Paragraph 1: Introduction

Cheddar, in Southwest England, is famous for its gorge and caves, which are features of the limestone area in which the town is located. Every year, these interesting landforms attract increasing amounts of tourists, which endanger the natural limestone environment of Cheddar, in particular the gorge.
A Park and Ride, which would be built at the Eastern entrance to the gorge, has been suggested as a possible way of solving this problem.

The aim of my coursework will be to investigate the impact of tourism and of a Park and Ride scheme on the natural limestone environment of Cheddar, in order to decide whether this Park and Ride should be built.

This decision-making exercise will be a cross-unit task, referring to two parts of the syllabus: "Water, Landforms and People"(physical geography) and "People, Work and Development"(human geography).
In the context of physical geography, I will look at the formation of the limestone scenery in Cheddar. The human aspect of my coursework will cover the impacts of tourism on this scenery, as well as the economical and social effects of a Park and Ride on the local area.

Collection of primary data:
In order to understand how the landforms at Cheddar were made, and how tourism can damage them, I have studied in class the action of water on limestone and the features it creates.
The primary data I needed, in order to analyse physical features and the importance of tourism, was collected during a field trip to Cheddar. It included a land use survey and visits to the caves, gorge and panoramic tower, all of which will help me determine how important tourism is to the local economy, and whether a Park and Ride might disrupt it. I also carried out a traffic survey to get an idea of the number of visitors and of the damage done to the gorge. Finally, I questioned a number of tourists to see if a Park and Ride scheme was really needed, and to understand why so many people come to visit Cheddar.

Location of Cheddar:
Cheddar is situated in the South-West of England, in North Somerset. Map shows that it is in the Mendip Hills, quite close to the Bristol Channel, to Bristol city (about 20 miles to the North-East) and to Bath (approximately 30 miles to the East). Cheddar is very accessible: it is quite near to junction 21 (12 miles away) and 22 of the M5 motorway (which links to the North and the Midlands). The M4 (which goes to South-Wales and London) can be reached easily, just above Bristol. The closest airport, Bristol international, is only 12 miles away and so is the closest railway station, in Yatton.

The area around Cheddar (which includes highly visited sites like Bath, Weston - Super-Mare, Wells and Glastonbury) relies a lot on tertiary industry, especially tourism.

Method:
In order to decide whether the Park and Ride should be built, I will first describe the characteristics of limestone scenery in the Cheddar area.
I will also investigate how tourism and traffic affect the natural environment in Cheddar, and whether a Park and Ride scheme would be an effective way of protecting it.
In a second chapter I will display the results of my surveys, which will be referred to in other parts of the investigation.
My third chapter will look at the impacts of a Park and Ride on different groups of people. I will then weigh all environmental, economical, and social effects of the Park and Ride (or its absence) on the local area, and decide if it should be built.
Finally a conclusion will sum up my investigation, in which I will evaluate how reliable my decision was, depending on the quantity and accuracy of the information collected.

TASK 1: Limestone Landforms in Cheddar:

In order to understand why there is such an exceptional scenery at Cheddar, we need to look in detail at the particularities of limestone, the rock found in the Cheddar area.

Limestone is called a "sedimentary" rock because it was formed from layers of dead sea animals and corals, called sediments. These deposited at the bottom of the sea millions of years ago. These sediments gradually got buried under new layers, and the weight squeezed the water out of them. As the water disappeared, the salts it contained crystallized and cemented the sediment particles together, forming the rock.

There are three types of limestone:
Jurassic limestone, Chalk, and Carboniferous limestone, which is the type found in the Mendip Hills, where Cheddar is located .This kind of limestone was formed during the carboniferous era. It is gray, hard, and contains many fossils.

The special landforms found in Cheddar, which are called "karst" landforms, are due to certain particularities of carboniferous limestone:

Because it is made from the remains of seashells and corals (which contain Calcium and Carbon), carboniferous limestone consists mainly of Calcium carbonate. Rainwater contains dissolved Carbon dioxide, which is a weak acid (carbonic acid). This acid reacts with rocks that contain Calcium carbonate, and dissolves them slowly. This phenomenon called chemical weathering, dissolves limestone and removes it in solution (dissolved).

