

# Geography Course Work

## St. Albans

### The CBD

#### Introduction

At the heart of any town or city is the central business district (CBD). As its name suggests this contains many of the business headquarters, specialised shops and department stores entertainment and a few areas of open space. Therefore the sphere is a lot larger for the CBD than for the rest of the settlement. As the CBD is in the centre of the settlement it is the first part of the town to form and then in theory the rest gradually grows outwards. This was the suggestion of a man named Burgess whose model is shown below:

Many settlements are formed in this manner, for example the town of St Albans has a CBD which I believe to be located along the street St Peters street and to have gradually grown out from there into this shape.

There are many ways in which the CBD can be located, one of which is the CBD intensity index. This is done by deriving which grid squares contain the highest percentage of CBD functions, for example a grid square

containing 75% CBD functions is more likely to actually be located in the CBD than one containing 40% CBD functions. To do this one must decide which functions are usually found in the CBD and which are found elsewhere, for example a bank is a CBD function as they are normally located in the centre of a town, however an estate agent isn't as, more often than not it is, located elsewhere.

## Hypothesis

I think that the CBD intensity index will show that the CBD is along the centre of St Peters street, therefore the highest percentage of CBD functions will be found along St Peters street.

## Method

First of all we were given a map of a small section of St Albans which we then located using our whole map of St Albans.

We then walked the whole section of this map and, used our function sheet, to decide whether a function was a CBD function or a non-CBD function. When we had decided this we wrote on our map what this function was and whether it was found in the CBD.

We then colour coded the map into CBD and non-CBD functions. We also used the key on the function sheet to neatly label the buildings on our map, for example a residential building has the letter R.

Once the map was clearly divided into CBD and non-CBD functions we made a percentage of CBD functions in each grid square making sure that we did not count the same building twice. An example of this is shown below:

## Interpretation and Analysis.

In a group of four, we studied eight grid squares, B1-4 and C1-4. Seven out of these eight squares had 0% CBD functions and the remaining one had 80% CBD functions. This clearly shows that the grid squares containing 0% CBD functions are not part of the main area of the CBD.

One of the reasons this area has very little CBD functions is that it is mainly a residential area for example grid square B2 is completely residential. However this area does contain other functions such as doctors, pharmacies, beauty clinics (of which all three are located in grid square B3), multi-storey car parks (located in square C3), a primary school, (located in C3) and mechanics (located in C1). Although there is a variation in functions none of them are CBD functions and therefore it is inevitable that the percentage of CBD functions is zero.

The north east side of the map, ranging from F1-4 to H1-5 also contains mainly 0% CBD functions as it consists of educational facilities, multi-storey car parks and residential buildings all of which are non CBD functions. The grid squares to the west of this, D1-4 and E1-4 all have a higher percentage of CBD functions. It is surprising to find that the square E2 only contains 29% CBD functions even though it is situated along the main street of St. Peters Street. This is because at the final stages of the street the function changes from mainly retail to public houses and cafés, which are non-CBD functions.

Grid square C5 is obviously in the CBD as it contains 74% CBD functions. It is the point at which St. Peters Street forks and half of it becomes pedestrian walkway only and contains many CBD functions such as restaurants and clothes stores. It also contains the town hall and the local courthouse, which are always located in the centre of the CBD.

Grid square F8 contains many lawyers, accountants and insurance offices, which are all CBD functions, however this is not situated in the CBD. Some offices such as lawyers and accountants choose to locate outside the CBD as here land is cheaper and parking is easier.

## Limitations

Although this is a fairly successful method of locating the CBD some problems do arise. When investigating our grid squares and determining what the buildings were, this sometimes caused problems as often the buildings were set back so that it was impossible to tell what they were and sometimes there was just no indication as to what they were.

When calculating the percentage of functions per square this could prove difficult as often one building would be located in two squares. It had to be decided in which square the majority of the building was placed and then care was taken so as not to count the same building twice.

One thing that this investigation does not take into account is how much land one building takes up for one building could take up the space that four little ones would yet it is only counted as one so it does not take space into consideration.

