

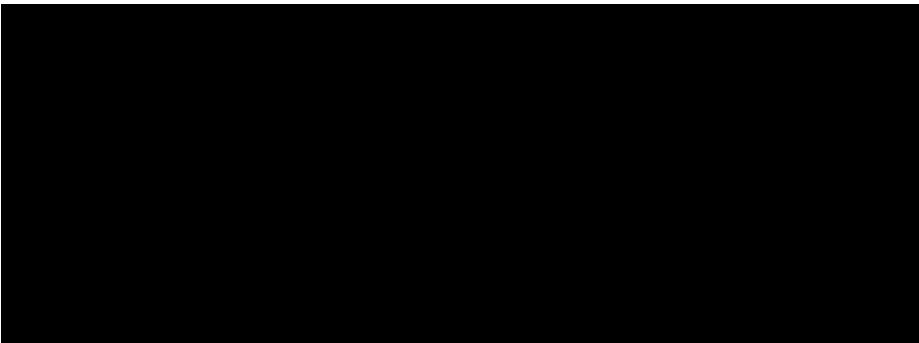
Geography Conclusion

My hypothesis is that "There is traffic congestion on routes leading into Birmingham" and my own perception on this is that it is correct as do many commuters of Birmingham. Although I agree that traffic congestion is an issue it is not a constant problem, as there is not congestion at all times throughout the day. My outlook to this problem is that traffic congestion is only a dilemma and reaches its peak at certain times. These times are known as "rush hour" which are the few hours that workers are intending to get into the city to travel to their occupation or when the workers are travelling out of the city at the end of their work hours. As work hours are similar in the city this can cause problems on getting in or out of the city.

An Inspectors Report from Midland Metro suggests that since 1997 – 2007 there has been an increase of traffic coming in to Birmingham from Sheepcote Street, which leads on to, Broad Street has increased between 78% and 364% depending on the time. This can give us a mental image of the increase taken place over the last decade.

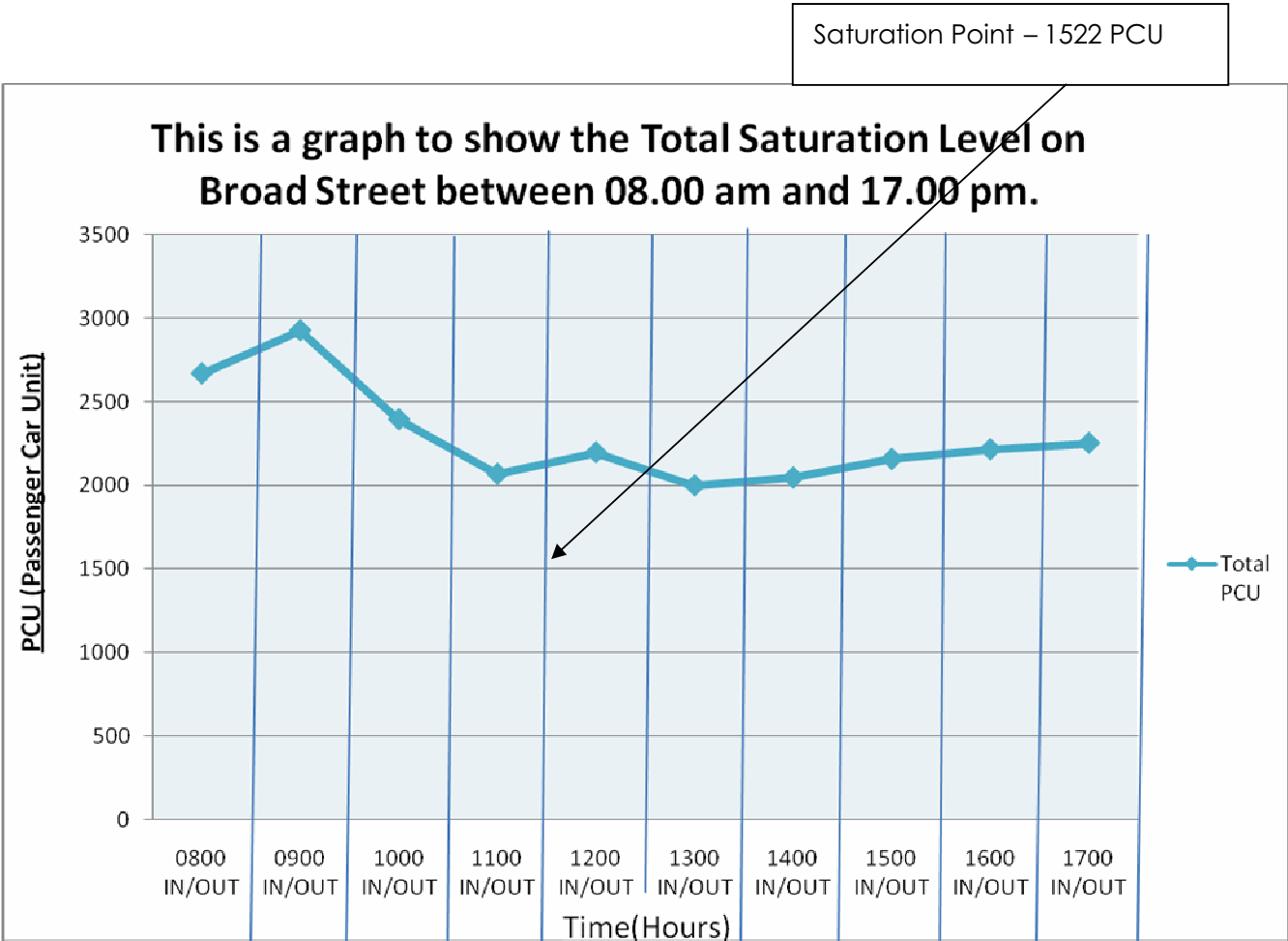
I agree with this hypothesis due to the evidence that we assembled via the questionnaire and the traffic count. Both of these results accumulated together supported this hypothesis in some terms. For instance; through the traffic count we can see that there are an immense number of vehicles cars arriving into the city during mornings and a vast amount of vehicles leaving the city at lunch -time and in

