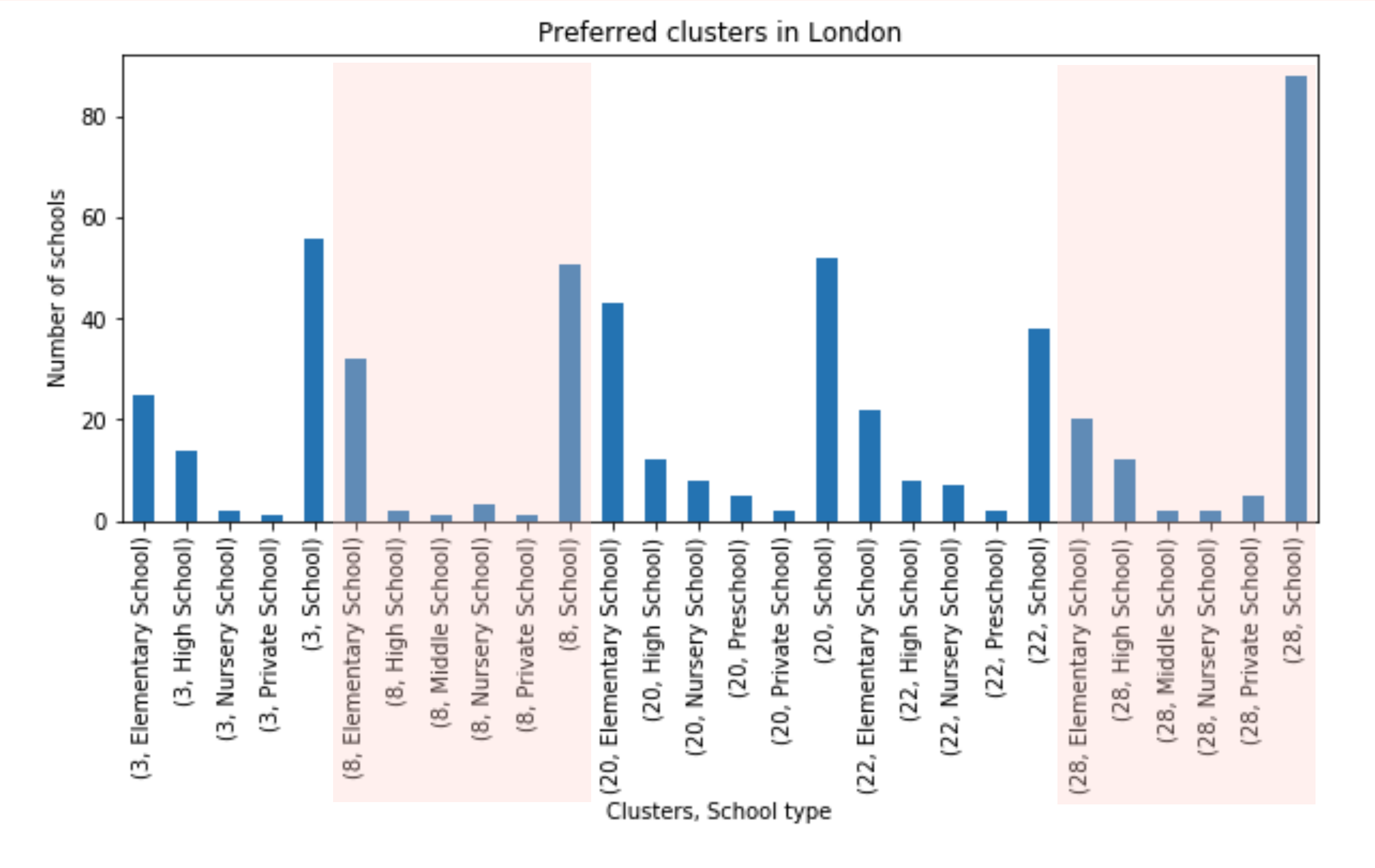
K-MEANS CLUSTERING - MAPPING

CLUSTERING ANALYSIS - BEST CLUSTER

Number of schools in each cluster

PLOTTING SCHOOLS IN THE IDENTIFIED CLUSTERS

DIFFERENT TYPES OF SCHOOLS IN A CLUSTER

Preferred clusters in London

CONCLUSION AND FURTHER WORK

› **We are able to narrow the target location to 80 postal code ares in Greater London (right)**

› **Factors such as crime rate, transport connectivity, pollution level could also be important locations factors for target buyers of this project**

› **The next phase of this project should take into account the additional factors mentioned above**

	PostCode	Areas
0	WC2	Aldwych
1	N22	Alexandra Park
2	E14	All Saints
3	EC1	Angel
4	N19	Archway
...	...	...
75	W9	Warwick Park
76	SE1	Waterloo
77	SW1	Westminster
78	SW1A	Westminster Abbey
79	SE1	Westminster Bridge

80 rows × 2 columns