

TO WHAT EXTENT DOES THE NATURE OF PEDESTRIANISED AND NON - PEDESTRIANISED AREAS DIFFER IN BURNLEY'S C.B.D.?

INTRODUCTION

Burnley is a borough town in the county of Lancashire, northern England. It is situated north of Manchester, at the junction of the Rivers Burn and Calder. It is easily accessible from all parts of the country. It has an area of 52 sq mi (134 sq km). In common with other towns of Lancashire, Burnley grew rapidly from the end of the 18th century with the development of the cotton textile industry. The building of the Leeds and Liverpool Canal and the presence of coal were factors helping its development. By the early 19th century cotton weaving was the dominant industry. Today the economy of the district has diversified, and light engineering is now important. The central area has been re-developed. Townley Hall, mainly 17th century, is the borough's art gallery and museum and is set in parkland. Population of town is estimated at 90,600.

There are a superb variety of stores in an attractive shopping environment. The glass covered walkways and atriums in Charter Walk Shopping Centre contain some of the biggest high street names. The traditional Victorian streets are crammed with fascinating specialist shops and traditional markets with over 260 stalls for all tastes and ages. The attractive landscaped environment of Curzon Square shopping area, with nearby car parking, enhances current shopping facilities.

Burnley Town Centre offers great places to eat and drink. Choose from over 25 venues. Burnley has a wide range of quality leisure facilities all within walking distance of the town centre including; Multi-Screen Cinema, Leisure Centre, Ten-Pin Bowling Alley, Art Gallery, Modern Bingo Hall, Division 1 Professional Football Club, and numerous other attractions.

Throughout the year there is town centre entertainment including Shopping Festivals and Christmas Entertainment. Exciting new developments are planned for the future, which will continue to improve the town centre area and will ensure that Burnley is the place to be...for Shopping, Leisure and Business.

The last few years have seen a number of significant developments in Burnley town centre upon which the Burnley Local Plan can build. These include the:

- Pedestrianisation of St James Street;
- Refurbishment of the Charter Walk Shopping Centre;
- New retail development on Curzon Street;
- Recently (2002), the bus station has been refurbished, costing an estimated 3 million pounds.

Burnley town centre, in common with other town centres, faces a number of threats - competition from larger, and out of town centres compounded by increased personal mobility, and a reduction in services and shops due to corporate rationalisations.

AIMS

I am going to measure the variables that are in Burnley's C.B.D. This will be done in all different parts of the C.B.D. In particular, I'm focusing on the 'pedestrian activity' variable. Therefore, the main question I will answer at the end of the investigation will be:

To what extent does the nature of pedestrianised and non-pedestrianised areas differ in Burnley's C.B.D?

In order to answer my aim fully, I have split my aim in the form of 3 key questions:

- Which areas of the C.B.D. are pedestrianised?
- How does land use vary between pedestrianised and non-pedestrianised areas?
- How might these differences be explained in terms of:
 - (a) Pedestrian density;
 - (b) Quality of shop;
 - (c) Environment quality.

In order to answer my questions fully, It will be necessary to visit Burnley's C.B.D, and do some research, using different research methods, such as: a land use map, a pedestrian count, an environmental quality survey and quality of shop survey.

Method

To achieve the aim of this investigation, it was essential to go to Burnley's C.B.D. to investigate the question (to what extent does the nature of pedestrianised and non-pedestrianised areas differ in Burnley's C.B.D.) in more detail.

In order to do this, we had to sample. For land use, the whole of the C.B.D. could be done. But for pedestrian density and environmental quality, it was decided to choose 30 sites systematically. This meant that each block of shops could be assessed at one site. This is so that the points were spread out but also to make sure the whole of the C.B.D. was analysed. Any less and the points would be too spread out and parts of the C.B.D. would be missing, leaving out important information. Any more and the sites could possibly merge together so information could be repeated unnecessarily.

Once the sites were chosen, information could be gathered. This information can then be studied and a conclusion can be made. The majority of the information will be represented in the form of graphs. This will make it easier to evaluate them.

ANALYSIS AND EXPLANATION

Land Use Map

Studying the map and real, visual, observations, many patterns and trends have been found in the land use of Burnley's C.B.D. Refer to (fig 10)

It can be seen that the more popular shops such as Next and Boots, tend to be found in the centre of the C.B.D. and the newest part of town centre. They also tend to be in the northern part of the C.B.D. as well. These shops are mainly large department stores, clothes and shoe shops such as Woolworth's and McDonald's. These shops are in this area because it is pedestrianised. Being pedestrianised, it will make it safer for the shoppers. So putting popular shops in this area will give the shops more customers.

