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Methodology

The reason for this geographical investigation is so that I can accept or reject this hypothesis:

There is a negative relationship between pedestrian flow and environmental quality and they both increases as you get closer to Swansea's CBD

Sub-aims to investigate

1. How does pedestrian flow change in different areas of Swansea.
2. Why have the pedestrians come to Swansea's CBD
3. Is there a correlation between the land use and environmental quality/pedestrian flow.
4. How does the environmental quality/pedestrian flow/land use change when looking at a different area, like East Grinstead.

Reason for investigation

I have chosen this area to investigate because I find looking at how towns/cities are formed and grow interesting. The reason that towns/cities grow is to sustain the needs of the population but while doing this I want to see if the sprawl causes detriments to the environment. The impact on the environment is also affected by how the town is managed (for example if litter is removed). This issue is current as places are always changing and Swansea will represent a major city with a population of 228,000 whereas East Grinstead will give a different outlook, as it is a small rural town with a population of 29,000**.** The reason that I have chosen two areas that are very different is so that I can compare the results and see any differences. This will also give me the chance to use a comprehensive range of data collection techniques, some of which I will design myself, to reject or accept my hypothesis.

Sequence of Investigation

This is the format that I intent my investigation to follow:

To begin with I would have to do some background reading to identify the main ideas and features associated with the areas that I will come to investigate. For this I could use text books, exercise books, and the internet.

Then outlining my investigation further I will have to choose a hypothesis, which is a statement that I can test by collecting data to accept or reject it. I will also have to have three sub-aims to investigate and this is the building block to my investigation. In this section I will also describe in detail the methods that I will use to collect the data (maps and tables), why these methods are relevant, and how the information collected may help to accept or reject my hypothesis.

I will need to collect a wide range of both primary (Swansea) and secondary (East Grinstead) data, some of which will be conducted in a group and others independently. To collect my data in a proper way I will use a wide range of different techniques that are relevant to my investigation. Although most of the data capture techniques were planned for me, I have introduced some of my own as to provide a more complete investigation that is relevant to my hypothesis, it is also more original.

The time of day, weather, and location are important factors that need to be considered while planning my investigation, as they may affect the data collected. For example, when it is raining it is likely that people will not go into the town centre and collecting the data on this day may mean that it is not a standard reflection of the amount of people. If these factors were not monitored then it would also be hard to compare the data and draw a valid conclusion either rejecting or accepting my hypothesis.

Before I actually go and collect the data I will discuss what I expect to find out based on my knowledge of the topic. I will also locate my study in detail using descriptions and a range of different maps. All of this knowledge that I will have gathered about the site will all help me to understand some of the patterns that I may find.

Once collecting the data from both Swansea and East Grinstead I will first tabulate it and then go on to using a range of techniques such as maps, graphs, and photos. These photos will then be annotated so that key ideas are highlighted. The photos are there to consolidate what is shown on the graphs. In this section I will also express information that I have discovered so that when it comes to making a decision about my hypothesis there will be evidence. However, I will also have to check that my methods are accurate and if they are carried out in enough depth. If I find that they are not I would have to re-visit the sites and do my investigation again.

In order to interpret the data I will analysis my results in depth. I will then explain and even give reasons for any patterns that I discover, describing everything in detail and offering some possible explanations. Then linking my data, I will be able to consider what implication one piece of data may have on another (pedestrian flow and amount of litter found). I will then summarise my findings and from this draw a conclusion relating to my hypothesis, which will either accept or reject: there is a negative relationship between pedestrian flow and environmental quality and they both increase as you get closer to the CBD.

Finally, I will access how my investigation could be improved and while doing this I will question the reliability of the methods I used to collect the data. For example, I may not have carried out my investigation in enough depth so to mean that the results are not accurate enough. I will describe the advantages and disadvantages of each method. This will then lead me on to consider how these inaccuracies may have compromised my investigation accuracy and therefore my conclusions validity. This is done for the reason that next time I will be able to conduct a better investigation.

