

"Guildford's Transport System Is Unsustainable"

Introduction

The aim of this investigation is to find out whether or not Guildford's transport system is sustainable. In order to prove or disprove the hypothesis I am going to investigate the following enquiry questions:

1. Does Guildford Town Centre suffer from traffic congestion throughout the day?
2. Does Guildford's transport system encourage people to use alternative forms of transport to the car?
3. How far are people prepared to travel to get to Guildford?
4. Are there enough parking spaces in Guildford?
5. Where and when does congestion build up in Guildford?
6. Are there enough cycle routes in Guildford?

The reasons for investigating transport systems are because governments are trying to discourage people from using their cars and to begin using public transport systems to reduce air pollution, traffic accidents and congestion.

We are studying transport because it is very topical at the moment because of global warming – contributed to by car exhaust fumes – which may cause many undesired effects such as the ozone layer thickening, causing the polar ice-caps to melt and sea levels rising causing widespread flooding. This means governments are dedicating lots of time to improve transport systems, and it is relevant because we are studying a local area, which will affect us.

Transport trends show that the number of cars has increased dramatically on the road, the number of cars per household has increased and people are making more journeys, more often and going further, this is because many people work too far from their houses to walk and they like to visit other places, see other people who live further away etc.

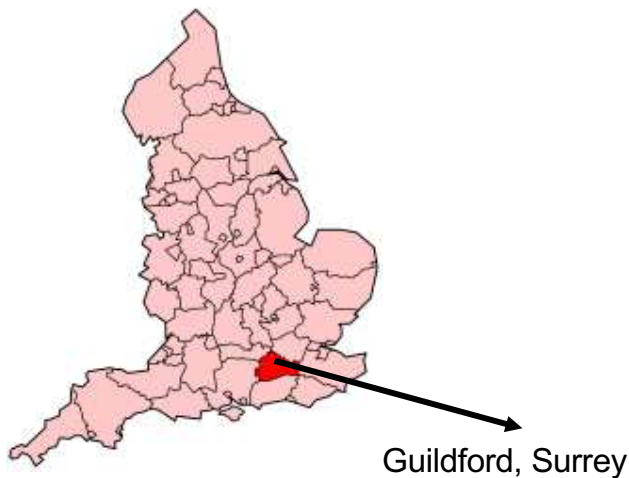
The objective of sustainable development is to make progress but not at the expense of the environment. The UN definition is: "A sustainable city is a city where achievements in social, economic, and physical development are made to last. A sustainable city has a lasting supply of the natural resources on which its development depends (using them only at a level of sustainable yield). A sustainable city maintains a lasting security from environmental hazards which may threaten development achievements (allowing only for acceptable risk)."

Examples of sustainable transport systems that have already been used in the UK are:

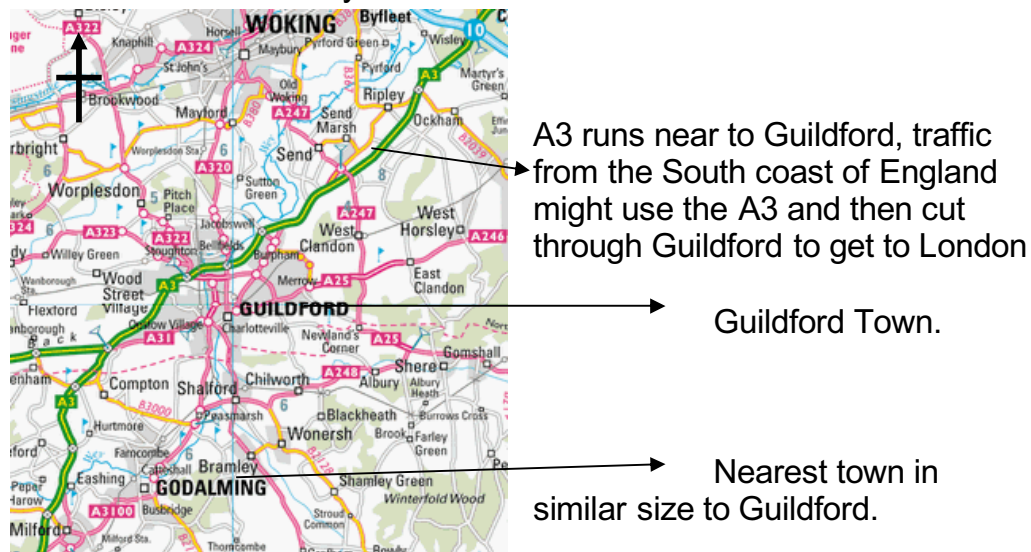
- The Park and Ride service from Guildford Town Centre to Guildford University and Guildford Spectrum.

