economic, social and environmental change

Development has taken place in many major cities of geographical theme; redevelopment or rejuvenation is an important factor in the topic of ‘Challenges & Issues in Urban Areas’, & redevelopment has taken place in many major cities of the UK over the last 30 years which has lead to economic, social and environmental change.

Aim/title: Investigation into the redevelopment of Harbourside, Bristol

Hypothesis

1: Redevelopment has had a positive environmental impact on Bristol

Justification of aim: is good because it has a geographical theme; redevelopment or rejuvenation is an important factor in the topic of ‘Challenges & Issues in Urban Areas’, & redevelopment has taken place in many major cities of the UK over the last 30 years which has lead to economic, social and environmental change.

Study Area

Location/Study Area:

In the South West of England on the estuary of the River Avon as it enters the Bristol Channel. It has good access to the rest of the country via the M5 from the south and north, the M4 from the east and west and the M32 provides access from the M4 right into the centre of Bristol. Bristol’s location has been an important factor in its history and it became very rich and successful city due to sea trade and associated industries, the slave trade and piracy and privateering.

Justification of location/study area:

- Harbourside is ideal to investigate our aim on re-generation as it is an old inner city area & like many inner cities, large parts of it were left abandoned & derelict when its original industries closed. Harbourside was once Bristol’s main port with lots of industries based around it but closed when Bristol’s main port moved to Avonmouth.
- Bristol is one of UK’s major cities & the closest to Minehead keeping the cost of fieldwork down & more time is spent collecting data rather than travelling.
- Harbourside is ideal as most of it is pedestrianized so the risks caused by traffic are reduced. It is a wide open area with plenty of room for a large group of students without too much impact on other users. There is coach parking so we can access the area quickly and safely.

Risk Assessment

Hazard - Risk to health/safety - Management of risk:

- Falling in river - drowning or bacterial infection from polluted waters - keep away from river/keep behind railings
- Weather - hypothermia - wear warm, waterproof clothing
- Traffic - death or injury - stay within pedestrianized area, use zebra crossing
- Stranger danger - injury from assault/mugging - remain in group at all times
- Trips/slips/falls - injury - wear sensible footwear, stand still when recording data. Do not wear headphones/listen to music

Data Collection Methods

Environment Survey

Sampling method & size:

- 12 survey sites
- Pragmatic sampling

Description:

1. Visit the 12 sites in turn.
2. Stand at each site & slowly turn 360° & make a judgement of the different categories rating 1 for the most negative score up to 5 for the most positive score.
3. Record the results from a landuse survey we could see sets could be seen eg if we plotted relationships between data sets could be seen. If we plotted results from a landuse survey we could see links between the quality of the environment and how the area was being used.
4. Add up the total score of each site & then the total score of whole area

Justification/explanation:

- Quick, easy, cheap, no specialist equipment can be done in time available
- Sites chosen pragmatically so safe, within pedestrianized area, had limited impact on other users & 12 sites spread equally around whole study site
- Provides quantitative data that can be presented in a graph – dispersion/box & whiskers graph

Will help meet my hypothesis as a positive environment score for the whole area would show that the impact of the redevelopment has been positive.

Data Presentation

Choropleth Map

Description:

- We divided the total environment bipolar score into four groups eg “16 - 9”, “8 - 1”, “1 - 8” and “9 - 16”.
- Each group was assigned a colour & add it as a key to a map of Harbourside
- Colour each survey site according to its score.

Justification:

- A choropleth map was good to use as it clearly shows the environment bipolar score of Harbourside in the actual locations where we collected the data.
- By using shades of colour you can see with a quick glance if the environment had a positive or negative score and means you can spot patterns easily (if some areas are better than others) and being a map you can see other factors which could effect the environment eg sites in a pedestrianised area are likely to score higher than those near a road.
- This all makes it easier to analyse and therefore helps us reach a conclusion as to whether Harbourside Redevelopment has been successful.

In addition, if we collected other data this could also be overlayed onto the same map so relationships between data sets could be seen if we plotted results from a landuse survey we could see links between the quality of the environment and how the area was being used.

Alternative Data presentation methods:

- We could have used a positive/negative bar chart as potentially the score for each site could have ranged from “16 - 16”.
- This type of graph would show negative results below the x axis and positive number above making it clear if any sites had a particularly poor or good environment score.
- The graph would be easier & quicker to produce than the choropleth map.
- This therefore makes analyse easier and therefore helps us reach a conclusion about the impact that Harbourside redevelopment has had on the environment.
- We did not use this method as only one of the sites total scores, in the end, were negative.
Statistical Analysis

Mean: the average environment bipolar score for the whole study area.

Description: calculate the sum of the total environment scores. Divide this by the number of sites (12).

Justification/explanation: By working out the mean average it summarises all of our data so we have much less data to manage. If the overall average is positive we can conclude that the redevelopment of Harbourside has been successful.

Problems:
- An average ‘hides’ data – your area could be really varied in environmental quality but you have just one score which does not show this
- Your results could be ‘skewed’ because you have anomalies and this means your mean is NOT representative of your whole study area. A score of 16 & ten scored +8. This will give you a mean score of 4. Your mean results therefore does not represent ANY of your sites and is NOT the value of positive of them.

