Settlement Hierarchy

Settlement hierarchy is the process by which settlements are put in order, based upon, the services they provide or their size. There are three ways in which they can be ordered, these are:

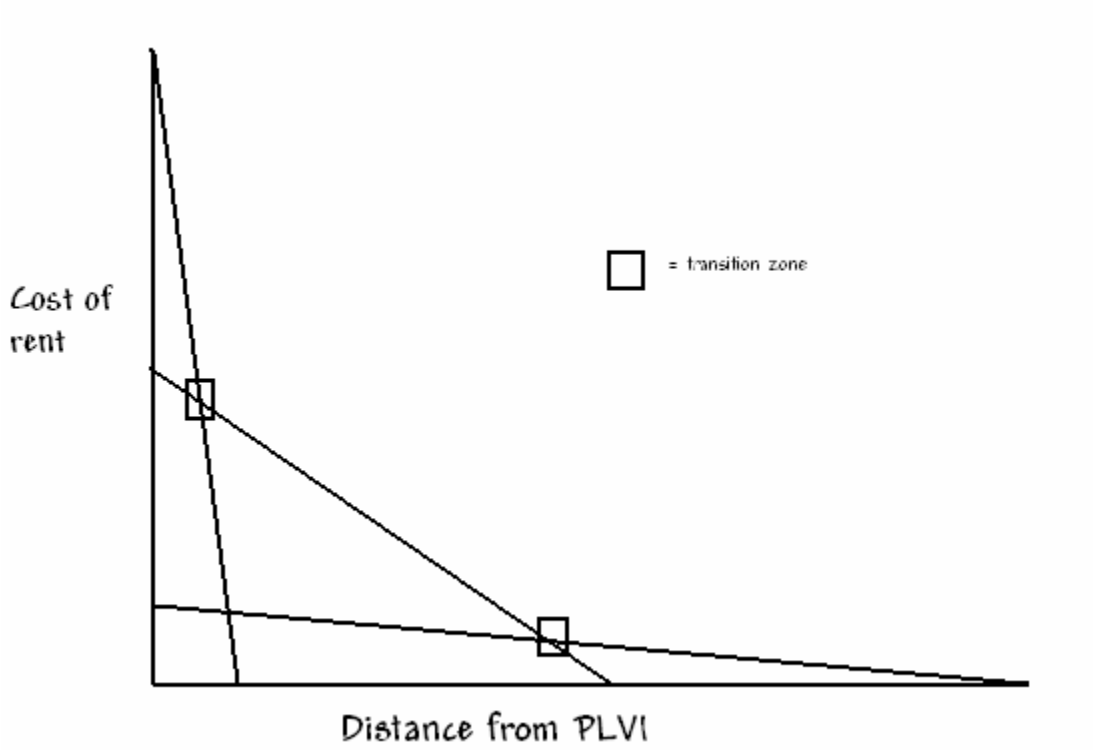
- Population size; the bigger the population, the higher ranked they are. (see fig. 1)
- The further away they are from large from large settlements, the further away, the higher they are ranked.
- The range and amount of services, the more range and services, the higher they are ranked.

Bid-rent theory and transport nodes

Transport Nodes- a transport node is an area where many different types of transport and routes meet, like a cross road, therefore this makes this area very accessible for the public. Most shops want to build near this point because of its accessibility and therefore the land around the transport node is very expensive.

Bid rent theory- As I explained in the previous paragraph, the most desirable land in a town is around the transport node, big shops and banks really want to be situated where the most potential customers will visit. Hence PLVI or the peak land value intersection, only the big shops and banks can make profit in this area. Smaller shops and business's are found further away from the PLVI where the land is cheaper and less desirable. Further out from this, is the transition zone, this is the land that is cheapest, which makes it very desirable for industries, such as large factories and warehouses, also some shops will be found in this area which don't necessarily deal with lots of people face to face. Further out again we find the industry where only big industries take large amounts of land, which isn't any good to shops. Moving further away from the PLVI again, we see that the land has become cheap enough for housing estates and industry together, so we see another transition zone. Past this

area, the land is very very far away from its PLVI and no industry is found here, only homes. (See diagram on following page).



I have made a map, further on that shows the small towns and villages that are in the region in which I will be studying.

Hypothesis

(1) There will be a significant difference between the range of goods and services present in settlements of different sizes.

(2) There will be a significant change in land use with distance from the Peak Land Value Intersection (PLVI) of a town.