Limestone is laid out in layers, due to the gradual deposition of sediments at the time when the rock was forming. The layers are separated by bedding planes, which are horizontal. The vertical cracks are called joints. Both beddi ng planes and joints are areas of weakness, so they are dissolved by chemical weathering.

This explains another characteristic of limestone: it is pervious. This means that the rock is permeable, but the water can only pass through the rock along the bedding planes and down the joints.
As we will soon see, all landforms at Cheddar are due to the action of water (through chemical weathering) on carboniferous limestone, particularly on the bedding planes and joints.

The most important feature of the Cheddar landscape is the gorge. There are three theories as to how gorges are formed:

1) A large underground cave is eroded and weathered. Its roof collapses, leaving a steep-sided valley, a gorge. Gordall (Yorkshire) is thought to have formed in this way.
2) After an ice age, an ice sheet melts. This creates a huge volume of water that will erode valleys rapidly, causing steep sides as in a gorge.
3) Gorges can also be formed by a waterfall, when a river flows on a layer of hard rock that has softer rock underneath. The falling water erodes the layer of soft rock, but not the hard rock, which overhangs. Gradually, the hard rock looses its support (the soft rock) and the overhanging part falls. This means that the waterfall moves back and slowly cuts its way up the valley, leaving a gorge.

I think that the most likely theory for Cheddar would be number 2_if Cheddar had been formed by a cave collapsing (like in theory 1), it is likely that there would be remains of the cave's roof, so the bottom of the gorge would contain many blocks of rock and rubble. This is not the case in Cheddar, and the gorge is about 4 km long, which seems very big for a cave. I do not think that option 3 is very likely either: gorges created by waterfalls go straight, whilst Cheddar gorge has many turns. And although the river Yeo might have flown on the surface thousands of years ago, there is no evidence to support this theory, as there is no layer of hard rock on top of the limestone in the area of Cheddar. Theory 2

seems more likely_Four distinct layers can be seen on the sides of the gorge, which seem to correspond to the 4 ice ages that began over 2 million years ago. This suggests that Cheddar gorge was carved by floodwater from the melting ice sheet that stopped at Gloucester.

The river drainage at Cheddar is typical of a limestone area: the gorge is a dry valley, because the river Yeo has gone underground through a swallow hole (at Compton Martin, grid reference 543 576 on the ordinate survey map), where the water disappears down the joints it has widened, mostly by chemical weathering. The river Yeo flows 30 meters below Gough's cave, and reappears at a resurgence next to the tourist information center (grid reference 467 538). Diagram page shows the cause of this resurgence_the water underground has reached a layer of impermeable rock and cannot go lower, so it flows along the impermeable rock until it reaches the surface.

The gorge itself is typical of a limestone area. It has steep cliffs, called scars, on which bedding planes and joints can be seen. A lot of vegetation grows in these, so the rock is quite soft.
The gorge is 4 km long, from grid reference 490 536 to 467 538 on the OS map. Its highest point (grid ref. 485 535) is 253 meters high. The only feature of karst scenery which is not found at Cheddar is a limestone pavement. These are formed by the eroding action of water on exposed limestone, which widens the joints into "grykes", leaving bits of rock sticking out (clints). Pulpit Rock (grid ref. 466 538), at the top of Jacob's ladder, is only an area of exposed limestone, although the path leading to it does look like a miniature pavement.

Cheddar is also famous for its underground features: Gough's and Coxe's caves (grid reference 468 538). These formed about 1 million years ago, when the river Yeo dug through the limestone and started to flow underground. The water dissolved the bedding planes and joints by chemical weathering, forming the caves, which were gradually enlarged by floods that eroded the ceiling of the caves. Later, the river found another route 30 meters below Gough's cave (where it still flows today) and it abandoned the earlier cave.