the afternoon. Both incoming and outgoing where mainly dominated by cars.



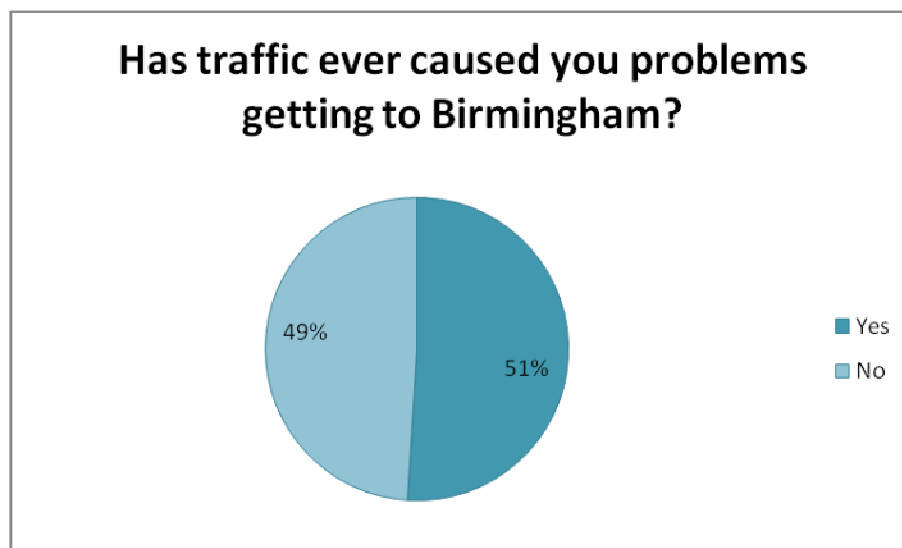
Both of these graphs support the hypothesis as they clearly show that there is a lot of vehicles entering and leaving the city, hence traffic congestion is produced.

Another one of our data collections that proves our hypothesis correctly is the PCU graph. This graph shows the amount of hours in a working day that are congested. The graph was produced by collaboration of our traffic count results and the amount we multiplied this figure by to achieve our PCU amounts.



From this graph we can interpret that at all times between the working hours (9am-5pm), Broad Street was congested, hence the publicity it gets over the amount of traffic congestion on that particular road .

In terms of the questionnaire, it was fairly even in terms of whom had experienced traffic congestion whilst attempting to get into the city centre; however there was a slight advantage in the favour of those who answered "yes".



This graph is an interpretation of our results which we collaborated via our questionnaire. The graph shows how close it was between the two options, hence giving us a somewhat equivalent outcome.

