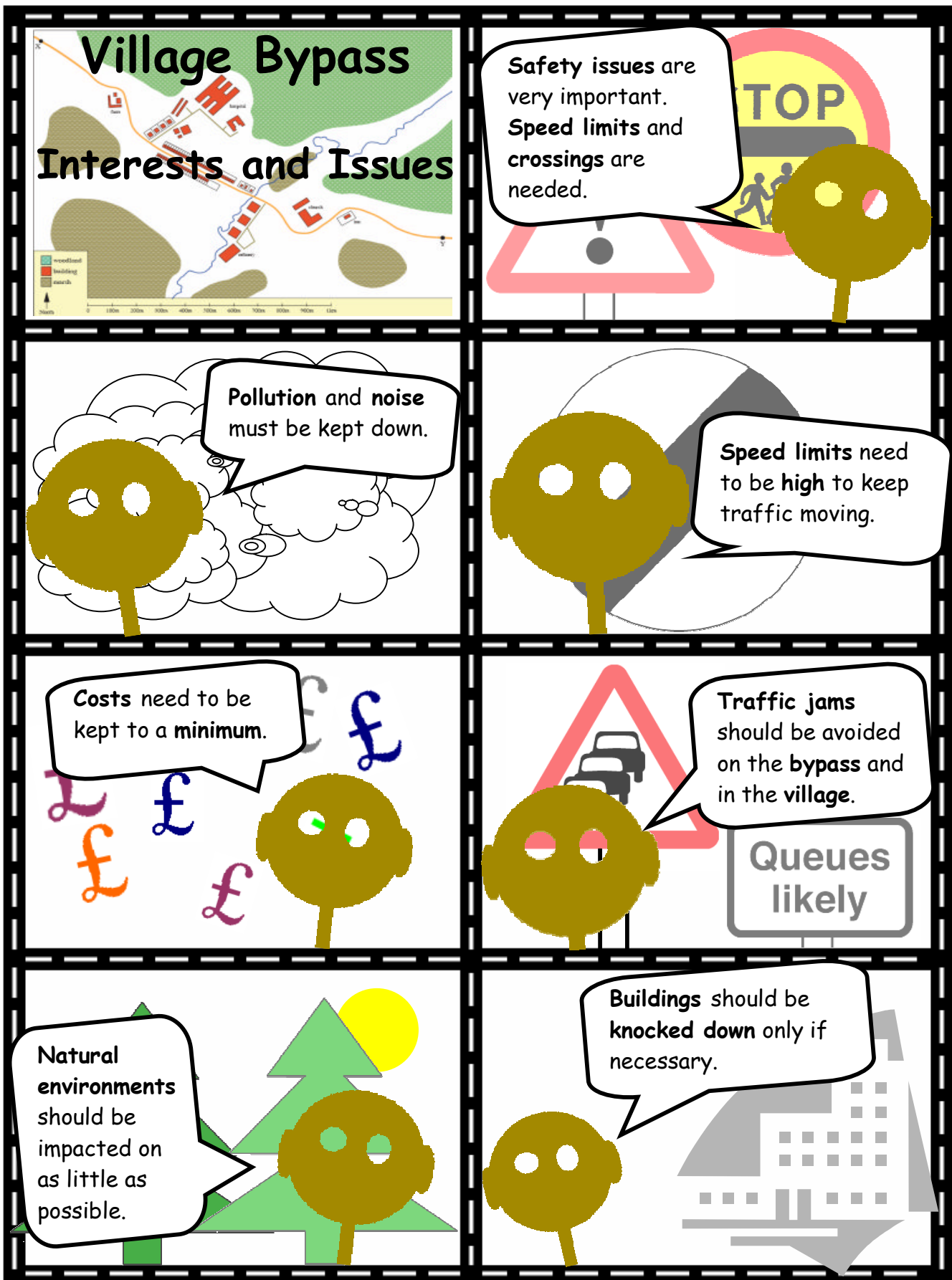


## **Highway Link Pupil Handouts**

- HL1 Stakeholders (*Optional discussion prompt*)
- HL2 Bypasses in the News (*Optional discussion prompt*)
- HL3 Glossary (*Optional vocabulary reference*)
- HL4 Junctions (*Mandatory costing reference*)
- HL5 Costs (*Mandatory costing reference*)
- HL6 Speed Limits (*Optional design reference*)
- HL7 Speed Signs (*Optional discussion prompt*)
- HL8 Curves and Speed Limits 1 (*Mandatory design reference with unit conversion*)
- HL9 Curves and Speed Limits 2 (*Mandatory design reference without unit conversion*)



## ***Bypasses in the News***

### **Bypass Boost for Ormskirk**

*Lancashire County Council press release*

*Google search: Bypass Boost for Ormskirk*

THE proposed Ormskirk Bypass has moved a step closer to reality with the news that further appraisal work will be undertaken into the most appropriate design for the scheme.