- The Hopper bus designed specifically to take elderly people to a destination of their choice.
- Congestion charges designed to encourage people to use public transport rather than travelling by car/their own vehicle through already congested streets such as the A281 through Guildford.
- The M6 Toll road (where vehicles have to pay to continue along the road. Toll charges vary depending on the size of vehicle and pollution emitted).
- Trains, such as SouthWest which link up the whole country and allow people to travel long distances on public transport.

Where Guildford is in England:



Where Guildford is locally:



Guildford is located in the South East of England in the county of Surrey, it is also on the commuter belt to London, which has increased the traffic flow over the last 20 years and contributed to congestion. The population of Guildford in 2001 was 129701 (Statistic from:

www.statistics.gov.uk/census2001/pyramids/pages/43ud.asp)

There are more cars on the road today than ever before because they are very a convenient transportation method and people are earning are money making cars more affordable. Also many more people are commuting longer distances to school or work making them a greater part of everyday life. They are also generally faster than public transport and you can go directly to your destination whenever you want, which you can't do on buses and trains, increasing their appeal.

Methodology

I will carry out my data collection on 12th June 2007. Primary data will be important for my investigation because I will know exactly what it is and how reliable it is which I won't know if I only use secondary data. The advantages of this are that I will know that my results are reliable and unbiased and not twisted to show a particular point of view as they sometimes are in media, especially tabloids. The first piece of primary data I will collect will be a questionnaire. I will ask 30 people on Guildford high street near the middle of the day. I will ask closed questions only, not open questions because it will be quicker to carry out and people don't usually want to hang around doing questionnaires for ages. Also closed questions will be easy to analyse and represent in graph format. The questions I will ask are:

- How old are you? This will have different age ranges to tick and will help us because we will be able to see the difference in opinion between older and younger people.
- Do you live in Guildford? This will determine whether or not the person taking the questionnaire has travelled to/from Guildford.
- Do you think Guildford Town Centre suffers from traffic congestion? This will find out the public opinion as to the answer of enquiry question 1.
- How did you travel here today? This question will have a variety of different answers to tick e.g. "bus", "bike" and will also have an "other" option for less conventional methods e.g. "lorry." This will also help us to answer enquiry question 2.

- How far did you travel to get here? This question will determine the sphere of influence that Guildford has. I will use the answers to answer enquiry question 3.
- How often do you travel to Guildford? Linked to the previous question I predict that people who haven't travelled as far to get to Guildford will, in general go more often.
- Do you feel there are enough parking spaces? This simple yes/no question will help to answer enquiry question 4
- Do you feel there are enough cycle routes?
- Do you feel cyclists have enough priority? Both this question and the previous one will help answer enquiry question 6.
- Do you think the Park-And-Ride system is effective? This will see whether people are prepared to use the anti-congestion system and how convenient it is.
- How would you prefer to travel to/from Guildford? This will help me see how people prefer to travel to/from Guildford which will see how much people like the bus service and help me answer enquiry question 2.
- Did you get stuck in traffic today? This will help answer enquiry question 5 and help me work out the percentage of people travelling to Guildford who get stuck in traffic.
- How often do you get stuck in traffic travelling to Guildford? This gives a multiple choice question where the person circles a percentage and will determine how much people get stuck in traffic and how congested Guildford is. However this may be biased as if someone gets stuck in traffic one day they may be more liable to exaggerate how much they get stuck on average.
- The last question is an open question saying: What do you think about the public transport to/from Guildford? This is good because it gives people a chance to comment on public transport in general which will be helpful for enquiry question 2.

The second piece of data I will collect is photographs to see which roads are congested, cycle routes and non-congested roads so as to determine which roads are used most and how maintained and prioritised the cycle routes are. We will do this at various times throughout the day and in various places;

Next I will collect traffic counts, to see where and when Guildford is very busy/congested, I will do at 10am, 12pm, and 2pm throughout the day on the A281 into Guildford.