▲ as our hypothesis does not state a specific time, an argument could be raised against the hypothesis as the traffic count shows that during work hours there are not many vehicles that enter or departure the city centre. This kind of rejection of our hypothesis could have been avoided if we had stated a specific time or certain amount of hours a day in our hypothesis. ▲ as for the questionnaire there were just less than half the interviewees that suggested they had not experienced problems getting into Birmingham due to traffic congestion .

Throughout the investigation we found a number of problems that could be the cause for the huge amounts of congestion, however in my opinion the main source of traffic congestion on routes leading into Birmingham seems to be the lack of use of "car-sharing". ▲ as the vast amount of workers travel alone, the amount of cars would increase on the road, however if workers within the same workplace

travel together, there will be a reduction in the amount of cars on the road, implementing in less traffic congestion. From the commuters that we interviewed there was a large agreement where over half of the interviewees advocated that the main problem for traffic congestion is vehicles. This has been sub-headed as there were many different reasons for traffic congestion but the majority could be sub-headed under "vehicles". From looking at the data collected it is quite noticeable that generally train and car users were in union that the main cause for traffic congestion was due to "on-road vehicles". Another suggestion that the public raised for the rise in congestion is due to the increase in bus fares. Study shows that rise in bus fares have risen 20% over the last 5 years. This is a factor that discourages public transport users to revert to personal transport.

Many different measures have been taken to tackle this growing problem of congestion in not only Birmingham but throughout the nation. Some methods that have been implemented in Birmingham are:

- Red routes
- Bus Lanes
- Toll Roads installed
- Pedestrianisation

Although this particular solution has been installed, it has not been working effectively. This method of reducing traffic congestion is the "red route". The red route is a marked off area where any means of stopping is prohibited. Although this system has been installed it is not working effectively, as one news article suggests, "Traffic wardens patrolling Birmingham's controversial Stratford Road red route issued almost 7,000 parking tickets in just 10 months, generating about £400,000 in fines for the city council." That is approximately 24 tickets daily, which clearly shows that the red route is not being applied well or is just not being followed by the general public. One way in which I think will reduce this number is by the government raising the penalty. This will keep the drivers aware of what they are getting into and will make them think twice before thinking about breaking this law again.



Another solution that has been tried out by the government is "bus lanes". Bus lanes are lanes that are restricted to only buses, although in some cases taxis and cyclists may use this lane as well.



The usage of this lane is to allow traffic to flow more fluently, hence reducing traffic congestion as buses are a large vehicle and take up a lot of room, however carry vast amount of people. In terms of bus advantages, the bus lane allows there to be less or no delays in the buses, therefore no hold ups on the routes which could potentially cause traffic congestion. Although these bus lanes have been created, one must question the efficiency of this use of transport and if it is worth spending additional government funds on the scheme. The reduction in use of buses has been implemented vastly by vandalism and misuse of this method of transport.

One more method that the government have put into utilization is the "toll road", which has been installed on the M6 connecting Junction 4 (NEC -Birmingham) to Junction 11 (Wolverhampton) offering 27 miles (43km) of six-lane motorway. By doing this it will increase the surface area of each road, hence decreasing the amount of congestion. However, there is a cost to use this non-congested road, and the most recent charges are shown below.



Guide	Mon - Fri (06:00 - 23:00)	Sat - Sun (06:00 - 23:00)	Night (23:00 - 06:00)
Class 1 (e.g. motorbike)	£2.70	£2.50	£1.50
Class 2 (e.g. car)	£4.70	£4.50	£3.50
Class 3 (e.g. car & trailer)	£8.40	£8.00	£7.00
Class 4 (e.g. van/coach)	£9.40	£9.00	£8.00
Class 5 (e.g. HGV)	£9.40	£9.00	£8.00