The road would provide relief for Ormskirk town centre from the current high traffic flows on the A570 and the West Lancashire area.

The bypass would start at a new roundabout junction on the A570 at Hurlston Lane and pass the north side of Ormskirk before rejoining the A570 adjacent to junction three of the M58.

The new single carriageway would be just over 8km in length and it is hoped that construction will begin in 2010.

Councillor Jean Yates, Cabinet Member for Highways and Transportation, said:

"I am excited by the project and I hope that we can get down to work as soon as possible.

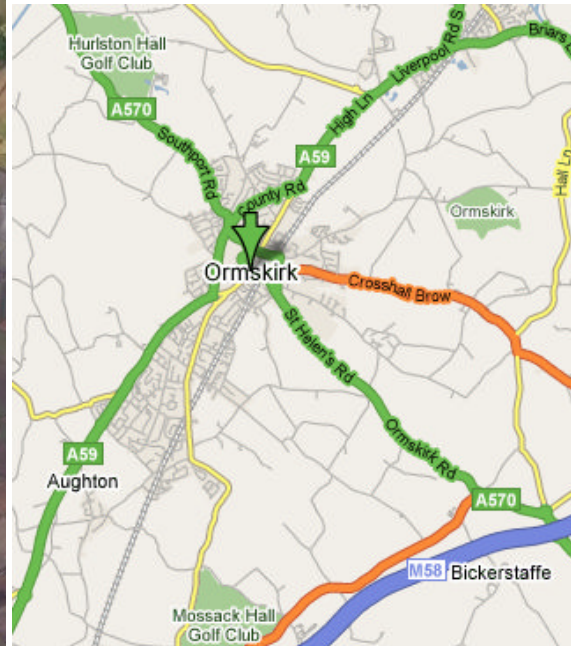
"The Ormskirk Bypass will be of important benefit to the people of West Lancashire and work cannot get going soon enough.

"It has been a long-awaited project and I am happy that we can finally press on with the scheme."

Lancashire County Council will conduct an environmental assessment of the effects of the scheme early next year to see what impact the bypass will have on the local area and should be completed in 15 months.

Traffic surveys, including interviews with motorists, have already been carried out, with traffic monitoring counters soon to be installed in the roads. A detailed traffic model forecasting traffic flow will also be developed.

The Highways Agency originally proposed the scheme in the early 1990s. Various routes were considered at that time and the present route was subsequently confirmed as the preferred route in 1996.