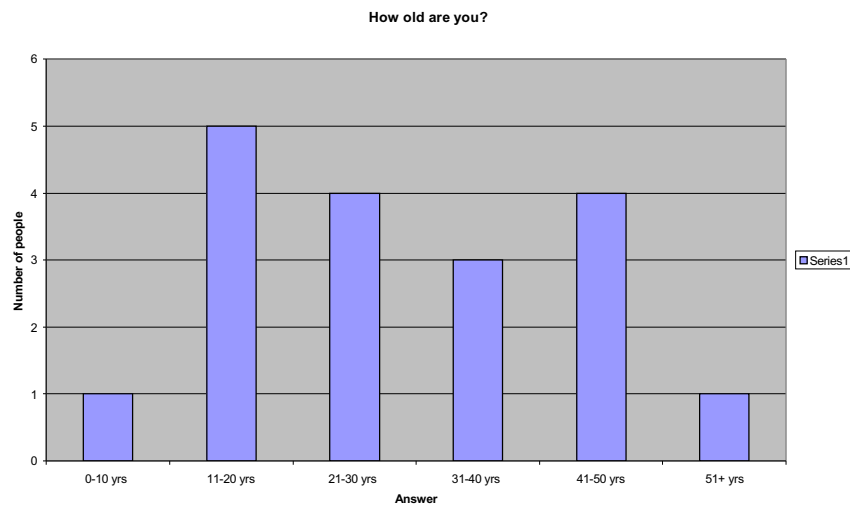
Tax disk survey, to find out how far people have travelled to get to Guildford. I will do this by noting down the location of where the car was last issued a tax disc, as most people don't like driving too far for MOTs, Tax discs etc, this will give a fairly good idea of how far people have

travelled to get to Guildford. I will do this in a car park in Guildford, near the centre.

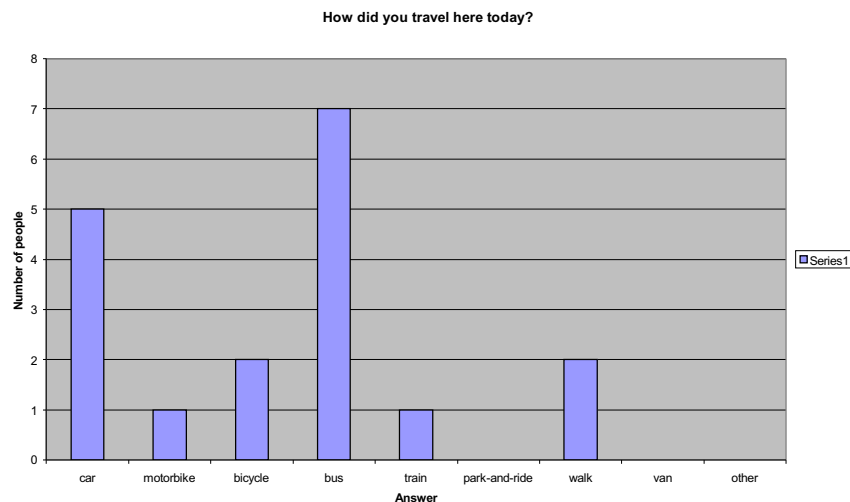
The secondary data I will collect will include bus, train and Park and Ride timetables and information to get an overall picture of provision of public transport within Guildford. This will enable me to back-up some of the results will collect for my primary data. I will also get information from the internet including Government views/censuses relating to congestion in Guildford. I will also collect newspaper articles and see what different companies in Guildford are doing to encourage "Green Travel Plans" to work.

Data Presentation and Analysis

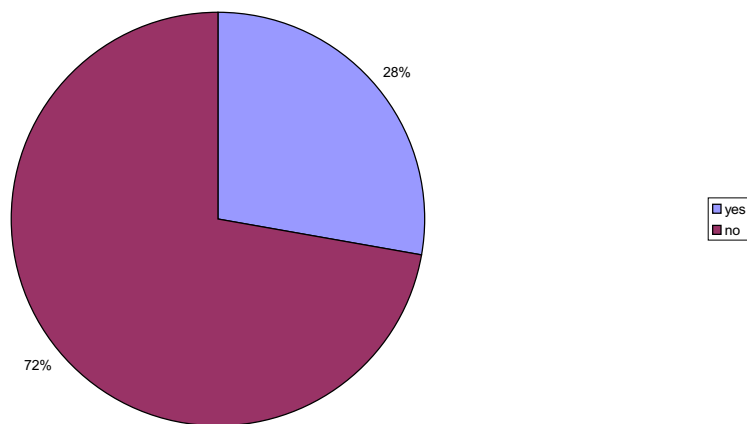
The results from my survey follow:



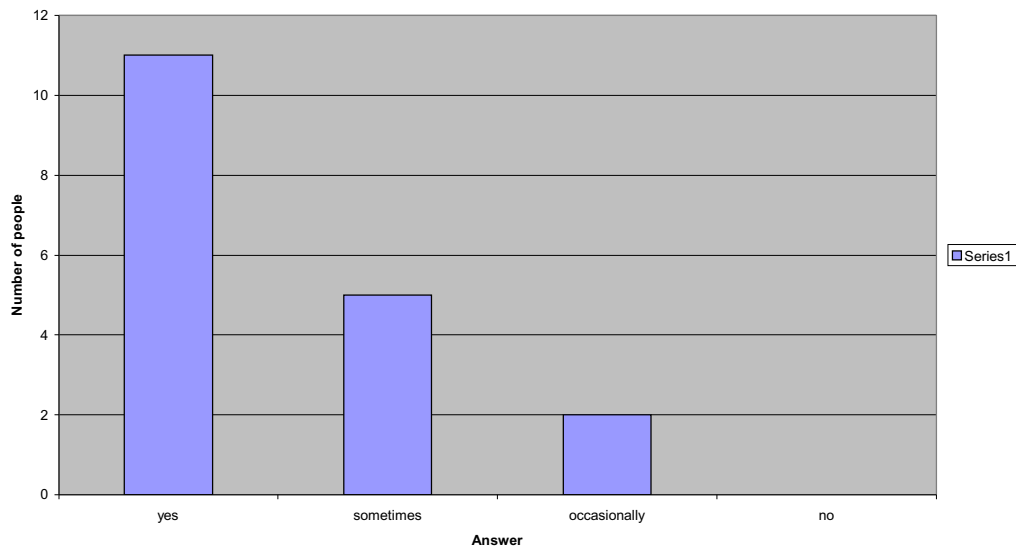
This graph shows the majority of people questioned were between 11 and 20 years old although there are results from all age ranges. This graph also links in with the graph below on how people travelled to Guildford with everyone in the 11-20 year old range answering either “bus”, “walk” or “bike”, with bus being the most common, and everyone in the 21-30 range answering “car” or “bus”, with one “motorbike”. Everyone in the 31-40 year old age range answered “car” and out of the 4 people in the 41-50 age range, 1 person travelled by train, 1 by car, 1 by bus and 1 walked. The under-10 year old cycled and the 50+ year old came on the bus. This shows that the younger and older generations are more inclined to use public/sustainable transport methods whereas the in-the-middle group of 21-40 year olds are more likely to use cars and motorbikes. Also nobody said they travelled by Park-and-ride, which could suggest that the system doesn’t work very well.



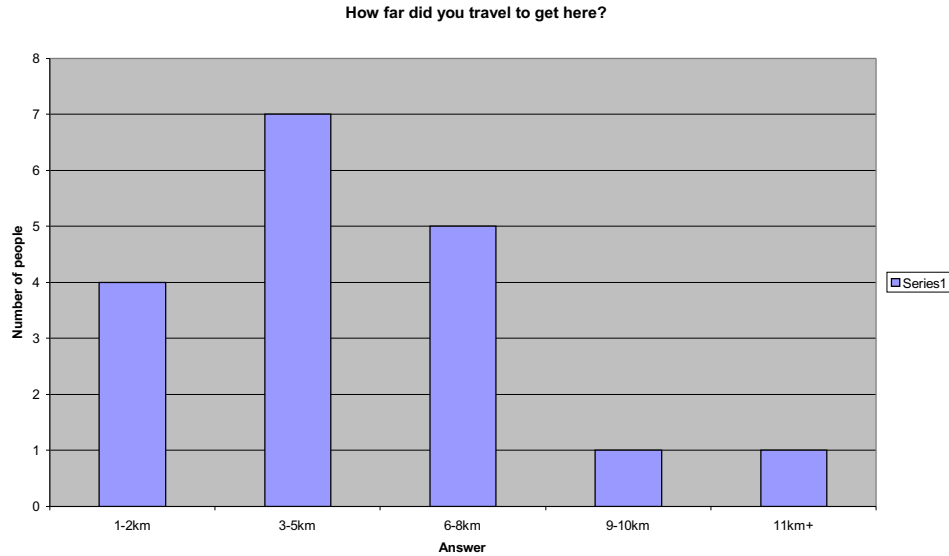
Do you live in Guildford



Do you think Guildford Town Centre suffers from traffic congestion?



These two graphs link together as the 5 people who live in Guildford all answered “sometimes” whereas out of the 13 who do not live in Guildford, 11 answered “yes” and only 2 “occasionally”. This shows people who have to travel to/from Guildford think that the traffic is worse than people who live there. This could be because they travel there at rush hour and so only see the very busy, congested roads, whereas people who live there see the roads when they are almost empty as well. Also nobody answered “no” so everybody thinks that Guildford is congested at least some of the time despite council efforts to make it a sustainable system.