It can be seen that the low order goods shops such as charity shops or takeaways are clustered around the edge of the C.B.D. (St James St). This may be because these low order goods shops cannot afford the rent nearer the centre

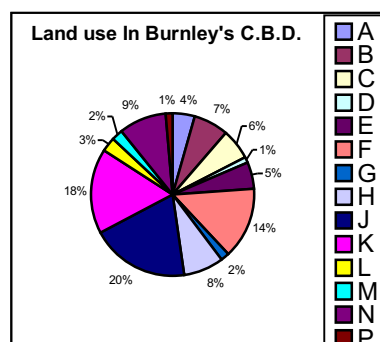
of the C.B.D. Land gets cheaper, the further away from the centre of the C.B.D.

Professional and financial services such as banks and solicitors tend to be found around Manchester Road. Solicitors and estate agents tend to be quite old and long running businesses. They may be in this area because they are around the shops that most of the people tend to go to therefore; the professional services are reachable (convenient). Also, there is a lot of catering and entertainment in this southern area of the C.B.D.

Professional services benefit from being close to one another because this will make their business work if they work together, for example, when buying a house. Estate agents are close together because then the customer can

come and compare different house prices. Solicitors are needed and are necessary to buy a house because they sort out the legal requirements. Then finally, the bank or building society will be needed to get the money to buy the actual house.

By observing the pie chart, it can be seen that the two categories with the highest number were the professional services and the catering/entertainment categories. Both these categories were mainly in the southern part of the C.B.D.



It's almost as if the C.B.D is literally split in to two sections - the northern and southern parts of the C.B.D. The north side has all the major variety and chain stores and also a majority of the specialist shops. The south side has most of the professional services and a lot of the catering and entertainment.

It is noticeable that car parks and other land uses associated with transport are found mainly on the edges of the C.B.D. This is probably because they need a lot more land to build on so it is cheaper on the edge. Also, there is easier access to them by the main roads.

Pedestrian Count

The points marked on the isopleths map (Refer to Fig 16) with the highest number of pedestrians are points 10 (273 pedestrians) and point 11 (279 pedestrians). These two points are located in the centre of the C.B.D. This is possibly because of different reasons: -

- As the land use map shows all of the major stores in the centre of the C.B.D. These shops attract more pedestrians to this area.
- The majority of clothes/shoe shops are in the northern area of the C.B.D. These areas will be pedestrianised as clothes and shoe shops are very popular places to go.
- The majority of the electrical and specialist shops are in this (northern) area of the C.B.D. Since these are very useful shops that specialise in specific products and services, pedestrians are more likely to go to these places, knowing that they will receive products or services at the highest of standards.
- There are other possible factors such as quality of shop or environment quality that attracts more customers that area so making an area pedestrianised or non-pedestrianised.

The points marked on the isopleths map (Fig 16) with the lowest number of pedestrians are points 1, 2, 3, 4, 5, 13, 16, 17, 19, 20, 21, 22, 26 and 29, which are all under 50 pedestrians (in 5 minutes). Looking at the map, they are all on the edge of the C.B.D. These areas are less popular for different reasons: -

- The major stores are not found in these areas, therefore not as appealing.
- These areas are not as accessible. Shops are spread out a lot more so there is a larger distance to cover, whereas in the centre of the C.B.D. the shops are more closer together so it is easier to get from one place to another.
- Because the centre of the C.B.D. is more popular with the customers, it provides a much safer environment, whereas in the outskirts of the C.B.D. the area can be sometimes a little isolating.

- There can possible factors such as the shopping or environment quality that attracts fewer pedestrians to that area making it less pedestrianised.

When looking at the map, there is a distinct pattern as to a number of pedestrians in a particular area. There is no point on the map that is out of place or doesn't fit the pattern. The numbers of pedestrians decrease the further from the centre of the C.B.D. and this has been shown evidently.

Point 6, on the map, is quite far from the centre of the C.B.D. but still had quite a number of pedestrians. This is because next to it, there is a bus station, a point where people come and go from Burnley. This point therefore is an exception, but not a great one. Refer to (Fig 16).

The southern part of the C.B.D. was not busy at that particular time of day. But because there are a lot of shops that fall under the category of catering/entertainment, the results could be a lot different at lunchtime, or in the evening. This is why it would have been better to do a pedestrian count at different times of the day and over a longer period (3 weeks). Professional services are in the southern area of the C.B.D. People only go to these places when they need to, which isn't all the time. This means that when the pedestrian count was done, not as many people needed to go. But again, it could have been possibly different at another time of day.