Selection of Day, Time, and Weather Conditions of Data Collection

As my investigation involves comparing between Swansea and East Grinstead I have to make sure that some basis factors are kept constant, like weather conditions as this could affect the accuracy of my data.

The reason that the day is important is because at the weekend there is likely to be more people out and about than on a weekday. It is the same reason for why we need to keep the times of data collection the same. Weather conditions would also change the data and make it inaccurate. For instance if it was raining it is likely that less people would be out in the street.

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I collected my data from Swansea on Saturday 11th July and on this day it was cloudy with rain and drizzle throughout the day, although it was not cold. I collected my data from East Grinstead on Saturday 13th September and the weather conditions were pretty much the same. As the day, time and weather conditions were kept pretty constant they shouldn't have any effect on my investigation.

Data and Information Collection

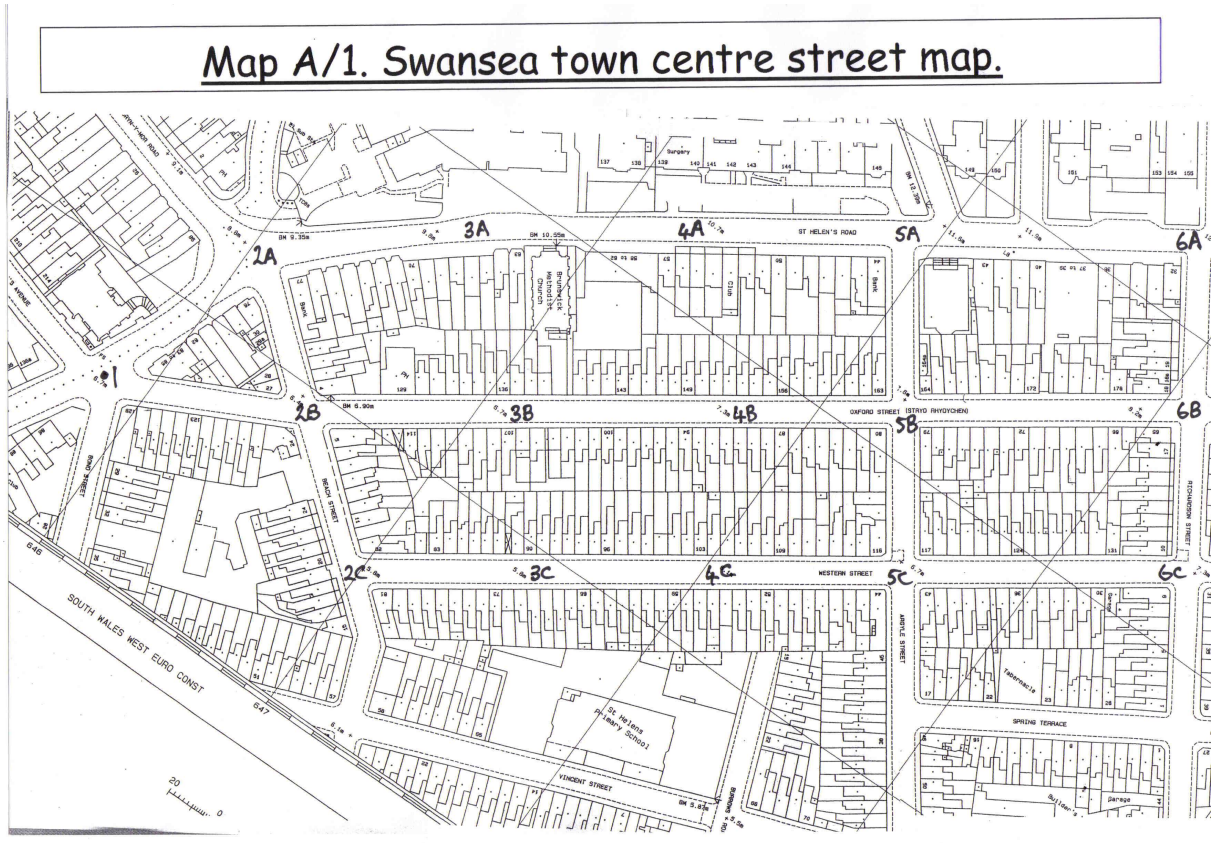
Primary Data Collection

The following methods of data collection are from primary resources.