## Conclusion

This choropleth map clearly shows the CBD to be located to the west of the map, mainly along St. Peters street. It then branches out the east, south and south west. It also shows that the results of the CBD intensity index is completely dependent on the functions key that is used.

## The structure of the CBD

### Aim.

The aim of this is to investigate the internal structure of St Albans' CBD. This can be done in many different ways, as there are various different aspects to the structure of the CBD, therefore different investigations were used for each different aspect. An overall conclusion can be drawn by looking at the results as a whole and accessing what each investigation tells us about the structure.

At the end of this investigation I hope to be able to see the precise structure of the CBD and how it was formed.

### Hypothesis.

I predict that the land use transect map will show that the CBD functions are not only located in CBD and do branch out slightly, although the majority of the CBD functions will cluster around the centre of St. Peters street.

I believe that the rateable values will show that the highest value of land lies along the centre of St. Peters Street.

I think that the pedestrian counts will show that the highest number of pedestrians will be located along the south and centre of St. Peters Street and numbers from there will decrease as they get further away.

I think that the nearest neighbour analysis will indicate that the shops have a tendency to cluster for the most part but some will be randomly spread.

I believe that all this will prove that the structure of St. Albans will follow the Burgess model in that it will go directly out from the centre of St. Peters street, in the form of a circle.

## Land use.

## Method.

To do this, we simply walked each side of St Peters Street and noted the name and function of each building. After doing so we used our functions key to colour code a map of St Peters Street according to each function. When taking down the names and functions of each building we also noted the meter frontage by measuring the number of strides that each building consisting of, and the height of each building by counting the number of storeys. We displayed this data by entering it into a table so each result is clearly shown.

## Interpretation and Analysis.

This data obviously shows us that the functions along the east and west side of the high street are rarely more than three storeys or less than two and the meter frontage ranged from four to twenty-seven. The prices of the buildings varied, as the price is dependent on the size and location of the premises. The larger the building and the closer to the centre of the CBD the more expensive it will be as the more stock it will be able to hold, the more customers will pass the premises and the more business it will get. Therefore the further away from the CBD and the smaller the premises the cheaper it will be.

## Pedestrian counts.

### Method.

To do this we chose certain points on St Peters Street to count the number of pedestrians. We made these points of equal number and in the same position on each side of the street to make it fair. We did it by standing stationary at a certain point and counting every person who went in either direction past us during three minutes. We did this at ten locations on each side of the street; we did them as quickly as possible so that all the results were taken at approximately the same time (about one 'o' clock) to make it a fair test in seeing where the people were located.

I have shown my results using pie charts located on a map of St Peters Street at the point they were taken. Each millimetre of the pie chart represents 2 people.

## Interpretation and Analysis

The results clearly show that the number of pedestrians in the north area of St. Peters street is very low, as low as five on the west side. This is because the functions in the north of the street are very different to the other areas; it contains businesses like accountants and lawyers, which are used less frequently than the functions in the rest of the street.

As you descend the street the numbers of pedestrians gradually increase, this is because the functions change from lawyers and accountants to cafés and furniture stores, therefore more people frequent these store and the number of people goes up.

Directly in the centre of the street you will find the highest numbers on both the east and west side going up to one hundred and one and one hundred and nine. This is obviously the most popular area of the street. It contains large chain department stores like Boots and Marks and Spencer's, stores like these attract more people but also more popular stores as they see it is a popular area, this again attracts larger numbers of pedestrians.

As you go further down the street the numbers decrease again, this is for two main reasons. Firstly because, although there are still some chain

shops they are not as large and therefore do not attract as many people, and secondly the street forks and becomes smaller therefore less shops and also less people can fit down it.