Environment Quality (choreopleth map)

By looking at the choreopleth map, (Fig 20) a clear pattern can be seen. Two areas with the highest environment quality (points 23 and 25) are quite near the centre of the C.B.D. The three areas with the lowest environment quality were quite far from the centre. These were points 3, 16 and 17. Points 16 and 17 were two of the furthest points from the centre of the C.B.D. so the end results fit in with this hypothesis very well. These are some reasons that may prove that pedestrianisation is also due to environmental factors: -

- People like to shop where there is a safe and pleasant-looking environment. There has been more concentration

- to keep the environment quality high in the centre of the C.B.D., as that is most popular with customers.
- If the quality is kept at a high standard, people will keep shopping here in Burnley.
- Burnley is fighting tough competition from other towns and cities so to attract customers; the first thing that will appeal to them is the visual look of the area. If an area looks pleasant, then people will be interested.
- The areas with low environment quality do not attract as many people, which is clearly shown on the choreopleth diagram. These are not pedestrianised. We can make a link between these two variables. If the environment quality is improved in all areas, pedestrian activity will also increase in these new improved areas. This is true for all the points on the map except point 6 (bus station).
- If these areas are also improved, even if it means improving its appearance, this will attract a lot more people and so Burnley will be a threat to many other towns and cities.

Shopping Quality (proportional Columns Map)

By looking at the proportional columns map (Fig 24), some kind of a pattern can be made. The areas with the lowest shopping quality (points 2, 4, 5 and 17) are quite far from the C.B.D. with the exception of point 5; the other 3 points are actually on the edges of the C.B.D. This fits in with what the original prediction was. The points with the highest shopping quality are points 19, 22 and 30. These points were not in the centre of the C.B.D. (with the exception of point 10) but they are fairly near the centre. There are some reasons that may prove that pedestrian activity is also due to shopping factors: -

- People like to shop where the appearance of shops are of a high standard. This is the first thing that attracts the customer's attention. People will see this is a shop with high quality goods.
- If the quality is kept at a high standard, people will continue to shop here in Burnley.
- Burnley is fighting tough competition from other towns and cities, so the way to attract customers is visually. This is successful but mainly near the centre of the C.B.D. But the further from the C.B.D., the quality seems to decrease (shop quality), which is shown on the map. But this cannot be said in all areas (for shopping quality).

- If the shopping quality were improved in the other areas, the whole of the C.B.D. would be appealing and would be used completely. This will benefit Burnley and will be a threat to other towns and cities.

CONCLUSION

Mann Whitney U test - tests whether two sets of data are different.

A null hypothesis has been set up: there is no significant difference between...pedestrianised and non pedestrianised areas in terms of:

- 1) Pedestrian flow
- 2) Environmental quality
- 3) Shopping quality

Key questions:

- 1) Which areas of Burnley's C.B.D. are pedestrianised?

The areas that were pedestrianised (6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 21, 23, 24, 25, 27, 28 and 30) were areas busy with pedestrians and also traffic e.g. drivers and public transport etc. These areas were also in the centre or very close to the centre of the C.B.D.

- 2) How does land use vary between pedestrianised and non-pedestrianised areas?

The land use map (Fig 10) shows that areas that were pedestrianised were areas that had major shopping units and clothes and shoe shops, which are popular areas to shop. This is visually distinct in the northern area of the C.B.D. The southern area being mainly clusters of professional services and catering/entertainment. These areas are not always busy as they are only visited at certain times of day. There is a clear pattern that the pedestrianised areas are closer to the centre of the C.B.D. and the further away from the centre, the less pedestrianised. Non-pedestrianised areas mainly consist of low quality goods shops, no major shopping units and very few clothes and shoe shops. These areas also tend to have furniture shops, as they need a lot of space to display their products. Car parks also tend to be in the outskirts of Burnley's C.B.D. where pedestrian activity is at its lowest.

3) How might their differences be explained in terms of: -

(i) Pedestrian density -

It is safe to say that there is a major difference between pedestrianised and non-pedestrianised areas in Burnley's C.B.D. The pedestrianised areas were either in the centre or very close to the centre of the C.B.D. This can be seen on the isopleths diagram (Fig 16). There is a legible pattern that the pedestrian activity decreased the further from the C.B.D. This is because of many factors such as the land use (the shop type e.g. the major department stores, which are most popular) and also environment and shopping quality are also important factors.

Refer to dispersion diagram (Fig 28)

Mann Whitney U test - $U = 17$ therefore- significant at 98% level. This means there is a difference between the two. so the null hypothesis will be rejected.