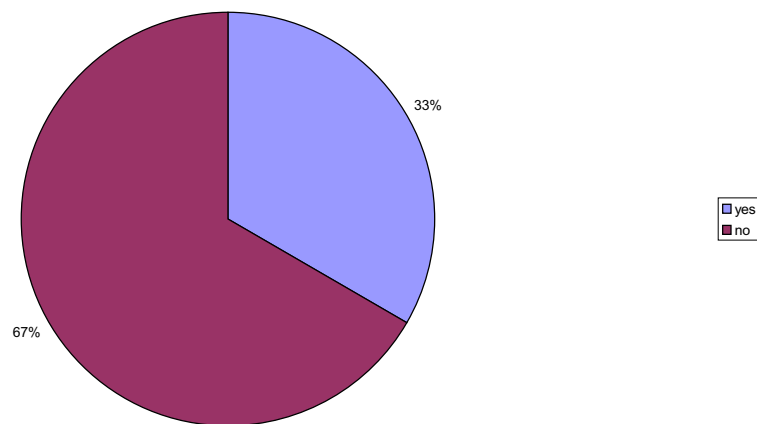


This graph shows that Guildford has quite a large sphere of influence with a lot of people travelling up to 8km and some but not as many travelling further than that to get to Guildford. These are also just people on Guildford high street so they are probably there for leisure rather than work. This could bias the result because people are more likely to travel further to get to work than they are to go shopping so maybe lots of people travel over 11km to get to work at Guildford but they aren't represented because it was taken whilst most people with jobs in Guildford were working.



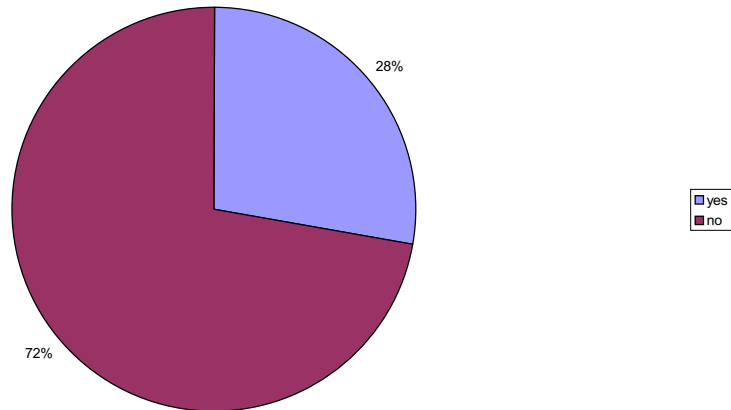
This links with the previous graph as the 5 people who travel to Guildford "everyday" almost all answered the previous question saying they live within 2km of Guildford. Also the 8 people who go to Guildford between 1-2 times a fortnight and 1-2 times a year almost all live more than 6km away, which suggests that is why they don't visit Guildford as often.

Do you feel there is enough parking spaces?

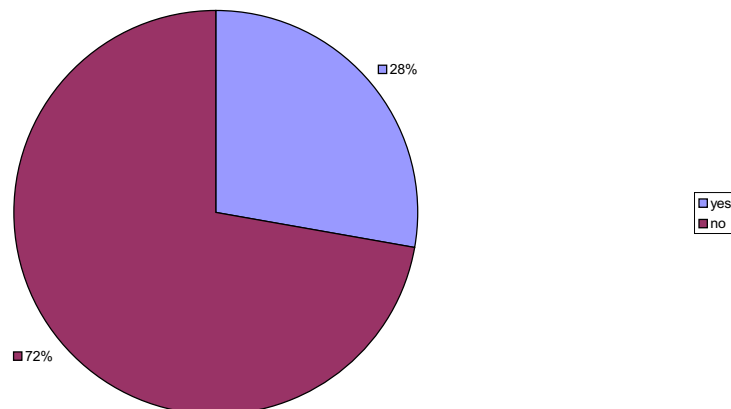


This graph shows that the majority of people – 67% – think that there is not enough parking in Guildford; this would suggest that changes should be made to increase the parking space in Guildford. Lack of parking doesn't seem to discourage people from driving to Guildford rather than using public transport or the Park-and-Ride system; it just contributes to congestion and increases public dissatisfaction. It shows that Guildford doesn't have a sustainable transport system as people have to drive round a lot to find somewhere to park.