These caves are now a major tourist attraction because of their beautiful limestone formations.
<u>In Gough's cave, the main attractions include:</u>
-<u>The baptismal font</u>, which is close to the entrance to the cave. This calcite feature was formed when water flowing through the cave eroded the rock and dug out the steps to the font. Later the river stopped flowing through the cave, but some water still infiltrates into it through the rock. This water drops from the ceiling onto the font and then evaporates, living behind the calcite that was dissolved in it. This process, by which the water gives back the limestone it has

taken through chemical weathering, has slowly enlarged the font to its current size.
-The chimney was formed about 1 million years ago when the river Yeo, flowing through the cave, was flooding. As the water level rose, it dissolved the joints, forming a long chimney-like feature (30 meters high in Gough's cave).
-The "Ring of Bells" is a formation which originally contained 13 stalactites. Unfortunately, only 2 are left because careless visitors took the others. The stalactites were formed by rainwater which seeps through the pervious rock and dissolves the calcium carbonate in the limestone by chemical weathering. This water reaches the ceiling of the cave, where it evaporates, leaving calcium carbonate behind. Deposits accumulate and the stalactite grows downwards at a rate of 1 centimeter cube per 1000 years.
The "Ring of Bells" also includes "curtain" stalactites, which are formed when water flows along the ceiling.
-The "Swiss Village" is another example of a stalactite formation.
-"Aladdin's cave" contains many stalagmites. These occur when rainwater passes through the limestone and drops to the cave's floor. There it evaporates, leaving calcium carbonate which it had in solution. Overtime the deposits grow upwards towards the ceiling, forming a stalagmite.
-The "Diamond Chamber", 120 meters below sea level and ½km from the entrance to Gough's cave, is the largest chamber. It is 250,000 years old and contains the "Niagara Falls". These were formed in the same way as stalactites and curtains, by deposits of calcium carbonate left behind by flowing water. Above the "Niagara Falls" is an impressive column, which occurred when a stalactite and a stalagmite join up.

The "Niagara Falls" and the column are white because they are made of pure calcite. Other colours throughout the cave are due to traces of minerals: Red-brown is iron oxide, gray is lead oxide and green is copper oxide.

Coxe's cave contains features similar to those found in Gough's cave, but on a smaller scale.

Both caves have been made attractive for tourists:
The floors are made level by concrete, and handrails assure a secure visit. The caves are lit up so as to reveal all their features, and visitors can borrow audio guides or follow a guided tour. In Coxe's cave, a show ("the Crystal Quest") has been set up to entertain the visitors.

Cheddar attracts ½million visitors per year because of its beautiful landforms_the gorge and the caves. Both of these are natural features, created by the action of water on limestone. The structure of limestone (in bedding planes and joints) and the fact that it can be dissolved by rainwater (through chemical

weathering) have led to all the special formations in the caves and gorge, which make the scenery unique. This physical aspect of Cheddar influences its human side because it generates tourism, as we will see in the next chapters.

TASK 3: SHOULD A PARK AND RIDE BE BUILT?

In this task I will look at the views of different groups of people regarding the park and ride scheme. This will help me to understand how it might affect the local economy, and the gorge. Finally, I will decide whether or not I think the park and ride should be built in Cheddar.

To extend our understanding of the issues involved and to get a better idea of all viewpoints, our class held a public enquiry discussion. Many different groups of people were represented, both those for and against the park and ride project. First, the people in favour (climbers, national trust, environmentalists, families of accident victims and park and ride employees) each gave a speech, often very emotional. Their main arguments were safety issues, which a park and ride would resolve by enabling the closure of parkings in the gorge. People against (shopkeepers, Somerset council, Longleat Estate and local residents) then gave their speeches. Strong arguments included the effects of the scheme on Cheddar's economy, and the costs involved. This group's arguments were less emotional, being based instead on rational facts concerning business and money issues. The two sets of speeches were followed by a general debate, which ended with the chair's decision not to build the park and ride because of the negative effects it might have on Cheddar.

Amongst the people in favour of the park and ride, the National Trust had, in my opinion, the strongest argument. This organisation owns the northern side of the gorge and is concerned with preserving rare features of the UK, as well as making them safe and accessible to the public. The National Trust is keen to reduce the number of accidents caused by rocks falling on the parking and on the road in the gorge. I have seen from newspapers that two people have already been injured in the gorge by falling rocks this year. The "West Eye View" video showed me that the Trust has forbidden parking on its side of the gorge, and that it spends huge amounts every year to dislodge loose rocks and scrape vegetation that makes the cliffs unstable. The Trust would obviously be keen to reduce these spendings. In the video, Adrien Woodhall, who represents the organisation, explains that the risk of rock fall cannot be brought to zero because "limestone is an unstable rock, which can fall. People don't realise the danger". Task 1 of my coursework shows that limestone is easily eroded by chemical weathering, because of its composition. It is also broken down by freeze thaw

weathering because of its structure in bedding planes and joints_water enters the cracks and expands when it freezes, causing the rock to brake. All these processes cannot be stopped, so the park and ride would be an ideal way of protecting visitors, as they would not need to park under the dangerous cliffs. The National Trust would not have to spend so much on getting rid of loose rock. The organisation also wants to protect the gorge from the damaging effects of vibrations due to traffic. There again, the park end ride could be a good solution, as each bus would take many cars' worth of passengers.