This is a quick outline of the data and collection method that will be carried out in Swansea. I will explain further down below.

Data	Collection Method
1. Land Use Transect	• Land use transect along the transect line using the land use key • Mark the land use on the map
2. Environmental Quality Survey	• Environmental quality survey at each location the transect • Record finding in table
3. Pedestrian Flow Survey	• A one-minute pedestrian count taking place at each location • Record finding in table
4. Shopper Survey	• Ask a cross-section of the shoppers in the CBD a series of questions regarding the CBD.

The maps that will be used for the land use, environmental quality, and pedestrian flow survey are shown below. The route that I will be taking is route B:



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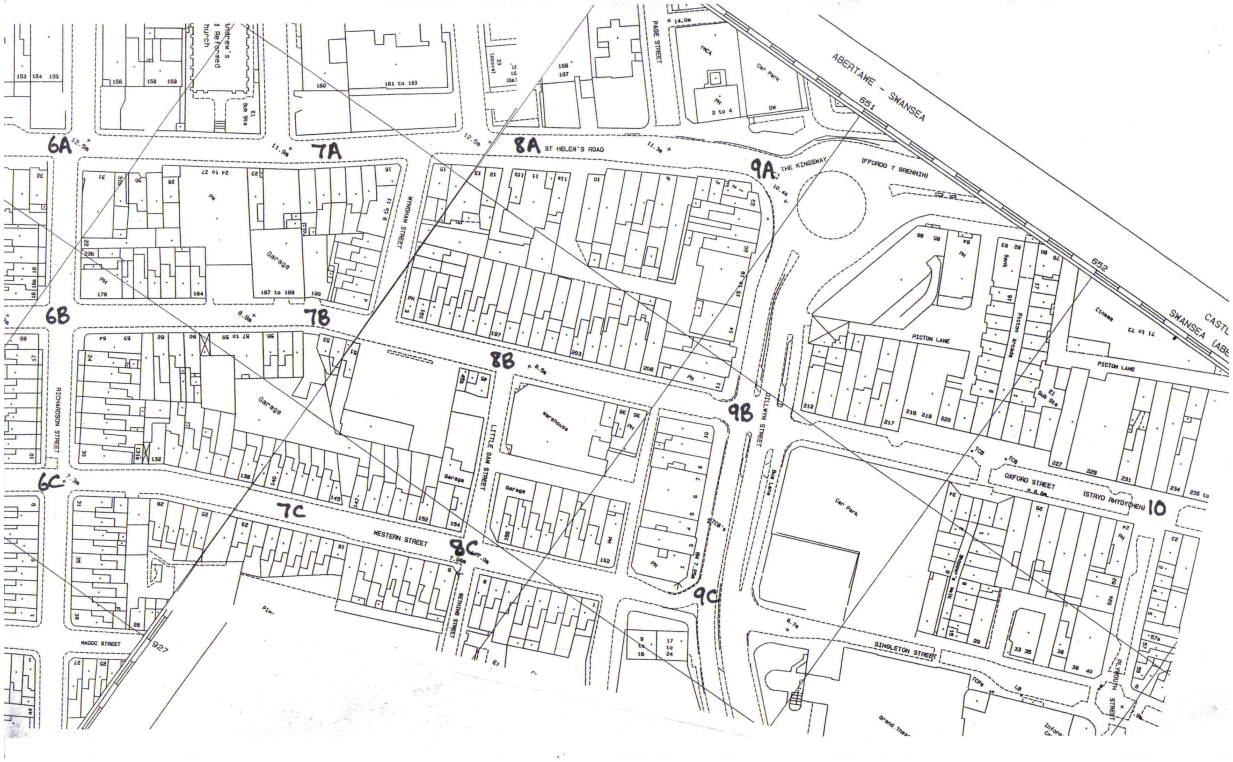
Map A/2. Swansea town centre street map.