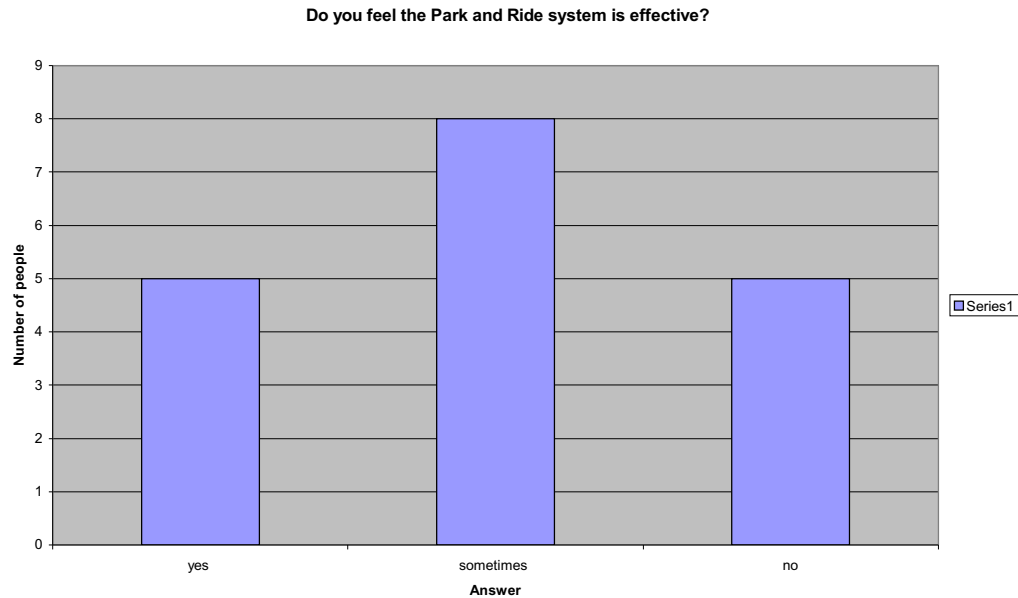
Do you feel there are enough cycle routes?



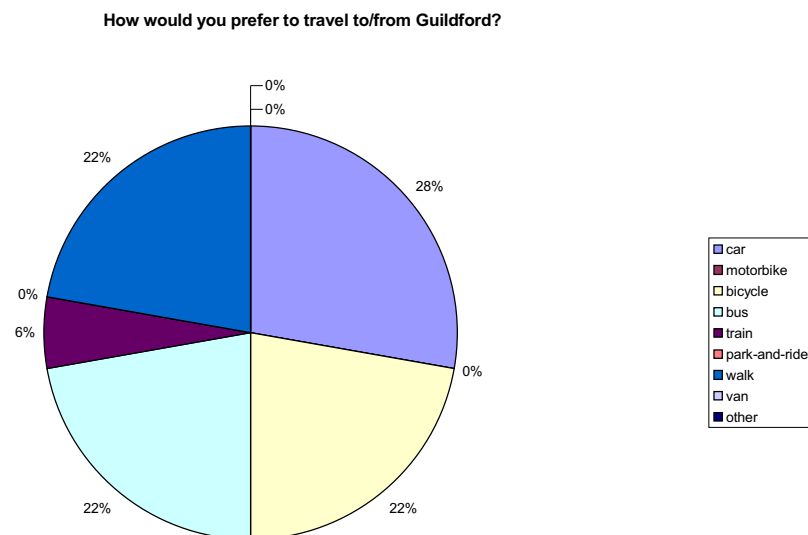
Do you feel that cyclists have enough priority?



These 2 graphs show that almost $\frac{3}{4}$ of the people we surveyed think that cyclists do not have enough priority or safe routes specific for them. This would almost certainly put people off cycling to Guildford because the main routes into Guildford like the A281 would not be nice to cycle on and most people would not feel safe on such a busy road with no cycle lanes or other priorities. It is also interesting to note that the 28% of people that said they thought cyclists had enough priority and there were enough cycle routes all travelled by car to Guildford. This also shows that Guildford's transport system isn't very sustainable if most people think that it doesn't accommodate bikes very well.

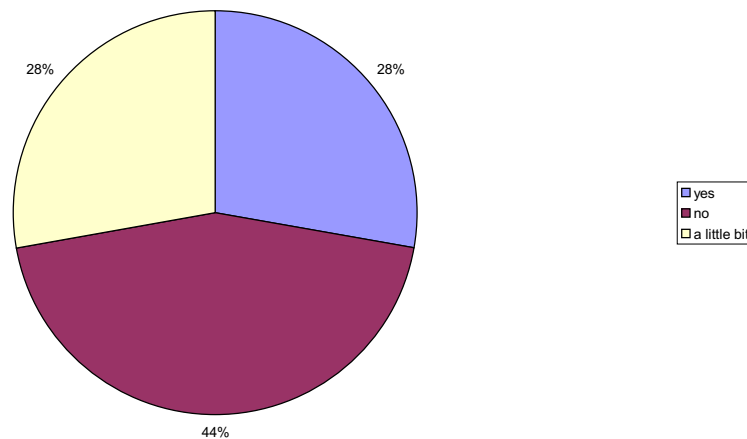


This shows that only 28% of the people questioned think that the Park - and-Ride system is effective with several people commenting on how it is too far out of Guildford. This would suggest that Guildford doesn't have an effective sustainable transport system and the majority of people are dissatisfied with it.