Other people with strong arguments were the families of accident victims. Like the National Trust, they were in favour of the park and ride because it would enable all parkings in the gorge to be shut. This would prevent further accidents from rock fall, which have so far caused three deaths and many more injuries. This group believes that the National Trust is not doing enough to protect and warn visitors, and the aunt of a victim said that "tourists don't know the gorge is dangerous". This was proven to me by the West Eye View video, which showed families carelessly picnicking under dangerous cliffs. It is also true that on my visit to Cheddar I did not notice many signs stating the dangers of rock fall, and lots of them were hidden by vegetation.

Another group concerned with safety were the climbers. Cheddar has the biggest inland cliffs in the UK, so it is "a climber's dream". However, climbing is only allowed on the winter months because of the danger it represents to pedestrians and cars below. My traffic survey has shown that in ten minutes, forty vehicles went into the gorge or came from it. This means that, on average, 4 vehicles go through the gorge every minute, which is very high considering that my survey was not taken during the main tourism period. So my Traffic Survey proves that there is a fairly high risk of a vehicle or pedestrian being hit by the rocks occasionally dislodged by climbers. In the West Eye View video, a climber explains that "we cannot stop nature, but we must protect against it", so the climbers would welcome the park and ride project_the gorge would be shut to pedestrians and cars. There would be no more accidents, and climbing would be allowed all year around without being a danger to people below. The gorge's protection is also important to this group, and a park and ride would be the ideal way of preserving it, as we will see in the next paragraph.

Other people in favour of the scheme are the environmentalist, such as Greenpeace or Friends of the Earth. These organisations are independent from the National Trust and are concerned with the protection of the gorge and its whole ecosystem. The environmentalists are worried that certain aspects of tourism, in particular heavy traffic, are seriously damaging the gorge. This clearly comes up in my traffic survey, as it shows that an average of 240 vehicles pass through the gorge every hour. In the West Eye View video,

environmentalists explained that traffic causes vibrations, which weaken the rock, and that car fumes accelerate chemical weathering by making rainwater more acidic. Tourists also damage the gorge because they p icnic or climb on slopes, which loosens the rock, and leave litter behind. The park and ride scheme would resolve these problems_ the gorge would be shut to cars and pedestrians; there would be fewer park and ride buses than there are cars in the gorge at the moment, because each bus would take many cars' worth of passengers. In the West Eye View video, the environmentalists thought that the project would reduce traffic even if lorries were still allowed through the gorge. This was confirmed by my questionnaire survey which shows that 70% of people travelled to Cheddar by car. The video also showed that environmentalists are worried about the actions of the owners of the gorge (the National Trust and Longleat Estate). Each winter, the gorge is closed and loo se rocks are dislodged. Although this increases safety on a short-term basis, it accelerates the erosion of the gorge because outer layers of rock protect inner layers from rainwater (which causes chemical weathering) and wind even if they are loose. In the video, Doctor Stephen Hensten says: "Two or three tonnes of rock fall each year anyway, clearing rock makes more falls inevitable". Another problem is the scraping of vegetation, which harms the ecosystem of the gorge. So as far as the environmentalists are concerned, the park and ride scheme is an ideal way of protecting the gorge from the effects of tourism, both direct(traffic) and indirect(scraping of rock to increase safety, etc), and it would enable the ecosystems at Cheddar to flourish.

The park and ride employees are also in favour of the project because it would give them new job opportunities. My questionnaire survey has shown that 70% of visitors would want to use the park and ride if it were built. It also indicates that all tourists had come to Cheddar by car, bus, or coach, and that 80% of visitors wanted to visit the gorge, which would be more easily done from a bus. This suggests that there is a demand for a park and ride service, and therefore many jobs would be created. This would boost the local economy, as the multiplier effect will lead to new shops and services being created for and around the park and ride, so tertiary industry, which is so important to Cheddar, would develop further. Another advantage of the scheme would be to create many more parking spaces. These are very much needed, as there are only about 300 parking spaces in the gorge.