Environment quality -

There are significant differences in environment quality when comparing pedestrianised and non-pedestrianised areas. In pedestrianised areas, the quality is a lot higher than in non-pedestrianised areas. This is possibly because the areas that are pedestrianised are concentrated on more than the less pedestrianised areas. Personally, I feel this is not the right way to go, when trying to improve Burnley. If all the areas were concentrated on and they all looked like a more pleasant environment to shop in, then all areas would get a decent amount of people, so all of Burnley could be used efficiently and not just the centre of Burnley's C.B.D.

In non-pedestrianised areas, the amount of litter is higher compared with pedestrianised areas, the cleanliness is lower (non-pedestrianised areas), and there is a lot more graffiti and less greenery. The exterior appearance of the building is poorer and there is hardly any street furniture such as benches available, if they are, they are in a very poor condition. Its things like this that put off customers from visiting these areas because they also provide a tense environment, as these areas tend to be a lot more isolated. In pedestrianised areas, factors such as amount of litter, cleanliness etc is completely the opposite to non-pedestrianised areas.

Mann Whitney U test - $U = 12.5$ therefore- significant at 98% level. This means there is a difference between the two. So the null hypothesis will be rejected.

(iii) Quality of shop: -

There is a difference between pedestrianised and non-pedestrianised areas in terms of shopping quality but after doing the Mann Whitney u test, it has been found that there is not a significant difference. This means that although the more popular shops are in the centre of the C.B.D., this doesn't mean that the quality itself is a major issue. This could mean that the environment issue is the only one that needs improving on. If this is so, this is good news for Burnley's local government. In general, it seems that shop quality does decrease the further from the centre of the C.B.D.

Refer to dispersion diagram (Fig 30)

Mann Whitney U test - $U = 78.5$ therefore- not significant. This means there is no difference between the two. So the null hypothesis must be accepted.

Summary

Main differences between pedestrianised and non-pedestrianised areas:

The land use varies considerably; more busy areas have the main shopping units, clothes and shoe shops, which are popular areas to shop, the less busy areas have low quality goods shops and furniture shops. Also there seem to be a lot of derelict buildings that could be useful. These empty buildings could be used to make more attractive, high quality goods shops, which will certainly attract customers.

The environment quality significantly changes in pedestrianised and non-pedestrianised areas from high quality to low quality. This is probably the reason why that specific area is pedestrianised or not. The same could be said about quality of shop but there is not a significant difference, therefore, it may not be as big of an issue as environment quality. But this depends on whether the information collected is reliable enough.

I think some sites such as 1, 2, 3 and 4 could be made pedestrianised in future. It is possible because they are very near to a roundabout so there is no problem of

accessibility. But it is the issue of low environment quality and low shopping quality that makes it a problem.

If this issue were to be resolved, this would benefit Burnley. Some areas such as points 16 and 17 on Standish St are more of a problem. These cannot be called pedestrianised and probably won't change in future either because it is not accessible at all, making it especially difficult for deliveries to be made so it is impossible for a clothes or shoe shop to start up their business here. Also it would be a problem for public transport like buses to access this area, so this area cannot be made pedestrianised unless there was a major road that linked to this area.

There is no need to make drastic changes to parts of Burnley. It's just a case of making it a more pleasant place to shop at. This would mean putting a few more benches in some areas. Planting more greenery will make the area more appealing. Also putting out more bins even in the less busy areas will make a lot more difference and will make Burnley, in general, look cleaner. Even though some areas are not busy at all, it is important to make sure these areas look attractive to. Getting rid of graffiti will decrease any tension. This could be the reason why people don't shop in these particular areas. If the exterior of the shops look nice and inviting, this will attract customers. It will make people think these areas must be selling high quality products in their shops. All these improvements will make a very big difference. Burnley needs a lot of help as they are fighting tough competition from other towns and cities, which are more popular.

To answer the question 'to what extent does the nature of pedestrianised and non-pedestrianised areas differ in Burnley's C.B.D.?' they do have quite a big difference. They have a difference when it comes to land use; pedestrianised areas have more popular shops and services at a higher quality. In terms of pedestrian density, it is obvious that the pedestrianised area has higher numbers of pedestrians and this is largely due to environment and shopping factors, the non-pedestrianised areas having a lower environment quality and shopping quality, therefore decreasing the amount of pedestrian activity in that specific area. So they do differ to quite an extent.

EVALUATION

What went well?

The land use survey was completed. This means a definite statement could be made in all sections of the land use map. A comparison can be made between different areas and also see where certain shops or services are. If the map was not completed, it would have been difficult to make statements such as what this particular area does or has that specifically appeals to the pedestrians.