Map A/3. Swansea CBD street map

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1. Land Use Survey

The land use survey will be completed using the key below and I will record my findings on my detailed Swansea street land use maps (A1, A2, A3), above. This is a continuous survey along a pre-selected transect. For this data collection I will need to work with a partner. We will both walk on opposite sides of the street so that both sides of the road can be surveyed, mainly concentrating on the ground-floor usage.

The reason that I carried out a land use survey is so I could see the quality of the housing and other building around. These are all factors that could change the amount of pedestrians in the CBD because if there is little work in Swansea, for example, there will be less people living there and they will be less wealthy. This may affect how many people are in the CBD either working or just simply shopping. Also wealthier people are more inclined to keep their property and surrounding area in good condition and so this could also be a reason for any areas to have a low environmental quality. When coming to a conclusion I may be able to see that it is indeed the fact and this will then support that claim.

Code Number	Code Letter
1 Residential	**T**= Terraced, **B**= Bungalow, **S**= Semi, **D**= Detached, **F**= Flats
2 Industrial	**M**= Manufacturing, **B**= Building and construction
3 Commercial	**S**= Shops, **B**= Banks, **O**= Offices, **G**=Garages
4 Public buildings	**C**= Churches, **L**= Local government, **O**= Others
5 Transport	**B**= Bus Station, **R**= Railway
6 Entertainment	**P**= Pub/Club, **C**= Café, **H**= Hotel
7 Open space	**CP**= Car Park, **P**= Parks
8 Unused	**V**= Vacant buildings, **W**= Wasteland

2. Environmental Quality Survey

Whilst walking along route B, I will use the table below to access the street/environmental quality in the immediate vicinity (within 15 paces) of each location on the transect shown on the map. There are 12 sites equidistantly placed which have been systematically pre-selected on maps A1/A2/A3.

Criteria	1B	2B	3B	4B	5B	6B	7B	8B	9B	10	11	12
A												
B												
C												
D												
E												
F												
G												
H												
I												
J												
Total score /50												

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Street Quality		Score (1-5 scale)
A	Type of shop	**1**= Department Stores / shops selling comparison goods **5**= Wide variety of shops selling convenience goods
B	Land use	**1**= Mainly shops **2**= Mixture of shops, banks, building societies **3**= Mainly shops **4**= Mainly offices **5**= Mainly houses/industry
C	Retail type	**1**= National chain stores and larger independent mixed **3**= Small independent shops **5**= No/few shops
D	Merchandise quality/price	**1**= Good quality and/or high price **5**= Low quality and/or low price
E	Pedestrian safety	**1**= Very Safe **3**=busy street with crossing **5**= Busy street with no crossing
F	Density of shoppers	**1**= Very busy with many shoppers **5**= Very quiet with few shoppers
G	Street cleanliness	**1**= Very clean with no litter **5**= Very dirty with serious litter problem
H	Building exteriors	**1**= well maintained property **5**= Poor maintenance
I	Pedestrian segregation	**1**= Pedestrian area/precinct **2**= Buses only **3**= All traffic **5**= Main traffic route
J	Vacant premises	**1**= All premises occupied **3**= Few premises vacant/closed down **5**= Many premises vacant/closed down

The reason that I will count the number of people with 15 paces is because this is the maximum area that you can see around easily, without having to move. If I did move it could cause inaccuracies, because the area would be too big and instead on focusing carefully on a small area I would be looking at a wide area which leaves room for me to miss important points.

The cause for me to perform an environmental quality survey is to primarily investigate whether different areas in Swansea have a higher environmental quality than others. This would then lead me to look for patterns that correspond to the data, looking for reasons behind the changes. For instance, if a certain area has a poor environmental quality, this would make me look to see what has caused it.

To see which location has the worst environmental quality, I would add up the marks for each criteria and the location with the lowest score (marks out of 50) would have the best environmental quality. Comparing the scores would help me write a conclusion which would prove or disprove my hypothesis.

