Section 4

Interpretation and QWC

Traffic Count

Hypothesis – *"In an urban area the closer to the CBD, the more transport there is"*

Our first traffic count was taken in Union Street 35m away from the CBD where 8 vehicles were counted in 1 minute (*figure 3a.1*). The number of vehicles per minute rose quickly as distance from the CBD increased until Guild Street, 140m away, where 29 vehicles passed. There was then a sudden drop at Waterside, 175m away from the CBD, where 3 vehicles passed. The counts stayed low until 315m away, in Windsor Street, where the number of vehicles began to rise. These counts were low because the roads were small and some were one-way – they only provided access to shops and small amounts of parking. They did not need to be used to access anywhere, as all major roads near them could be accessed by quicker roads, like in Sheep Street (*figure 3a.5*). The traffic count rose until 420m away, at the Gyratory, where 42 vehicles passed. This is because the Gyratory is a busy road used by most people who visit Stratford (*figure 3a.6*). The number of vehicles passing dropped until Bull Street, 560m away – 3 vehicles in a minute. Bull Street is a small residential Street which not many people use. The count finally rose until it peaked again 700m away on the Birmingham road near the Maybird centre, where 34 vehicles were counted (*figure 3a.2*). This is a busy section of road, as the Maybird centre is a popular out of town shopping centre.

There does not appear to be an overall trend so it is difficult to identify if there are any anomalous results. However, the large jump between Guild street and Waterside (140m and 175m away) was not expected as the difference between the number of vehicles passing a point in consecutive counts is generally not that large.

Most vehicles we counted were cars: they comprised 84.1% of the transport we saw. Vans were the second most popular means of transport, with 7.2% of the vehicles being vans. All other vehicles each made up less than 2% of vehicles seen (*figure 3a.3*).

Our Spearman's Rank Correlation Coefficient was 0.378571429 (*figure 3a.4*). This is a weak positive correlation, so our hypothesis is false. In an urban area when closer to the CBD, there is not more transport.

Pedestrian Count

Hypothesis – *"In an urban area the closer to the CBD, the more pedestrians there are and this will correlate to traffic flows"*

Our first pedestrian count was taken in Union Street, where 8 pedestrians passed in a minute (*figure 3b.1*). This is a very low count and an anomalous result. It is because Union Street is a very small road with a small amount of shops and parking. It leads onto a main road so is not very popular for shopping (*figure 3b.7*). The next two counts, taken in High Street and Bridge Street were high, with 24 and 19 pedestrians respectively. This is because they are both main roads with many shops and tourist attractions. The next two counts were lower – like Union Street – because of the lack of attractions. The next count, in Henley Street, was very high with 34 pedestrians passing in a minute.

This is clearly an anomalous result, however, there is an explanation for it: Henley Street is pedestrianized and has many shops and some very popular tourist attractions including Shakespeare's birthplace (*figure 3b.8*). All the rest of the results followed a gradually decreasing trend line (*figure 3b.2*), with some results slightly higher or lower than others, because some streets have many shops and attractions, whereas others are small residential roads.

Henley Street is clearly an anomalous result. Most of the other results are not too far from the trend line, however Alcester Road, 595m away, and Birmingham road near the Maybird Centre, 700m away, are quite large counts at large distances away from the CBD. They are both near to shops: the Maybird Centre is a shopping centre, and our Alcester road count was taken near to a Morrison's Supermarket.

Most pedestrians we saw were independents, i.e. they were aged between 16 and 64 (*figure 3b.3*). This is not surprising, as they are independent so can get about by themselves. The next largest group we saw were elderly dependents, who may be interested in the tourist attractions available as they have more free time. The smallest group we saw were young dependents, because at the time we did our counts most young people were in school.

I compared the number of pedestrians to the number of vehicles seen on roads (*figure 3b.5*) to see if there is a link between them. I completed a Spearman's Rank Correlation Coefficient and it gave a figure of -0.0987218 (*figure 3b.6*), meaning that there is no correlation or link between the number of pedestrians and the number of vehicles on a road.

Our Spearman's Rank Correlation Coefficient to show the relationship between the distance from the CBD and the number of pedestrians was -0.634210526 (*figure 3b.4*), showing that in an urban area the closer to the CBD, the more pedestrians there are, proving the first part of our hypothesis. However, this does not correlate to traffic flows, so the second part of our hypothesis is false.

Links between data sets.

Car Parking Survey

Hypothesis – *"In an urban area, the closer to the CBD, the higher the parking costs"*

Our survey of the cost of parking with distance from the CBD showed that parking is the same price almost everywhere (*figure 3c.1*). Because of this I made a table to compare the maximum durations of parking available (*figure 3c.2*), and put the on-road parking costs into a scatter graph (*figure 3c.3*). I did not include off-road parking (in car parks) in this graph as parking is available for up to 72 hours in the car parks, which would make the difference between on-road parking times largely irrelevant. The scatter graph shows a clear correlation between distance from CBD and maximum duration of parking. Roads such as Bridge Street which are very close to the CBD have very short maximum parking durations, because the parking is directly in front of the shops so access to shops is very easy (*figure 3c.5*). Roads such as Chapel Lane have longer maximum parking durations as there are no shops very close – they are further from the CBD (*figure 3c.6*). I also drew an isoline map for maximum duration of on-street parking (*figure 3c.4*). This shows clear banding between maximum parking durations.