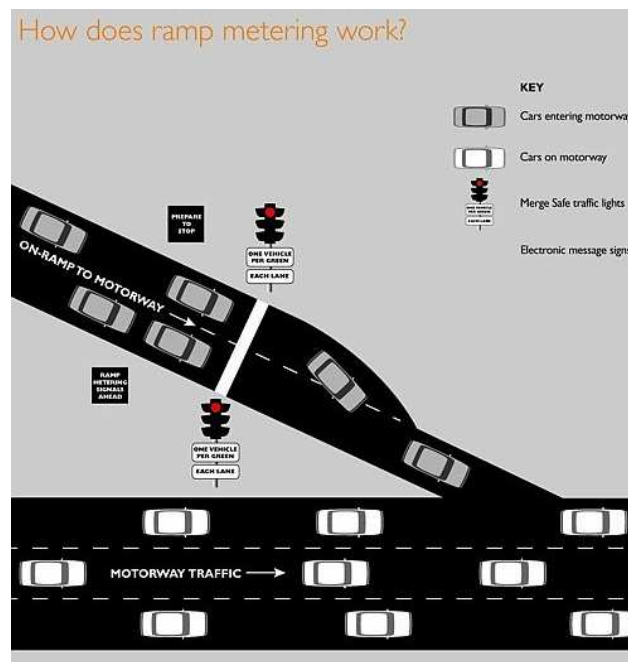
Pedestrianisation is a key aspect of cutting down congestion as it is an encouragement to for walking to the city centre for those short distance travellers. Research suggests that 42% of commuters travel to Birmingham from 2KM or less, and as studies suggest by doctors, 2KM is the optimum amount of walking on a daily scale. With approximately 20% of all journeys into Birmingham are made by foot it is still at a low compared to years previously. (Statistics from http://www.birmingham.gov.uk/GenerateContent?CONTENT_ITEM_ID=21364&CONTENT_ITEM_TYPE=0&MENU_ID=5619)

There are many potential solutions that could reduce the overall congestion within the city centre of Birmingham; however the local government have not yet tried all these methods, and in this section I intend to raise some possible ways in which some methods can reduce traffic congestion.

My first suggestion is the use of a monorail which in my opinion will reduce traffic congestion by a substantial amount. With this means of transport elevated above ground level this will reduce any traffic congestion caused by this transport method. The benefits of installing this system is that, in areas where there are insufficient space to build railway lines or roads the monorails can be installed at these places and therefore these areas are being used effectively. However there is a drawback on the monorail as it costs huge sums of money and the systems success is not guaranteed so it's a gamble in a sense. Another drawback is that in the case of emergencies the passengers on board the monorail cannot exit their compartments as the monorail is suspended. Therefore a rescue team such as fire fighters or a rescue train comes to aid. The image below shows the simplicity in how the monorail can travel quicker than those in a car.

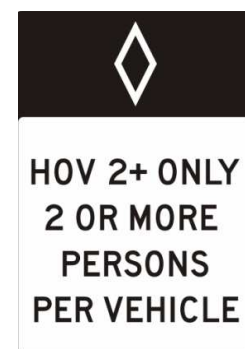


▲ Another proposition I would like to bring forward is the idea of having a ramp meter or other whys known as ramp signal. ▲ ramp signal is based upon a two colour lighting system (normally red and green) where one light would indicate for one car to go through to the main road. This is used vastly throughout the United States, and has been tried out in the UK however only to a bare minimum. If used effectively and in the right areas it can prove to really reduce congestion, however the line waiting to enter the main road may dramatically.



This image shows how the ramp signal works and how it can reduce the traffic congestion. In my opinion they should use this on all the links to the major roads that lead into Birmingham City Centre as it will reduce the traffic congestion coming into the centre of demand in one big bulk. Although this is a cheap system to install it is quite frustrating for drivers to wait their turn, hence the council could get a lot of complaints and grief from drivers.

One more suggestion I can put forth is HOV (high occupancy vehicles) lanes. This particular lane is especially for those vehicles with normally 2/3 + passengers. As HOV lanes only cater for 2/3+ passengers this will encourage those travelling alone to start to travel alongside colleagues, and by doing so this will increase the amount that car share, hence taking more cars off the road, and people start to travel effectively, for example not travelling alone in a five-seated car, rather travelling with three or four members of the workforce. This system is used mainly in the United States and it has proven that many people use dummies to deceive the cameras to think it is a person when however it is really a driver trying to take the benefits of the HOV lane. If these criminals were to be caught a serious fine would be put on their head. In my opinion this method of reducing traffic congestion should be introduced on the main roads that lead into Birmingham.



My perception on the problem of traffic congestion is that it is possible to be reduced; however the local authorities must be willing to spend vast amounts if they intend to resolve this situation. As expected not one solution individually will put congestion into termination; it requires a number of methods being introduced and the existing ones to be improved on. Another aspect that the council need to brush up on is their advertising of car sharing. This scheme has been put in place and in my eyes it has potential to be very successful, however the council need to publicise it more alongside other congestion cutting schemes.