3. Pedestrian Flow Survey

At each location on the transect (maps A1/A2/A3) I will count the number of people that pass me, on both sides of the road and whichever direction they are walking in, for one minute. I will then record this on the table below.

Transect Location	1B	2B	3B	4B	5B	6B	7B	8B	9B	10	11	12
Pedestrians per minute												

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The reason I will do a timed one-minute pedestrian count is so that I can investigate whether the number of pedestrians does increase as you get nearer to Swansea's CBD, as I have not proved this fact yet. The reason that I will do the pedestrian count for one-minute is that it gives me a more accurate picture of the amount of pedestrians, than if I was just going to look around for a few seconds. This is because the number of people walking through one place is not kept constant, there will sometimes be big groups of people and other time be nobody.

This data collection technique is relevant to my investigation as I will be able to see which areas have more pedestrians and this in turn will help me to come to a conclusion and with accept or reject my hypothesis. My findings may also mean that I can link data. For example, if I find that there are more pedestrians in Swansea's CBD, then maybe this will reflect in the environmental quality data and the shoppers survey.

4. Shopper Survey

In order to gain an insight into the usual visiting habits of the public and to hear their views on Swansea, I will conduct a questionnaire. These people either live or visit Swansea regularly and so will have a much better idea of the place in general. The questionnaire will be performed on a random cross-section of the public and this will mean that it contains the views of lots of different people. I will ask a total of 10 people. These are the questions that we will ask to 10 shoppers in Swansea's CBD:

1. Where do you live?	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
2. Why are you visiting Swansea city centre?	Shopping	Work	Holiday	Leisure	Other (please specify)					
3. Which mode of transport did you use?	Train	Bus	Car	Bike	Other (please specify)					
4. How often do you visit the city centre?	First time	x1 week	x2 week	x3-5 week	Every day	Other (please specify)				
5. How long was your journey here?	< ½ hour	½-1 hour	>1 hour							
6. What do you like about the city centre?	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
7. What would you like to see improved in the city centre?	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
8. Do you think that visitors are having a negative impact?	Yes	No								