So far, I have looked at the different groups in favour of the park and ride and at their arguments, which included safety, protection of the gorge, and boost of Cheddar's economy. I am now going to examine the arguments against the scheme, and the various people that hold them.

In my opinion, the group with the strongest arguments against the park and ride were the representatives of Longleat Estate, which owns the Southern side of the gorge, including the caves. This group is worried that the park and ride will put visitors off, leading to a fall in the number of tourists in Cheddar. This is because most people come by car (70% on my questionnaire survey) and want to be free to move were and when they want, without having to wait for a bus. Longleat Estate does not think there is a real need for a park and ride, and this seems true when you look at my questionnaire survey on page 17_ although 70% of tourists said they would use the park and ride if it were built, only 20% said they had reached Cheddar by travelling through the gorge. I saw in the West Eye View video that Longleat Estate spends half a million pounds each year on geotechnical engineering_ the gorge is closed for two weeks in winter; loose rocks are dislodged and vegetation scraped. 500 meters of avalanche fencing have been put up, as well as 300 meters of bunding (twigs) and nets. In the video, a representative of Longleat Estate claimed, "the gorge is as safe as is humanly possible", and explained that safety was not a valid reason for building the park and ride because only three people have died in 30 years. This can seem a lot, but it actually means that you are safer in the gorge than driving to it or crossing the road. The representative said that there were plenty of warning signs, and that Longleat was very well fulfilling its duty of care. So as far as Longleat Estate is concerned, the park and ride would have a negative effect on Cheddar_ if the gorge is closed, tourists from the North-east will not be able to reach Cheddar via the B 3135, as our school did when we went there. Instead, they would have to go via the A39 to Wells, and back towards Cheddar, which would add about 8 miles to the journey and put many people off. It would increase the competition with other tourist places like Wells and Wookey Hole, which would also lead to a fall in the number of visitors.

The shopkeepers were also against the park and ride because they fear it would make them lose trade. They think that tourists would feel restricted by the bus, as they would have to stick to a timetable and stop only in certain places. Handicapped or elderly people would not be able to stand and wait at a bus stop. At the moment, visitors walk through the shopping area to go from one tourist attraction to another, but this would not be the case if there was a park and ride. In the West Eye View video, Tony Derrick, a local shopkeeper, said "Cheddar is totally dependant on the car, shutting the gorge would kill tourism stone dead". My land use survey showed how important tourism is to Cheddar_ there is half a mile of tourist attractions and shops, from the end of the gorge to the entrance of Cheddar town. This area is made up of 71% of tourist attractions, gift shops, cafés, pubs and hotels. So tourism puts money into the economy and creates jobs_ around 500 people are directly employed in tourism, and many more are indirectly employed to supply the tourism industry with what it needs. The video explained that when a 6-week ban on cars in the gorge was suggested, there was

an outcry from traders. So tourism is crucial to Cheddar's economy, and setting up a park and ride would put visitors off and destabilise tourism, which would jeopardize the whole economy.

The local residents also had good arguments to oppose the scheme. In the video they said the park and ride would make their town noisy. Their access to the Northeast (Bath, Frome etc) would be reduced because, as you can see on my map page 6, the B3135 (through the gorge) is the only direct road to this area. Instead of going all the way around to Wells on the A39, local residents would probably use the minor road to Draycott (square 5051 on the ordinate survey map) as a shortcut to reach the B3135. This would not be convenient at all because this road is very steep, as shown by the contour lines that appear around it on square 4851 of the ordinate survey map. The residents are also worried that the project might be funded using tax money that could be better used. During my traffic survey, I noticed that quite a lot of cars coming from the gorge were business cars. This means that if the access through the gorge were blocked, it would also have a negative affect on business activities, so the park and ride project would not be a good idea.