From *Google Earth* and *Google Maps* respectively

**Newbury bypass battle**

*BBC website "On this day" feature*

*Video available on website*

*Google search: BBC Newbury bypass battle*

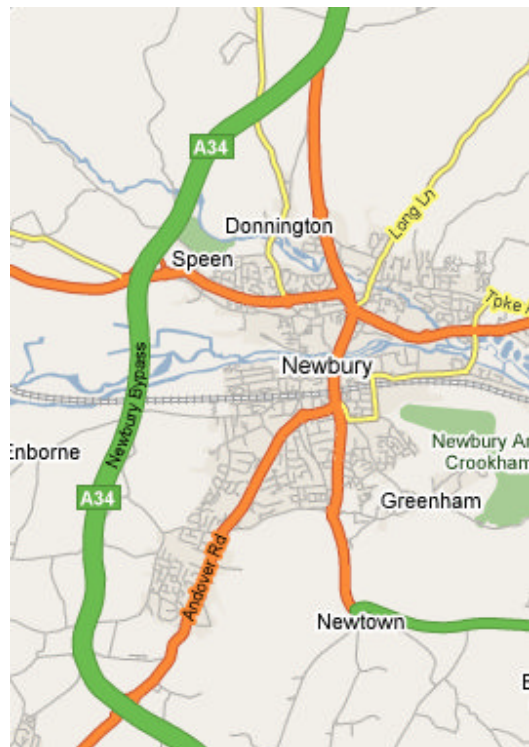
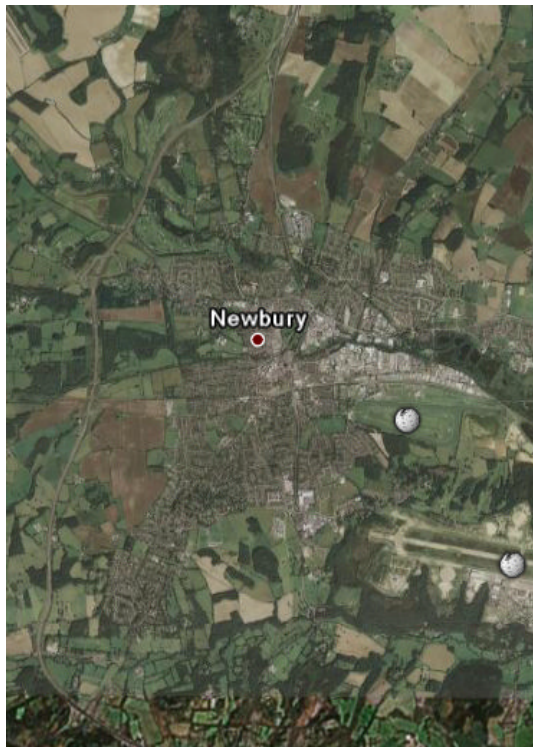
Support for and protest against the Newbury bypass have been long-standing. Both have been active since the 1980s.

Protest camps remained on the route until 1997 and protesters continued their campaign which included a fight for the protection of a local rare snail habitat.

The road cost in excess of £100m and took 34 months to complete. It was opened in November 1998.

In total more than 1,000 people were arrested over the course of Britain's most notorious road protest campaign.

While 1996 was the 100th anniversary of the birth of the motorcar, the anti-Newbury bypass campaign made a major contribution to the debate about how to counter ever-increasing levels of traffic on Britain's roads.



From *Google Earth* and *Google Maps* respectively



### Success for Rearsby bypass campaign!

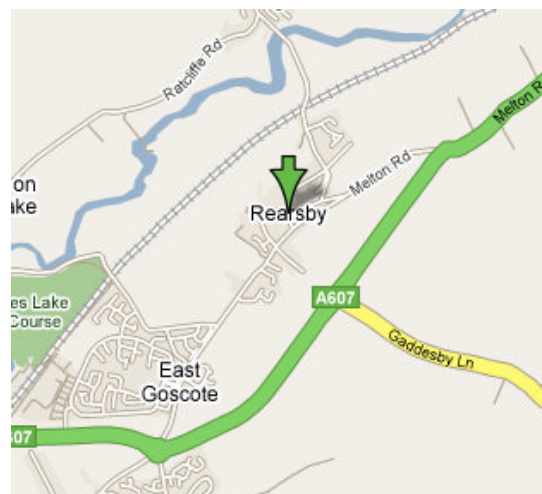
There was good news for Rearsby's bypass campaigners on 14 December. Government minister Paddy Tipping came to the village to tell residents that £6 million had been earmarked for the Rearsby bypass in the newly announced transport plan. The money is part of a £30 million package for Leicestershire.

The new road, which will be under way by 2003, will bypass Rearsby and East Goscote cutting traffic through the villages.

There was also reassurance for Rearsby's residents regarding Lafarge Redland's proposed sand and gravel quarry at Brooksby. During a question and answer session following the announcement, the minister noted Leicestershire County Council's commitment in their mineral plan that there should be no quarry at until the bypass is in place.

However, we are not there yet and the campaigners will be keeping up the pressure on Leicestershire County Council until the work actually starts. Speaking to the Melton Times, Terry Ainge said: "We will still resist any new developments in Rearsby and Melton until a bypass is completed".

Terry also said it is the people of Rearsby and East Goscote who deserve the credit for getting this funding. "They have campaigned long and hard in foul and fair weather to make their feelings known".