Interquartile Range (IQR) of the environment survey results

Description: the results of the environment survey were put into rank order. A total set of data was divided into two halves by finding the median. This was repeated with the top & bottom half of the data to find the upper & lower quartile.

Justification: better than using mean on its own as a mean may not represent the data eg: if two areas had poor environment quality & scored 16 but 10 scored +8 the mean will be 4. Four is the value of 33% of the sample. IQR deals with the central 50% of the data & gets rid of outliers that could be anomalies & skews the mean.

Problems: excludes vital data as the outliers may not be ‘freak’ or inaccurate but a valid score concluding that your results were varied. This creates bias as your environment score could be better than it really was.

Dispersion Graph (box & whiskers)

Shows the interquartile range of the environment survey results (see front page)

Description: Work out the interquartile range & draw horizontal lines to mark the median & the upper & lower quartile. Draw a box from the upper to the lower quartile. Draw whiskers from the box to the highest & lowest outlier/ anomaly

Justification/explanation: shows how spread out the data is & therefore shows if your average is representative of your results. It shows the central 50% of data which gets rid of the anomalies which can skew the results but still shows the anomalies as well as the median, range, interquartile range so analysis can be more detailed.

Problems: Can be time consuming & difficult to construct increasing the chance of mistakes which could alter the results & therefore effect the conclusion you reached

Results

11 of the 12 sites (91%) surveyed had a positive environment score. The range was a score of 16 (highest) & +12. The mean score was 6.4 & the median score was 6.5. The IQR was 6 (UQ 9 & LQ 3). This shows that the average score was not representative of the area as the 12 sites varied. Whilst the environment score were positive the scores were quite low. This could have been effected as one of the categories was for green space and this will always score low as we were surveying a city centre

Conclusion

The aim of the enquiry was to investigate the redevelopment of Harbourside. I met this as we collected primary data that showed the impact the redevelopment had had on the environment by survey the environment & judging the environment & giving it a score. I proved my hypothesis that the redevelopment has had a positive environmental impact because we know from secondary evidence the area had once been derelict and our environment survey shows that 91% of the sites sampled had a positive score. However, surprisingly the results were quite low averaging about 6 (the best achievable score was 16).

Evaluation:

You will need to identify any problems you had, describe how they would impact on your results and in turn how these would effect your conclusions. Suggest solutions to how these problems and what impact these would have had on your results and conclusions.

I concluded that the redevelopment has a positive environmental impact. My conclusion was not fully reliable because there were a number of problem with the data collection and data presentation:

- Not standardised as at some sites we judged an area where we could see for about 1m & some 30m + at sites where you could see less there may have been a higher concentration of less factors. Eg if a site had a barrier trapping lots of windblown litter would have been more noticeable at a site in a small area & reduced the score. Had we visited lots of sites like this we may have concluded that environmental impact had not been successful, or less successful than we did. Mark out a set area at each survey site & only judge what could be observed in that area. This standardises the method as sites are more comparable.

- Qualitative & based on people’s opinion. Opinions are subjective & different people will get different results. Eg someone who likes noisy busy places would have scored the ‘atmosphere’ higher than someone who doesn’t. If we used someone else’s results we may have concluded the redevelopment was not successful. Using quantitative methods for each factor eg a litter count, decibel meter, % of open space etc providing quantitative (measurable) data & is more reproducible.

- Sampled one small area. Only sampling a small area meant we missed out areas with different types of redevelopment & ones that have not yet been developed, meaning our results were higher than they should. If we included the area near the marina where there are still derelict buildings we may have concluded that the redevelopment was much less successful than we did. If we sampled both sides of the floating harbour and the whole of Harbourside a larger would mean our results would be more representative of the whole area.

- Used pragmatic sampling. Only visited sites we could access safely & easily; often areas where people go are likely to be looked after more, ones near roads, car parks may have scored less. Including areas we could have visited may have concluded that the redevelopment had not been as successful as we concluded. We could have found our survey sites using random sampling which means that every area has an equal chance of being surveyed. The sample could have been anywhere and not just where it is easy to access and making our results more representative of the whole area.

- We presented the results in it using a choropleth map. It meant we grouped the data into four categories & hid a lot of data. By hiding data it reduces the detail of our analysis & we may have concluded that the redevelopment was more successful than it really was. We could have presented our results using a positive-negative bar chart which would have presented the exact scores of each site and made analysis more detailed Used all the data and not grouped data would have meant we had a more detailed analysis.

- We only tested the success of the redevelopment in terms of the environment. We did not test the social and economic success, so our results were limited to one aspect. Had we tested for all aspects we may have concluded that whilst it was successful in improving the environment, it had negatively impacted on the original people that lived there (like many redevelopments) and therefore was not fully successful. We could have tested to see if the redevelopment had been successful socially by completing a questionnaire survey and/or economically by completing a landuse map or business survey. This would give us much more detailed results to make a judgement on the overall success of the redevelopment.

- My conclusion was not fully reliable because there was a limitation which I had no control over. The Christmas decorations had been put up. This made the area much more attractive & improved the atmosphere therefore increasing the bipolar results. At other times of year the bipolar score may have concluded that the redevelopment was not as successful as we had in December. Nothing I could do about this on the day. However, I could repeat the investigation at different times of the year and get an average score. This would make may results more representative.