Links shown between surveys

There may be a link between this survey and the pedestrian counts. There are more pedestrians nearer to the centre of Stratford because most people want to be close to the CBD to visit the attractions and shops. Because of this there is more demand for parking spaces nearer the CBD as

most people want to park as close as possible to the CBD so they do not have to walk as far to visit the attractions and do not have to carry their shopping as far back to their car. Therefore the maximum allowed parking duration is shorter nearer to the CBD as there is more demand for parking.

Our hypothesis cannot be said to be correct; in an urban are the distance from the CBD does not affect the parking costs. This is because parking costs the same almost everywhere in Stratford, no matter what the distance from the CBD is (*figure 3c.1*). However, in an urban area the further from the CBD, the longer the maximum duration of parking (*figure 3c.3* & *figure 3c.4*).

Word Count for Chapter 4 – Interpretation and QWC: 1262

Section 5

Evaluation

Traffic Count

We analysed 20 streets beginning at the CBD and gradually getting further away from the CBD at intervals of 35m to see whether our hypothesis *"In an urban area the closer to the CBD the more transport there is"* was correct. This method provided a way to collect data that represented the whole CBD, and the intervals were large enough to show a change in the traffic count.

The problems with our method were that we took traffic counts at different times throughout the morning. There was more traffic and transport at 9am during rush hour and less as the day went on. We took our final count at 12:30pm when the roads were a lot quieter than they had been earlier in the morning. We also only took counts of 1 minute. This means that in some places where there are traffic lights there were many cars going past at once, whereas at other times all cars were stopped by the traffic lights – like on the Gyratory (*figure 3a.6*). These reasons mean that the data (*figure 3a.1*) may be inaccurate and so will not show true results and correlations. The validity of our data may be questionable. Because our data may not be reliable, conclusions we have made from the data may not be correct: our Spearman's Rank Correlation Coefficient (*figure 3a.4*) may be incorrect.

To improve the results we should have asked more people to help us so that we could carry out all the traffic counts at the same time, which would mean that the time of day would not affect the data. We should have made counts for longer periods of time so that factors such as traffic lights would not affect the data. A count of 10 minutes would provide us with much more reliable and accurate data. These changes would make our results and conclusions more valid and accurate.

Pedestrian count

We analysed 20 streets starting at the CBD and gradually increasing the distance from the CBD with increments of 35m. Doing this provided us with a way to collect data showing the entire CBD and the intervals between the counts are large enough that a change can be seen in the number of pedestrians counted.

The problems with our method are that pedestrian counts were taken at different times during the morning. The number of pedestrians in Stratford gradually increases throughout the morning as more locals and tourists arrive to go shopping and visit the tourist attractions. We only took counts once, which means that sometimes there were large numbers of pedestrians, like those on a tour, who walked past us at once, but at other times there were hardly any people in that same street. We also tried to determine the different ages of pedestrians for our count, which can be very difficult to do – sometimes there were people of whose age we were unsure. These reasons mean that the data (*figure 3b.1*) may not be accurate, correct and reliable, and so true results and correlations will not be shown. Our Spearman's Rank Correlation Coefficients (*figure 3b.4* & *figure 3b.6*) – conclusions we have drawn from the data – may be incorrect.

To improve our results and to make them more reliable we should have repeated our counts and made at least three counts at each location throughout the morning. This would also help to remove the problem of counts being taken at different times during the morning, as an average could be

taken of all the counts at each location. To determine the ages of pedestrians we should have asked them what age they were so that we would know for certain how old people were. These improvements would make our results and conclusions more accurate and valid.

Car Parking Survey

Our car parking survey analysed every car park in Stratford within the CBD. By looking at all the car parks we established an overall view of the cost of parking in the CBD – our data shows the whole of the CBD. We visited all the parking locations and found out the prices ourselves so that the data we acquired was accurate and correct.

However, collecting the data took a long time as we had to visit almost every street in Stratford and this meant that the time for investigating our other hypotheses was limited, leading to less accurate and reliable data because we were rushing the surveys. We were also rushing this survey because we had to visit all the roads in Stratford so we may have missed a road, meaning that conclusions acquired from the data may be incorrect.

Our results showed that the cost of parking was the same almost everywhere in Stratford – it costs 50p for 30 minutes, £1 for 1 hour and £2 for 2 hours – so we could not evaluate our hypothesis: *"In an urban area, the closer to the CBD, the higher the parking costs"*. The only places which cost a different amount are Bridgefoot and Unicorn Meadow where 1 hour parking is free. In all off-road car parks one cannot park for 30 minutes – one has to pay the fee for 1 hour (*figure 3c.1*). Because of this I investigated whether the distance from the CBD affected the maximum duration of parking (*figure 3c.2* & *figure 3c.3*) and this was found to be correct.

To improve our investigation we needed to decrease the amount of time taken and to do this we needed to investigate fewer car parks – we should have used a sampling method to decide which car parks to check the cost of parking for. This would make our investigation more valid, reliable and accurate as we would not miss a street because we would know which streets we would visit, and we would not be rushing. Our other hypotheses would also become more reliable, accurate and valid as we would have ample time to carry them out.

Word Count for Chapter 5 – Evaluation: 687