My first hypothesis relates to settlement hierarchy, in simple terms it means that in larger towns there will be a lager and more varied amount of goods and services compared to a small town. I believe this is true because a lot more people visit Newport than they do Caldicot, therefore where larger shops and services would be unable to make a profit in Caldicot, but Newport with its larger threshold population

would enable them to make a profit. A large store such as Dixons or Marks and Spencer's would quickly go out of business in Caldicot, because of the size of the village, however, in a Large town such as Newport, they would prefer to open up, because they will stay in business and make profit.

Methods of investigation

In order to collect my data for the land use map of Caldicot, I visited the town centre, and drew a rough map of all the shops in that area, (I mapped the area). I used this method, instead of, using a pre drawn map, because if I done it myself, all the information would be primary and therefore no mistakes would be made such as, the land use changing since the pre-drawn map was produced.

In order to collect my data for the land use map of Newport, I visited the town centre, and I mapped the area. I used this method, instead of, using a pre drawn map, because if I done it myself, all the information would be primary and therefore no mistakes would be made such as, the land use changing since the pre-drawn map was produced.

I created pie charts to display the data I collected, of Caldicot and Newport land use. I used pie charts because they show percentage and clearly display my results, instead of using bar charts, line graph or any other method.

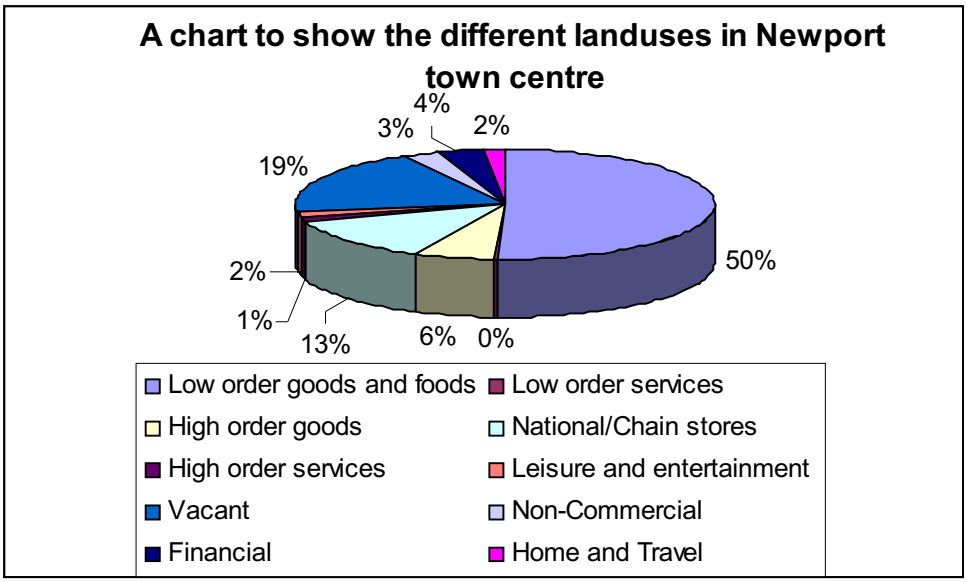
For the towns/villages of Newport, Caldicot, Magor and Rogiet, I drew proportional pie charts on a base map of the area. I constructed horizontal scale of the number of shops which would enable me to make the pie charts proportional. I then looked at the largest and smallest radius I could draw. The smallest radius I used for Rogiet, because it has the least amount of shops, and the largest for Newport, because it has the largest amount of shops. I then linked these two, with a straight line, so I could calculate the different radius I would need for Caldicot and Magor. I chose this method, because it shows not only the range or goods and services for the towns/villages, but it also shows the amount of goods and services.

Comparison of the different towns/villages is easy because I chose to put them all on the same map.

Around each of the car parks on a map of Newport, I drew circles of radius 3.5cm, which to scale is equal to 300metres. Flowing that I shaded the areas covered by one circle, x colour, two circles, y colour, and so on, up to 6 circles. The average shopper is prepared to walk about 300m, hence 3.5cm, so the area within 300metres of the car park, is most accessible area. I coloured the different regions to show, which was the most accessible in Newport.