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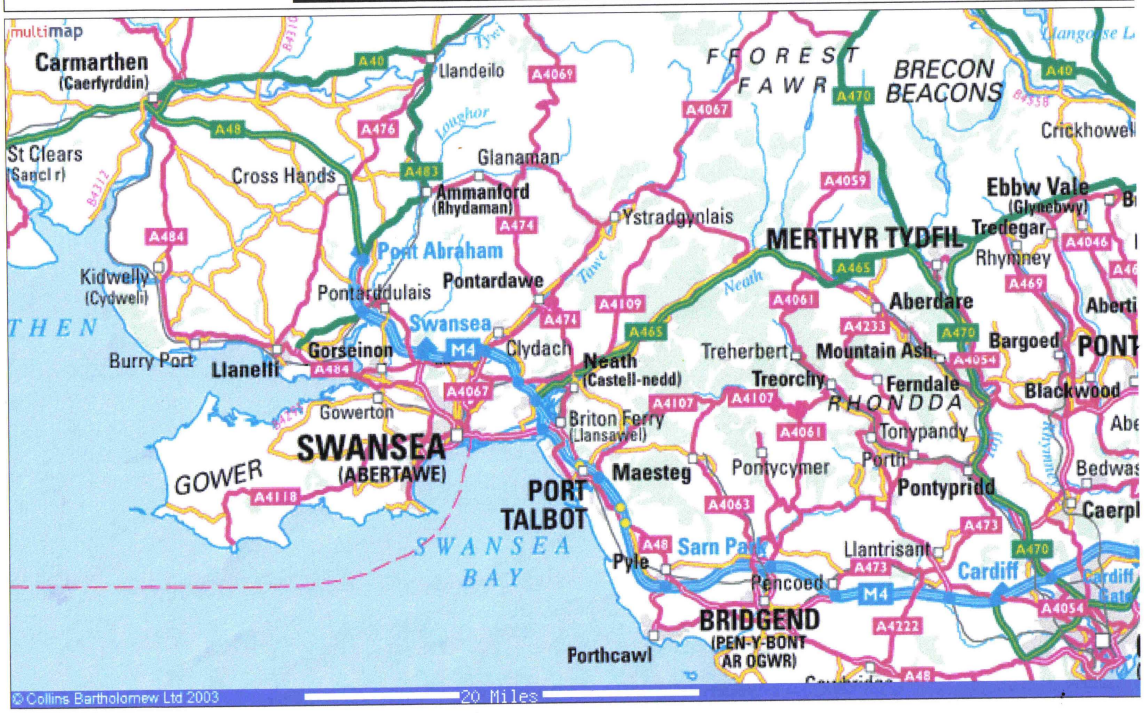
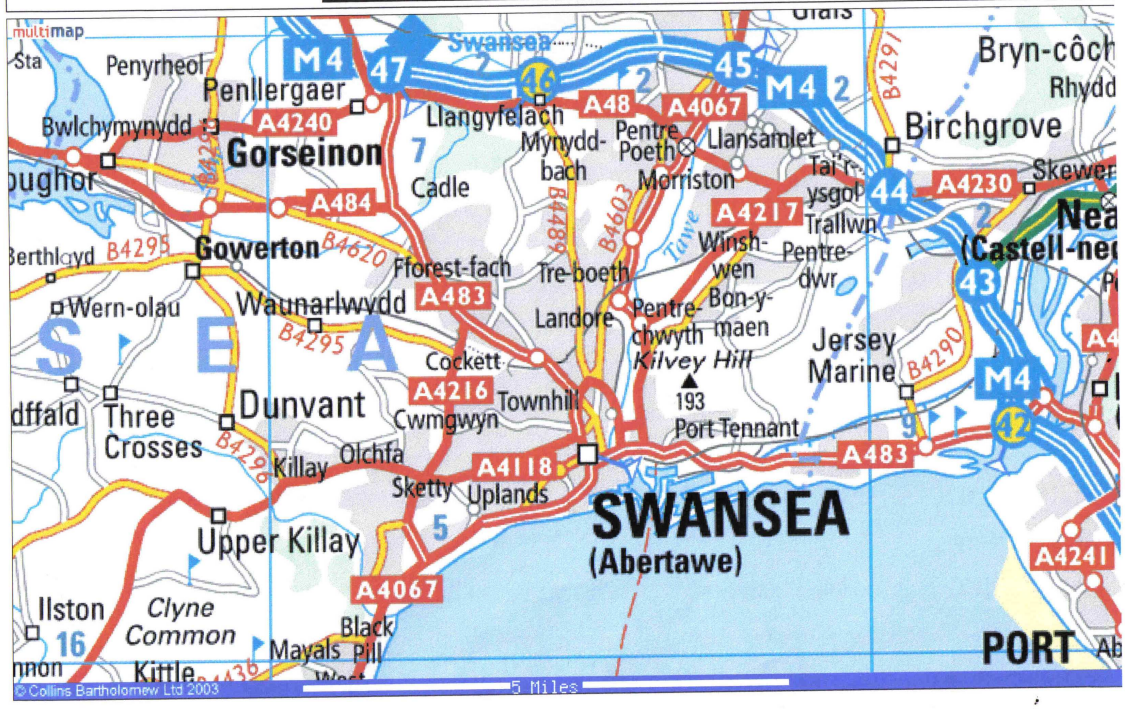
The first question is, where do you live, and for this question I will get each person to mark where they live on the map. If they live in Swansea itself, then I will ask them to mark it on the Swansea regional map (map B). But if they are from outside Swansea, then I will get them to mark where they live on the S. Wales area map (map C). This is just so I can simply see where the members of public that I ask have come from. The maps are below:

Map B. Swansea regional map.



Map C. Swansea area map.



5. Traffic Flow Survey

At each location on the transect (maps A1/A2/A3) I will count the number of cars that pass me, on both sides of the road, for one minute. I will then record this on the table below.