### Nearest Neighbour

#### Method

Using the results collected in the land use transect map I could work out which pattern a certain function takes, clustered, randomly distributed or dispersed. To do this, three pieces of information must be used: the length of the street, the number of shops involved in the analysis and the average distance between the nearest neighbours. These three pieces of information are then put into the equation below:

$$LRN = \frac{D}{0.5 \left( \frac{L}{N} \right)}$$

LRN = Nearest neighbour statistic

D = Average distance between nearest neighbours

L = Length of street

N = Number of shops involved in analysis

Using this equation and putting in all the factors I could work out the tendency of the functions that I chose. The result always ranges from 0-2, 0, being entirely clustered, 1, being completely random and 2, being regularly spread. I did this experiment with two functions and the results and workings are shown on a separate piece of paper.

### Interpretation and Analysis

These two results show that the distribution of department stores and shoppers' goods store along St. Peters Street are mainly random and that there is only a very small trace of pattern. That means that these two functions are scattered along the street. The fact that they are not



clustered suggests that they are not all located in one spot but as they are not regulated that they are not equidistant either.

As the main indication from both of these results is that they are randomly distributed it is not a great help to reveal the structure of the CBD as it suggests that there is no structure.

### Rateable Values

#### Aim

I intend to find out the value of each building, this will give an indication to the structure of the CBD, as the closer the building is to the CBD the more expensive it will be, and the prices should decrease the further away from the CBD the building is located.

#### Method

To work out the value I had to work out the rate per meter. To do this you must have both the business rate and the meter frontage. We were given the business rate and I collected the meter frontage by simply going to each location and pacing the building and noting down the number of paces it measured. Then to get the rate per meter I divided the business rate by the meter frontage. Once these results were displayed on a table I could compare them.

#### Interpretation and Analysis

The first thing that I noticed about these results that the most expensive buildings are the offices and residential buildings; I think this is because mostly the offices have more storeys and the residential buildings are more sort after as people want to live in a popular area like this one.

The highest business rate seems to be along London Road but it is not necessarily the highest rate per meter as it also has a high meter frontage, which decreases its rate per meter.

## The Sphere of Influence

### Aim

I intend to investigate the sphere of influence of St. Albans, to find how far people would come to get to St. Albans, what they came to do, how often they visited, how they got there and what they thought of St. Albans' facilities and shops.

### Method

To collect this information I visited various sites and conducted ten questionnaires asking all these questions. (A copy of one of these questionnaires is included). When carrying out these questionnaires I made sure that I varied the type of people I asked, for example I did not just ask young people or just men, I asked people of all ages and both sexes. I also did them all at one time, to make it fair. The number of males and females that I asked were equal and their ages ranged from fifteen to seventy.

### Hypothesis

I think that the sphere of influence will have quite a wide range, I do not believe that people will come from the other side of the country to get to St. Albans but that they will travel a reasonable distance, perhaps taking at the most an hour and a half to get there. As I think people will travel to get to St. Albans I think that the main use of transport will be a car and perhaps a bus. I believe that people will be very impressed with the quality of the shops and the average person will give it four out of five and probably around the same for cleanliness.

## Interpretation and Analysis

These results show that the majority of people of people went to St. Albans to do their weekly shopping, but people also were there for tourist, work and education purposes.

The fact that people had travelled as far away as from Kent shows that St. Albans has a very large sphere of influence as people will travel a large distance to get to St. Albans, not just because of its shopping facilities but also because of its Cathedral and its history.

Although some people came from far away to get to St Albans they also came from very close, this is shown as some people visit St. Albans everyday for school or work.

In general people found it very easy to park, and gave the facilities and cleanliness of the town very good ratings. They also must think a lot of St. Albans because they keep coming back.

## Land use

## Limitations.

This investigation was, for the most part, very accurate as there were no problems in noting down the functions of the building. However, the key that has been used can be disputed as to the categories of some functions. Also the way of measuring the height and width of the buildings is not entirely reliable as you cannot insure that the strides are always the same even though the same person is doing them, and simply counting the number of storeys may not be completely accurate as the floors may be different heights. Nonetheless, I believe this investigation to give a good indication as to the structure of the CBD.

## Conclusion.

The results show that the centre of the CBD is in the centre of St Peters Street and then stretches a little north but mostly south. We can see this, as it is this area that contains the highest prices, and largest buildings, which are known to be located in the most popular areas such as this.