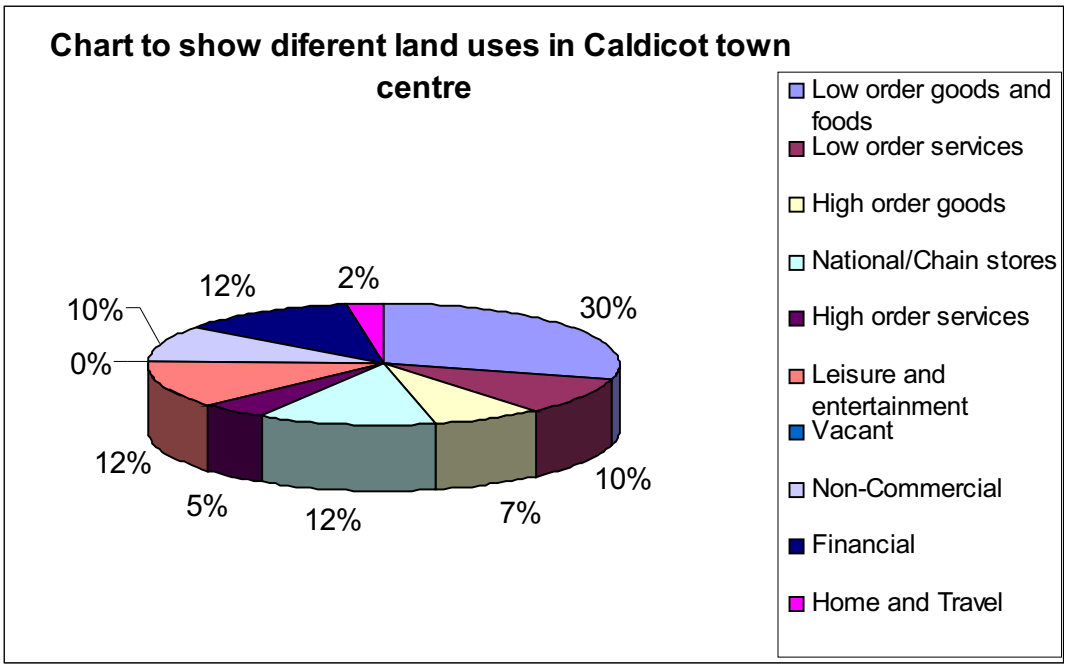
Also on my visit to Newport, I rated the different areas for pedestrian safety, by using an identical map to the one I used for accessibility. I used a rating system of 1-5, 1 being the highest and 5 being the lowest, and marked off these areas. On the map I then shaded the areas with different ratings, different colours, to show which areas of Newport had the best pedestrian safety.

Once more I used and identical map to the accessibility one, and during my visit to Newport I also rated the building appearances, and using the same rating system from the previous paragraph, I marked of the different areas. Once again I coloured the different ratings, different colours, to show the most and least attractive buildings, were located. I used a line graph, to show the land values, as I believe it best shows the direct relationship between price and distance from the PLVI. However, when I used pie charts to show land use against distance from PLVI, I believe they showed the data better than any other graph could.


A chart to show the different landuses in Newport town centre
4%
3%
2%
19%
50%
2%
1%
13%
6%
0%
Low order goods and foods
Low order services
High order goods
National/Chain stores
High order services
Leisure and entertainment
Vacant
Non-Commercial
Financial
Home and Travel

This pie chart shows 50% of the shops in Newport sell goods, 13% are national/chain stores and 6% sell high order goods. I have defined high order as being goods or services that cost more than £20, and low order, as goods or services costing less than £20. The pie chart shows that only 2% of the shops in Newport provide a service, of which all of these are high order services. The high percentage of high order goods or national/chain stores proves that the transport node of Newport is definitely situated in the town centre, as big shops like these, would only locate themselves here, if it was the biggest customer population. This goes on to prove that the PLVI is also situated In the town centre, as the land around the transport node, is most desirable to banks and big shops, hence this is the most expensive land. Additional proof of this can be established by the fact that 4% of buildings in Newport town centre are either banks or other financial buildings, and 2% of the buildings are high order services, both of these would also only locate in the area with the biggest customer population.

Although, the pie chart also contrasts with the bid-rent, theory, as 19% of the buildings are vacant, and 3% are non-commercial. The vacancies may be due to competition from other shopping centres, and maybe over time, the non-commercial buildings will be bought by the bigger shops.



This chart shows that 49% of shops in Caldicot town centre sell goods. 19% of the buildings sell, high order goods, or are national chain stores. This shows that there is a much higher percentage of high order goods and chain stores in Newport compared to Caldicot. To ensure that this comparison is fair, I have again, defined high order goods as goods costing more than £20. The chart also shows that 10% of shops in Caldicot offer a low order service. This is far higher than in Newport, where only 2% of shops offer a service. Once again to make sure it is a fair comparison, I have defined any service costing less than £20, as a low order service. In Caldicot 7% of shops offer a high order service, this is considerably higher than Newport. In the case of low order goods in Caldicot 30% of shops offer low order goods, as in Newport 50% offer low order goods. This shows that Newport has a higher percentage of low order good than Caldicot. Caldicot has a higher percentage of banks and financial services, 3 times the percentage Newport has. Finally the chart shows that Caldicot has no vacant buildings, where as 19% of Newport's buildings are vacant.