Somerset county council also opposes the scheme because they are aware that local residents and traders are against it. The area on which the parking would be built (square 4953) is fairly hilly, so it would cost a lot to flatten it. Also, this patch of land would have to be bought from farmers who may not want to give it up, and it contains a tumulus, which would be hard to build around. Somerset council is aware that there is a need for parking in Cheddar, but it knows very little about the park and ride scheme, and it has only released an outline planning permission. It needs to know how large the parking would be, how many parking spaces it would create, how much it would cost, and who would run it. Longleat Estate opposes the project so they would not want to run it, and it would cost huge amounts to the Council if it were to run it. Somerset County council is also against the park and ride because it would force all tourists t o go to the top of the gorge, whilst they might have come via the town. My traffic survey has shown that only 30% of visitors had reached Cheddar through the gorge, so closing it would be unpractical. So overall, the council does not approve of the project because it knows little about it, and because it would not be cost effective, nor practical for the tourists.

This concludes the arguments against the park and ride project. The main groups opposing it were Longleat Estate, local shopkeepers, Cheddar res idents, and Somerset county council. Their arguments included the negative effects on tourism, the costs involved, the scheme being unpractical for both visitors and residents, and the gorge already being safe enough.

Decision: should the Park and Ride be built?

The original aim of the park and ride was to protect the gorge from the impacts of tourism. This, I think, it would do very well_ the environmentalists and the National Trust have shown that car vibrations and fumes accelerate the breakdown of limestone, as do tourists who climb or picnic on the lower parts of the cliffs. Chapter 1 of my coursework explained why this would accelerate the erosion of the gorge: the structure (in bedding planes and joints) and composition of limestone make it brittle and easily decomposed by chemical weathering. My traffic survey showed that the impact of traffic on the gorge must be big, as an average of 260 vehicles pass through the gorge every hour. The park and ride would protect the gorge efficiently because there would be far fewer vehicles going through it, so less vibration and fumes. Tourists would not be allowed in the gorge, so there would be no litter and the ecosystems of the gorge would not be disrupted.

A recurrent argument in favour of the project was safety. The National Trust, climbers and families of accident victims showed that it would bring the risk of injuries due to rock fall to nearly zero, as pedestrians and cars would not have to pass nor park under the dangerous cliffs. It is true that the breakdown of limestone cannot be stopped, as was proved by my first Chapter. However, I do not think that safety is a valid argument. Longleat representatives showed in the West Eye View video that the number of accidents at Cheddar should be viewed in perspective: There have only been 3 deaths in 30 years and 2 injuries so far this year. This is far less than the thousands of deaths which occur every year due to car accidents, so people are actually safer in the gorge than travelling towards it. I think that this level of risk is acceptable, and I agree with Longleat's comment that "the gorge is as safe as is humanly possible". I do not think it would be worth spending millions on a park and ride when the National Trust and Longleat estate already fund safety updates in the gorge every year. If the project were to go ahead, these works (dislodging loose rocks and scraping vegetation), which damage the gorge and its ecosystems, would not need to be carried out. This would protect the gorge but at huge costs.

It was also said that the park and ride would boost Cheddar's economy because it would be widely used and it would create many new jobs. I think this argument is totally wrong_ although my questionnaire survey showed that 70% of visitors would want to use the park and ride, and that all tourists had come by car, bus, or coach (which makes the project very appropriate), it also shows that only 30% had reached Cheddar through the gorge. And I thought the shopkeepers to be right in thinking that it would disturb their trade by putting visitors off: tourists would not want to be restricted by a park and ride, and elderly or handicapped people could not use the bus. Tourists would have to go

around in order to reach the town, which would add about 8 miles to their journey and would increase the competition with other tourist places. Also, tourists would probably be dropped right in front of the tourist attractions, so they would not go through the shopping areas. My questionnaire survey shows that 90% of tourists wanted to visit the shops, and my land use survey shows that 71% of the built up area in the gorge was dedicated to tourism. This proves that Cheddar is totally dependent on tourism, and building a park and ride would mean taking a huge economical risk.

So far, I have seen that the only advantage of the project would be it's protecting the gorge.

But the park and ride scheme would have other disadvantages_ the town would be more noisy, and residents would loose direct access to the North-East and might be tempted to use the minor road to Draycott as a shortcut. This would be unpractical and even dangerous as this road is very steep and could not bear heavy traffic. Somerset county council has also underlined that the only possible site for the parking is hilly and would cost huge amounts to build on. It is also unsure of who would run the park and ride, and it fears that the project, instead of being cost effective, would be very expensive to the local area.

