GCSE ICT Coursework Task Two – Traffic Lights

Identify

Local Thurrock Council Officer Dean Simpson has asked me to assist me with the setting up of a new series of temporary traffic lights in conjunction with a set of improvements to a road. The lights must control single alternate-line traffic and be able to cope with varying amounts of traffic within certain time limits. To do this I have decided to use an ICT solution because otherwise there would be a large amount of pointless and futile files describing the exact times and the working out of this would have to be done on a calculator. I have decided to use Microsoft Excel because it provides me with the ability to produce spreadsheets and be able to link them with functions such as paste link, if statements and lookup tables. I have rejected to use Character Map because it has no facilities to produce spreadsheets and I have rejected Microsoft Works' Spreadsheet because it is not as good as Excel and does not provide me with the facilities that Excel does.

Analyse

Mr Simpson has called me in to devise, if feasible, a system that will work out the estimated times for cars to come at certain times, the amount of cars likely to come past in a period of time and how many cars should be let through in that same period of time in order to prevent serious traffic jams. Also I will need to take into account the average length of a car and the average amount of space that each driver leaves between themselves and the next car. This will be collected into a spreadsheet table and will be collected from various locations across the country where temporary traffic lights are installed and from car specifications. This will need to be sorted into price ranges and assumptions based upon the types of cars that a particular type of person who will be travelling at a particular time. Eg a well paid computer technician would have an expensive car and would be travelling in to work at a particular time in order to get into the city in time. Therefore at a particular time there will be a particular type, and therefore length, of car on the road.

Design

In order to produce this I will need a table(s) displaying the number of cars passing in a set period, the average number of cars passing in a set period, an estimated average length of car, the extreme lengths of car and the amount of time that the traffic light should be: a) red and b) green. All figures will need to be estimated.
I intend to use assumed data and formulae to produce a three day model showing the queue on both sides of a set of roadworks. To highlight important formulae, I will make them bold and surround them with an eye-catching, red border. In addition, to make the system more user-friendly, I will put comments into cells so that the user may see exactly what must be entered into each cell.