Analysis of results.

Hypothesis one states "there would be a significant difference between the range of goods and services present in settlements of different sizes". I believe I have proved my hypothesis. By looking map 1 and map 2 you can clearly see that there are far more shops in Newport than Caldicot. The pie chart of Caldicot shows that, the town is dominated by low order goods, 30% of all the shops offer low order goods. The pie chart of Newport land use shows that low order goods dominate the land use with 50%, apart from that, the rest of the land use is varied.

We can tell that Newport has the most shops because the pie chart for Newport is larger than any other. The pie chart also shows us that Newport has a more varied land use than any of the other towns; hence there is a greater range of services and goods.

Hypothesis two stated that "there would be a significant change in land use with distance from the peak land value intersection of a town centre". I believe I have also proved this hypothesis. Pages 12, 13 and 14 prove that the location of the PLVI on page 7 was correct. Page 12 shows that the town centre is by far the most accessible place in the entire of Newport. As I have explained on the map, this land will therefore be most expensive, hence proving the location of the PLVI. Page 13 shows that the town centre of Newport is the safest area for pedestrians, also explained on the map, this land will cost the most, and therefore we have more evidence that the PLVI is located in the correct place. Lastly, page 14 shows that the area around and in the town centre is the most attractive and therefore, proves again that the PLVI is placed correctly.

Page 15 shows that there is a direct link between land value and distance from PLVI, that is "the further away from the PLVI the less the land costs". This means that land use will change and so proves the hypothesis. Pages 16, 17 and 18 show the change in land use. Page 16 shows that 0-50m from the PLVI, the main land use was high order goods and national/chain stores over half the shops were included in just these

categories. On page 17, the pie chart for the area 100-250m from the PLVI shows that only of the shops offer high order goods, or are national/chain stores, in this zone I seen more low order goods and low order services. Conclusively page 18 shows that 400-450m from the PLVI there is an increase in vacant buildings, and shops offering low order goods. These results are compatible with the bid-rent theory which says "the nearer the PLVI, you will find many high order goods and national chain stores, as they are big shops which can make profit on the very expensive land, and then as you move further away from the PLVI the land gets cheaper and therefore shops selling low order goods or offering a low order service can make a profit on the land, so they will be found here. All the above results show that I have proven both of my hypotheses.

Conclusion

I have drawn two conclusions from this investigation. The first of which is, that Newport has a far greater range of goods and services than Caldicot. This is coherent with the settlement hierarchy theory, as Newport is a large town, and Caldicot is a small town, hence Newport should have a greater range of goods and services than Caldicot.

My second conclusion is that in Newport, the further away from the PLVI the less national/chain stores and shops selling high order goods. To substitute these, more low order goods and services would be not capable of making a profit on the more expensive land found near to the PLVI.

Future Trends

The new big thing in retailing is out of town shopping. This is where big shops set up well outside the town centre, where there is easy parking. A good example of this is "Cribbs causeway shopping mall, Bristol", Cribbs causeway will have and already has had a big impact to Bristol town centre, and to a smaller effect, Newport and even lesser on Cardiff. Many shops in usual town centres rely on window shoppers, this is where people are walking past the shop, and something catches their eye which intrigues them to go in. Although if there are lots of big shops outside the town centre, where there are good public transport links and easy parking, the public will start shopping there instead. This will in turn cause less people to pass the shop windows in the town centres and

therefore the shops will lose profits. There is already evidence of this happening in Newport, where 19% of buildings are vacant. However, Caldicot town centre will not be affected much at all, as people don't shop for the same things in Caldicot town centre as they would do in Cribbs Causeway.

Only 17% of the shops in Caldicot town Centre are national/chain stores or sell high order goods. Where as in Cribbs Causeway, most of the shops fall into the high order categories. Therefore people will shop in Caldicot for their low order goods and services, and in Cribbs Causeway for high order goods, because there are very few, if any low order services in Cribbs Causeway, where as 10%of shops in Caldicot offer low order services.

This pie chart shows that High order goods, dominate land use 0-50m from the PLVI and national chain stores. It also shows that in comparison

to the pie chart representing the whole on Newport town centre there are high percentages of higher order services and financial buildings. In the chart representing the whole of Newport town centre, only 4% of buildings are financial, where as 0-50m from the PLVI % are financial buildings. In the case of high order services there is a 2% increase from 8%-10%