The pedestrian count that was done in 30 sites, spread out systematically around Burnley C.B.D., showed considerable variation, in terms of number of pedestrians in a specific area compared to another area. This shows that there must be a reason or many for why there is such a considerable amount of variation between each site in Burnley's C.B.D.

It also shows a very clear pattern that pedestrian density does decrease, the further from the centre of the C.B.D., with the majority of sites that fit in place (it fits in with the original prediction).

By doing an environmental quality and quality of shop map, they can be linked with pedestrian density and also an explanation could be made as to why areas were pedestrianised or non-pedestrianised and whether they are due to environmental and shopping factors. Without even expecting anything, these two surveys highlighted major differences, giving a numerical value, which enabled comparisons to be made.

What are the weaknesses?

There were also many things that did not go as well as planned:

The main thing was that the fieldwork was limited to just one day. This meant that there was a bit of a rush to do the complete fieldwork. This could have led to some mistakes being made. Here are the problems with individual surveys:

<p>The map was not done individually - half the group did the north and half did the south of Burnley's C.B.D. This meant that perception was a big issue. E.g. a person may put a shop under the 'specialist' category whereas another person</p>
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may put it in the 'other' category. This would change the final result, in terms of land use, therefore changing the final conclusion.

The map was hard to figure out at times; if a shop was one big shop or two little one's on the map, was difficult to work out. A revisit around the block of buildings was sometimes needed, to clear the confusion, which was time consuming, making it more frustrating as the investigation was already limited to one days work.

Again, pedestrian counts needed to be taken at the same time, which was impossible to do individually. Although group data saved a lot of time, it was easy to make mistakes that other people were unaware of, such as pedestrians being missed out in busy areas or the same person being counted twice.

For environment quality and shopping quality, it relied on heavy judging. Because these had to be done all in the same day, again, the sites were shared within the group. The issue of 'opinion' came to play. An area could have been given a 2 by one person and another person, changing the results and final conclusion drastically, could have judged the same area as a 4.

The day of the investigation could have been an example of a 'snapshot'. Factors such as the weather may have affected the number of pedestrians on that day only. This could then affect other factors such as environment quality. Results may not be of Burnley on an average basis.

Extensions

A more extensive pedestrian count survey should be done. More sites around the C.B.D. not too many but a few more to make sure vital information has not been missed out.

Possibly instead of choosing sites systematically, having a more stratified way of choosing the sites. Having the sites at a fixed distance from the centre of the C.B.D. may increase the reliability of results, since distance is a very important factor in pedestrianisation. This way a more in depth analysis can be made, focusing on a certain distance from the centre and working outwards.

Longer counts should be done - the 5 minutes pedestrian counts that were done at each site was not enough. It can

be said that any of the 30 counts were not accurate as the number of pedestrians at that particular time (for those 5 minutes) may not have represented that area as it would have been on a normal average basis.

If a pedestrian count was done over a 3 week period, an average scoring over the weeks could be done and the factor of weather would not be a problem. If a pedestrian count was done at different times of day, it may provide information as to why areas are pedestrianised or non-pedestrianised. It could also provide information of when pedestrian density changes during the day. E.g. food shops may be busier at lunchtime or in the evenings.

If the issue of judging environment and shop quality were improved, then this would increase reliability of end results. E.g. by narrowing the range of scoring from 0-3 points.

Possibly doing more points on the map will also increase accuracy of results.

If a questionnaire was done, then questions could be answered from the pedestrians themselves. Questions like people's personal opinions on pedestrianisation from shoppers and also drivers, and then improvements to Burnley could be made, without having doubts on the opinions of the public, local and non-local. Other questions can be asked to improve on this particular investigation such as how the shoppers travelled to Burnley, or whether they even came to shop or not. A lot of pedestrians could have come because they worked in the C.B.D. This would definitely change results. Also if questions are asked as to where the shoppers were from. If the majority were actually living in Burnley, then improvements would need to be made to attract people from outside Burnley.

Other surveys such as traffic flow surveys could be done and then it can be observed whether traffic flow and other factors surrounding traffic are linked to pedestrianisation or not. This may suggest why pedestrians are attracted or not attracted to that area and that it could be due to traffic factors rather than environment or shopping factors.

An interview with the town centre manager would also be helpful to see what new proposals they have to improve Burnley as a town, in the future.

Overall, the main patterns and trends have been found with some fairly good, evident reasons in to the nature of pedestrian activity, but with these extensions, the results could be enhanced, with more in depth conclusions.