Transect Location	1B	2B	3B	4B	5B	6B	7B	8B	9B	10	11	12
Cars per minute												

Although the amount of cars that are entering Swansea will not help me with my pedestrian count it will still help me to do a rough count of the amount of people that enter and leave the CBD, basically showing me how busy it is. I will count the number of cars that go past for one-minute. The reason I have chosen one-minute as the designated time to count is for the very same reasons as the pedestrian count.

This data collection technique is relevant to my investigation as I will be able to see which areas have more cars going through them and this will then just give a general consensus as to how busy it is. Another reason is because cars can cause damage to the environment and cause great congestion. This could then help me to form reasons behind environmental quality when it comes to my conclusion.

This is a survey that I have introduced into my investigation to make it more complete and further help me to accept or reject my hypothesis.

6. Annotated Photos

A good way to illustrate a point is with photos so at each location (12), marked on the maps A1/A2/A3, I will take photos of things showing any litter, vandalism and the different buildings. The reason that I need to take pictures all along my route is to show how they change.

This method of data collection is therefore relevant to my investigation, as when I have annotated them, I will be able to compare them. The annotations will include any keys points. Also the advantage of taking photos is that if you keep looking at them you will see things that you may have missed otherwise. The pictures will correspond to the surveys that I will do.

Secondary Data Collection

7. East Grinstead

For my secondary data collection I am going to conduct exactly the same surveys that I did on Swansea on East Grinstead. This will give me a different place to compare it to. There are many factors that mean that Swansea and East Grinstead are different, for example, Swansea has a much larger population, Swansea is in Wales whereas East Grinstead is in the South of England, ect.

Although the tables for recording the data will be the same the maps will be different. The maps that I will use for East Grinstead are below. Another difference is that there are only 10 locations on the map instead of 12.

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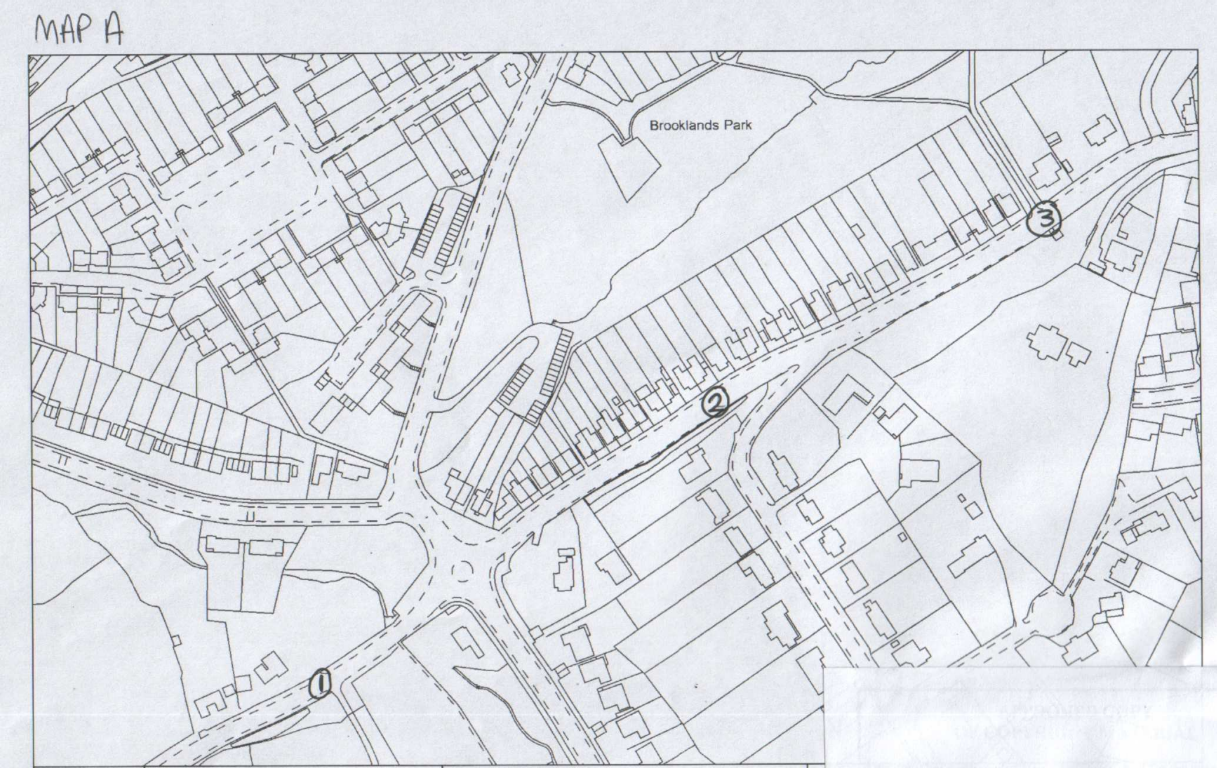

