

HS2 Curzon Street Terminal

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Introduction

Background to HS2

HS2 is a high speed rail link that is being built within the United Kingdom (UK) to improve the connection between the North and South of England. The first stage of this project is to build a high speed line between London and Birmingham. Subsequent stages will connect cities further North such as Leeds and Manchester.

London is the UK's capital located in the south and Birmingham is the UK's second largest city located in the centre, in an area known as the Midlands. The London terminal of HS2 will be at Euston and the Birmingham terminal at Curzon Street.

The aim of HS2 is to drive economic growth north of London. The initial business case determined that there would be a return of £2 on every £1 invested. That has been challenged due to the rising costs of the project potentially, doubling since the initial business case in 2013.

The Curzon Street Terminal

The Curzon Street terminal is located near the centre of Birmingham. Its location connects it to 2 other rail stations in Birmingham, namely Moor Street and New Street. Allowing easy onward travel to other parts of the UK.

Location of the Curzon Street Terminal



Part of the economic growth will come from increased spending within the vicinity of the Curzon Street terminal both by people passing through and it becoming a more desirable destination. The terminal is located by the iconic Bull Ring shopping centre.

The Bull Ring



The Problem

The full economic benefits to the area surrounding the Curzon Street terminal will only be available if the right venues are in place to service the traffic and tourists it generates. The first stage in this is understanding the existing venues in the immediate area. The immediate area, for this report being with 3k circa 1.9 miles, being a reasonable walking distance.

The Audience

This investigation will be of benefit to a number of different audiences:

HS2: to determine how they support the wider development of the area to drive traffic on the London Birmingham link

Birmingham City Council: to inform planning policy and decisions to encourage the most appropriate development of the surrounding area to promote the wealth and well-being of their residents

Developers & Businesses: to inform investment decisions in the area, both in new businesses and buildings.

The Data

Approach

This exercise will involve:

- Identifying venues within 3km of the Curzon Street terminal
- Analysing those venues

The analysis will involve:

- The density (number) of venues in the area
- The type of venues in the area

This will require grouping venues geographically to aid understanding.

Insight

The data will solve the problem by providing insight into the businesses in the vicinity of the Curzon Street terminal. This insight will include:

- The number of venues within the vicinity of the Curzon Street terminal
- The types of venues within the vicinity of the Curzon Street terminal
- The differences in venues (both numbers and types) between the areas surrounding the Curzon Street terminal

This information will help inform the audience which in turn will impact how the area surrounding the Curzon Street terminal is developed to help deliver the HS2 business case.

Data Requirements

The following data will be needed:

Object	Data Required	Reason	Source
Curzon Street Terminal Location	Latitude Longitude	To enable the area to be explored to be located	Internet: Latitude: 52° 28' 32.27" N Longitude: -1° 53' 6.55" W

Venue	Type of Venue	To enable the types of venues in the area to be identified	FourSquare: categories.name
Venue	Latitude Longitude	To enable venues within 3km of the Curzon Street terminal to be identified. To enable the location of each venue to be determined	FourSquare: venue.location.lat venue.location.lat
Venue	Postcode	To enable venues to be grouped by postal area	FourSquare venue.location.postalCode
Venue	District	To enable venues to be grouped by local district area	FourSquare venue.location.neighborhood

Potential Challenges

The data may present a number of challenges:

1. Not all the data returned by FourSquare may be required. Therefore once data is returned only the required data items will need to be retained.
2. At this point the quality of the FourSquare data is not known in particular the address information.
3. The Postcode and or District may not provide sufficient granularity in location to enable meaningful analysis.
4. Foursquare limits the data returned per call, the number of venues returned by a call may not be sufficient for meaningful analysis

Should these challenges arise they may be addressed through the creation of zones. This would require the area surrounding the Curzon Street terminal to be broken down into a number of zones. Venues could be retrieved from FourSquare for each zone and the zones then be used to group venues for analysis.

In this instance additional data will be required:

Object	Data Required	Reason	Source
Zone	Central Point: Latitude Longitude	To enable each zone to be determined	Calculated

Appendix: FourSquare Record

Sample record from FourSquare, required data items highlighted

```
'reasons': {'count': 0,
  'items': [{'summary': 'This spot is popular',
    'type': 'general',
    'reasonName': 'globalInteractionReason'}]},
'venue': {'id': '51d70128498ef30e94e9f569',
  'name': 'Digbeth Dining Club',
  'location': {'address': 'Spot*light Unit 2',
    'crossStreet': 'Lower Trinity St',
    'lat': 52.475385298837345,
    'lng': -1.8829814431038692,
    'labeledLatLngs': [{'label': 'display',
      'lat': 52.475385298837345,
      'lng': -1.8829814431038692}]},
  'distance': 149,
  'postalCode': 'B5 6DY',
  'cc': 'GB',
  'neighborhood': 'Digbeth',
  'city': 'Birmingham',
  'state': 'West Midlands',
  'country': 'United Kingdom',
  'formattedAddress': ['Spot*light Unit 2 (Lower Trinity St)',
    'Birmingham',
    'West Midlands',
    'B5 6DY',
    'United Kingdom']},
'categories': [{'id': '53e0feef498e5aac066fd8a9',
  'name': 'Street Food Gathering',
  'pluralName': 'Street Food Gatherings',
  'shortName': 'Street Food Gathering',
  'icon': {'prefix': 'https://ss3.4sqi.net/img/categories_v2/food/streetfood_',
    'suffix': '.png'},
  'primary': True}],
'photos': {'count': 0, 'groups': []},
'referralId': 'e-0-51d70128498ef30e94e9f569-0'}
```