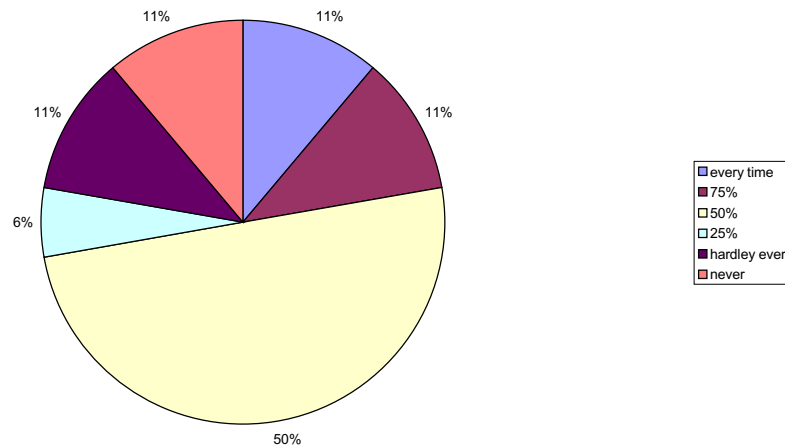
This graph shows that the majority of people would prefer to travel to Guildford by car, closely followed by bicycle, bus and walk. It is interesting to note that the people that would prefer to travel by car were all over 30, which suggests that the younger generation are more inclined to use sustainable transport. Also no-one said they would prefer to use the Park-and Ride system so that could mean that it is not very effective or convenient.

Did you get stuck in traffic today?



The majority of people questioned did get stuck in traffic on the day of the survey, if only a little bit, which would suggest Guildford's traffic system is not very sustainable. However almost $\frac{3}{4}$ of the people got stuck in little or no traffic with only a $\frac{1}{4}$ getting stuck for more than a bit which shows that the transport system is quite good, and not too jammed up the whole time, though it must be sometimes because 28% of people surveyed were stuck in traffic.

How often do you get stuck in traffic travelling to/from Guildford?



This graph shows that 50% of people get stuck in traffic about half the time when travelling to and from Guildford, with 28% saying they get stuck less than that and 22% saying they get stuck more than that. However, with 72% of people getting stuck in traffic at least 50% of the time, Guildford's transport system seems to be quite congested and not very sustainable.

Next I will analyse the photos we collected:



This shows Guildford bus station where there are generally quite a lot of buses travelling to/from it. There is a pedestrian crossing, which shows that thought has been put towards making it safe for pedestrians. From the photo it does not seem to be in very good repair however which may suggest that the buses aren't either as they are both council responsibility. This would discourage people from using Guildford's sustainable transport system making it less environmentally friendly.



These 3 bike stands show a bike stand on the A281 at 10am and then again at 12pm. The 3rd picture shows a different bike stand at 2pm. As you can see there are more bikes using the stands as the day progresses and on all pictures the bike racks are full and, in the 2nd picture, too small to hold all the bikes left there: forcing people to lean their bikes on a nearby road bollard. This could suggest that places to leave bikes in Guildford need to be enlarged so there is enough space for everyone who wants to cycle to Guildford to lock up their bike safely and out of the way. If there were more spaces to store bikes safely more people would be likely to cycle rather than drive – especially as you don't have to pay parking fees on cycle racks.





These 2 photos both show Guildford being quite congested – with a full car park and a traffic jam, albeit a small one. This indicates that Guildford's sustainable traffic system isn't very effective if there are so many cars travelling to/from Guildford - rather than those people travelling by bus – that the car parks and roads are full of traffic. Also these photos were taken at about 10:30am so the car park wasn't even at it's fullest and the road was less congested than at midday.

However, at about 11am, when this picture was taken, the road was quiet with no cars on it, which might suggest that Guildford's public transport system is effective sometimes.

I also collected information from the bus timetables and found that although they ran fairly frequently to most places they did not run very late. Also I looked at a census for Guildford: (<http://www.statistics.gov.uk/census2001/profiles/43ud.asp>) which shows how people travel to work and it said: 41837 people travel by car and only 7959 travel by public transport which shows that cars are much preferred than buses and trains so Guildford's transport system isn't all that good.