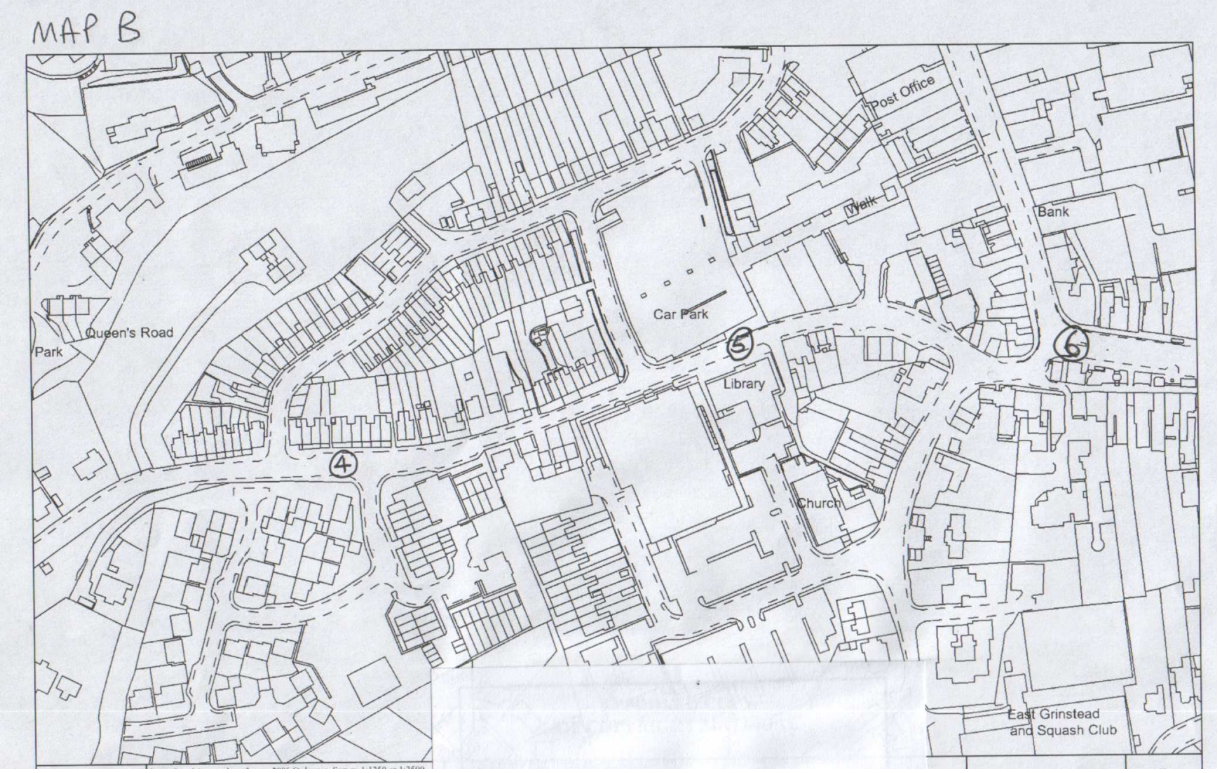

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