So it seems that the only valid argument in favour of the project is that it would efficiently protect the gorge. And the main argument against it is the disastrous consequences it could have on tourism, and therefore on the whole economy of Cheddar.

So the question I must consider is: Is building a park and ride that would protect the local environment worth endangering the economy of Cheddar? In other words, this coursework is about deciding whether an environmental issue must have priority over an economical issue. In the case of Cheddar, I think the welfare of the economy must go before that of the environment. This is because the negative effects of the park and ride on tourism would be extended to other areas of the economy via the multiplier effect, and would gradually reach social aspects of Cheddar (many people would loose their jobs, therefore their quality of life would drop etc…). In the end, there would even be environmental consequences, as there would be less money to spend on protecting the environment.

So I think that a Park and Ride should not be built near Cheddar, even if it would protect the gorge and its natural environment from the impacts of tourism.

CONCLUSION

Throughout this coursework, I have learned a lot about the physical geography of Cheddar_ I have learnt about the formation of carboniferous limestone, about its structure, and about its composition. I have learnt how these properties lead to various processes and particularities, like the rock being pervious and warn away by chemical weathering. This has enabled me to explain the formation of major limestone features like the gorge, the underground river, the caves, swallow hole and resurgence, stalactites and stalagmites, chimneys etc… Chapter 1 has shown me why there is such an exceptional scenery at Cheddar, and why tourists go and visit it.

I have also learnt about the effects of the park and ride on different groups of people: It would benefit the relatives of accident victims and the National Trust because it would prevent any more accidents due to rock fall; the climbers would be allowed in the gorge all year around without being a risk to people in the gorge; the environmentalists would be in favour of the project because it would protect the gorge, and the Park and Ride employees would have new job opportunities. However, I also learnt that the scheme would not be good for the shopkeepers as they would lose trade; Longleat estate would also lose visitors, and all the money spent to make the gorge safe would have been wasted; the local residents' access to the Northeast would be reduced, and Somerset county council would have to pay huge amounts to build the Park and Ride.

I found out the Park and Ride would protect the gorge efficiently from the impacts of tourism, but that it would harm the local economy. I decided that it was more important, in the case of Cheddar, to preserve the economy than the gorge. Therefore, I came to the conclusion that The Park and Ride should not be built.

EVALUATION

I found the class preparation on limestone landforms extremely useful as well as the visit to the show-caves, as they enabled me to understand the physical geography of Cheddar.
Although I collected information very carefully during my daytrip to Cheddar, I think that my primary data is biased_ the sample of people I questioned was not representative of the tourist population because I only surveyed ten visitors, who could all have come from the same bus.
My traffic survey is not accurate either, as it was carried out on a Thursday and in September, which is off the peak holiday season. My results would have been much higher if the survey had been done at the weekend and in summer. I have

used the results of my survey as if they were representative of traffic all year around, which is wrong_ another survey, taken in the summer, marks 500 vehicles per hour, whilst my survey only shows 240 per hour.
My conclusion not to build the Park and Ride was largely based on this biased primary evidence, so my decision is likely to be inaccurate.
Another factor leading to inaccuracy in my coursework is the class debate we held. Although it was useful in understanding how different groups would be affected by the Park and Ride, there were more students representing people against the scheme than people in favour of it. This means that I had far more arguments against the project than in favour of it, so my decision not to build the park and ride may be unjust.
Although I think my conclusion might not be very accurate, I am still extremely proud of this coursework_ It is my first ever ICT based coursework, as my computer skills are quite poor. I find it very frustrating to be dependant on a brainless machine that crashes every ten minutes (or does not save for some unknown reason), and it took me 4 hours to produce the graphs. But I have managed, it looks nice, and I actually found the Internet useful to get maps and extra information on the physical geography of Cheddar.
The coursework activity could be greatly improved if we were provided with more detailed information on the park and ride. For example, knowing the number of parking spaces and jobs it would create, as well as its total cost, would be of great help when deciding whether to build it or not.

Overall, I found this coursework interesting because it included both human and physical geography, which, I have found, are closely linked to one another. I have put my best effort into this work, especially for the ICT, and it was completed on time.