Conclusion

The aim of this investigation was to find out whether or not Guildford's transport system is sustainable or not. The hypothesis I tested was: "Guildford's transport system is unsustainable." I tested the hypothesis by investigating the following enquiry questions:

1. Does Guildford Town Centre suffer from traffic congestion throughout the day?
2. Does Guildford's transport system encourage people to use alternative forms of transport to the car?
3. How far are people prepared to travel to get to Guildford?
4. Are there enough parking spaces in Guildford?
5. Where and when does congestion build up in Guildford?
6. Are there enough cycle routes in Guildford?

The answer to enquiry question 1 is yes because 100% of people surveyed said that they thought Guildford Town Centre suffers from traffic congestion at least occasionally. Also the photo of the A281 shows a traffic jam which consequently means congestion on it. However the evidence that conflicts with this is that 22% of the people surveyed said they never/hardly ever get stuck in traffic, and nearly half of the people said they had not been stuck in traffic that day. However, from my traffic counts, I know that on Wednesday 12th the A281 was only saturated at 12pm and not at 10am or 2pm. This shows that although it is not jammed at 10 and 2, it is at 12 and I did the survey at 11am so the people I questioned would have arrived at Guildford in the less busy hours. The answer I have given is because it has the most evidence backing it.

The answer to enquiry question 2 is yes. The evidence that supports this is the majority of people chose a sustainable method of transport such as "bus" when asked how they would prefer to travel to/from Guildford. Also 67% of people travelled to Guildford on Wednesday 12th via sustainable transport methods such as bus or bike. However, nobody said they would have preferred to use the Park-and-Ride service so maybe that needs updating to make it more used and more helpful towards Guildford's sustainable traffic system. Also the census for Guildford shows how 425% more people in Guildford travel to work using a car compared to public transport, so for every 10 people travelling to Guildford only about 2 travel on public transport. The answer I have given is because the majority of people travelled to/would have preferred to use a bus or sustainable method rather than car, however if I was focussing specifically on people who enter/leave

Guildford during the rush-hour on their way to work I would definitely have said no, as the Government's figures are probably very reliable.

The answer to enquiry question 3 is quite a long way – lots of people up to 20 miles and some further. The evidence that supports this is the tax disc survey I conducted. It shows that people come from over 60 miles to visit Guildford. However a possibility that conflicts with this is the fact that Northern schools sometimes have different holiday dates which could have conflicted with the date of our survey so people may have come on holiday to Surrey rather than to specifically visit Guildford.

The answer to enquiry question 4 is no. The evidence that supports this is 67% of people said no in the questionnaire and photos I took of the car park outside the Yvonne Arnold in Guildford showed it to be very full from fairly early in the morning. However the evidence that conflicts with this is that 33% of people questioned said yes. The answer I have given is because the majority of people questioned agree with it.

The answer to enquiry question 5 is around midday on the A281 into Guildford on weekdays and midday in both directions the A281 on weekends. The evidence that supports this is traffic counts I did on both a weekday and weekend that showed the A281 to be congested into Guildford at midday on both days and out of Guildford as well on weekends, whereas no other roads that I have traffic count results for have been shown as saturated.

The answer to enquiry question 6 is no. The evidence that supports this is 72% of people questioned said no to both "are there enough cycle routes" and "do you think cyclists have enough priority". Also as seen in the photos there is not enough space to store bikes and no signs of cycle ways anywhere near the bike racks. However the evidence that conflicts with this is that 22% of people feel there is enough cycle routes. The answer I have given is therefore based on what the majority of people think and what my photos tell me.

From my evidence I can conclude that this hypothesis is true because 5 out of my 6 enquiry questions show Guildford to be congested and unsustainable.

In order for Guildford's transport system to become more sustainable I would suggest that the Park-and-Ride service is improved because nobody I questioned would have preferred to travel via it, and that more cycle lanes and stands are introduced so as to encourage people to cycle more rather than drive.

Evaluation

The strengths of the investigation were that lots of data was readily available in Guildford and on the internet, also the study area (Guildford) wasn't too big so we didn't have to walk for ages to get from our survey spot to our traffic count place and visa versa. Also the tax disc survey was relatively easy to do except for the fact that some of the names had faded from the discs so you couldn't read them.

The weaknesses of the investigation were lack of resources to complete a full-scale investigation, and some of the primary data was unreliable. For example, in the first 15-minute traffic count my partner counted 5 more lorries than me! Also people on Guildford high street really don't like school kids with clipboards and it was very difficult to get 30 people to answer our questionnaires, not helped by my partner's Xenophobia (fear of strangers) and the fact that we got kicked out of the Friary which lowered the amount of people we could question. In the end we settled with just 18 which although less reliable, meant we could get the other sections of the primary research completed.

I would extend and improve the investigation by acquiring more results for different roads and different times on a weekend, as well as trying harder to get 30 people to do the questionnaires