From *Google Earth* and *Google Maps* respectively

[illegible]

**Raised junction**



**T-Junction**



**Refinery**



**Underpass**










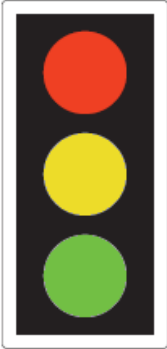

**Glossary**

<b>Bypass</b>	<b>Ring road</b>
<b>Crossroads</b>	<b>Roundabout</b>
<b>Flyover</b>	<b>Slip road</b>

<b>Raised junction</b>	<b>T-Junction</b>
<b>Refinery</b>	<b>Underpass</b>

***Junctions***

	<b>£ Million</b>
	<b>Roundabout</b>  <b>2.7</b>
	<b>T-Junction</b>  <b>1.5</b>
	<b>Crossroads</b>  <b>3.2</b>

	<p><b>Slip road</b></p> <p><b>1.9 per pair</b></p>
	<p><b>Small Bridge</b></p> <p><b>3.5</b></p>
	<p><b>Traffic lights</b></p> <p><b>Add 10% to the cost of your roundabout or crossroads if you need traffic lights.</b></p>
	<p><b>Raised junction</b></p> <p><b>Double the cost of any junction that needs to be raised.</b></p>



Roundabouts, crossroads, T-Junctions and traffic lights can be combined to make more **complicated junctions**.

Junction 23 of the M1 in England is made of two pairs of raised **slip-roads**, a raised **roundabout** and **traffic lights**.



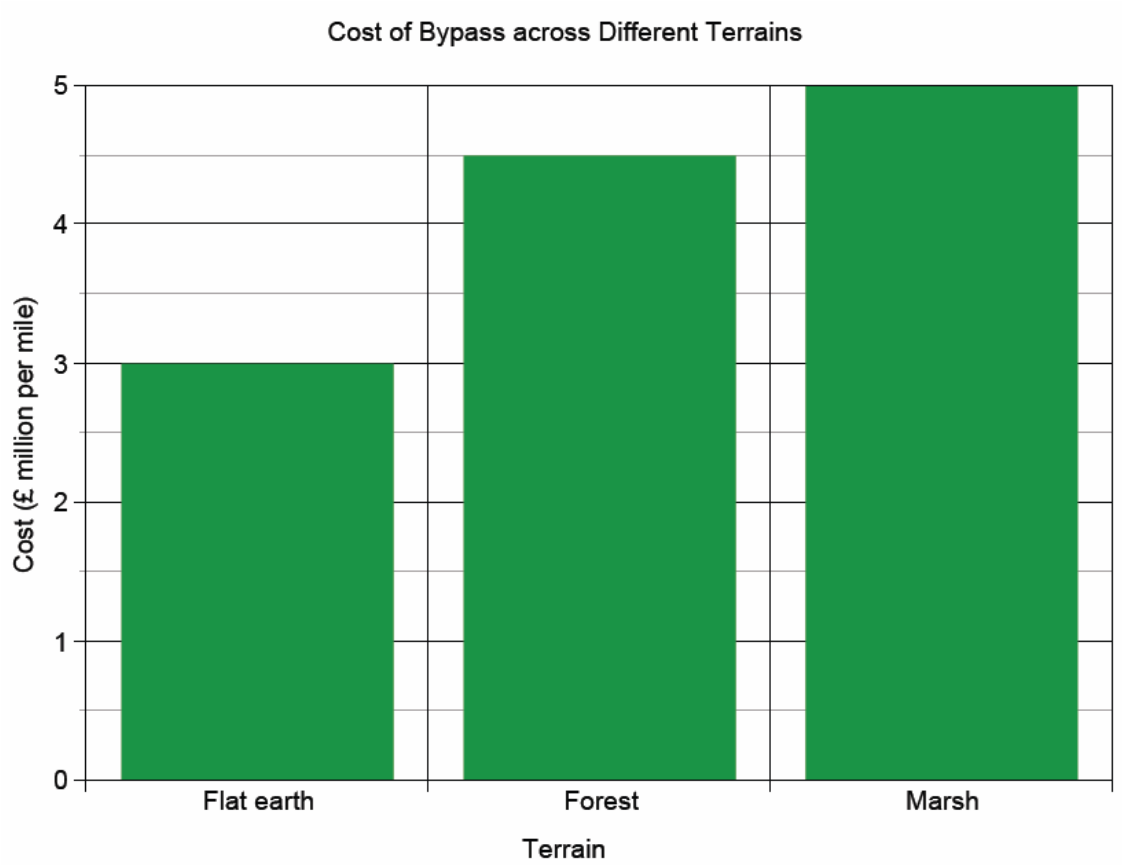
## Costs

£ Million

Cost of Bypass across Different Terrains			
Terrain	Flat earth	Forest	Marsh
Cost per mile	3	4.5	5

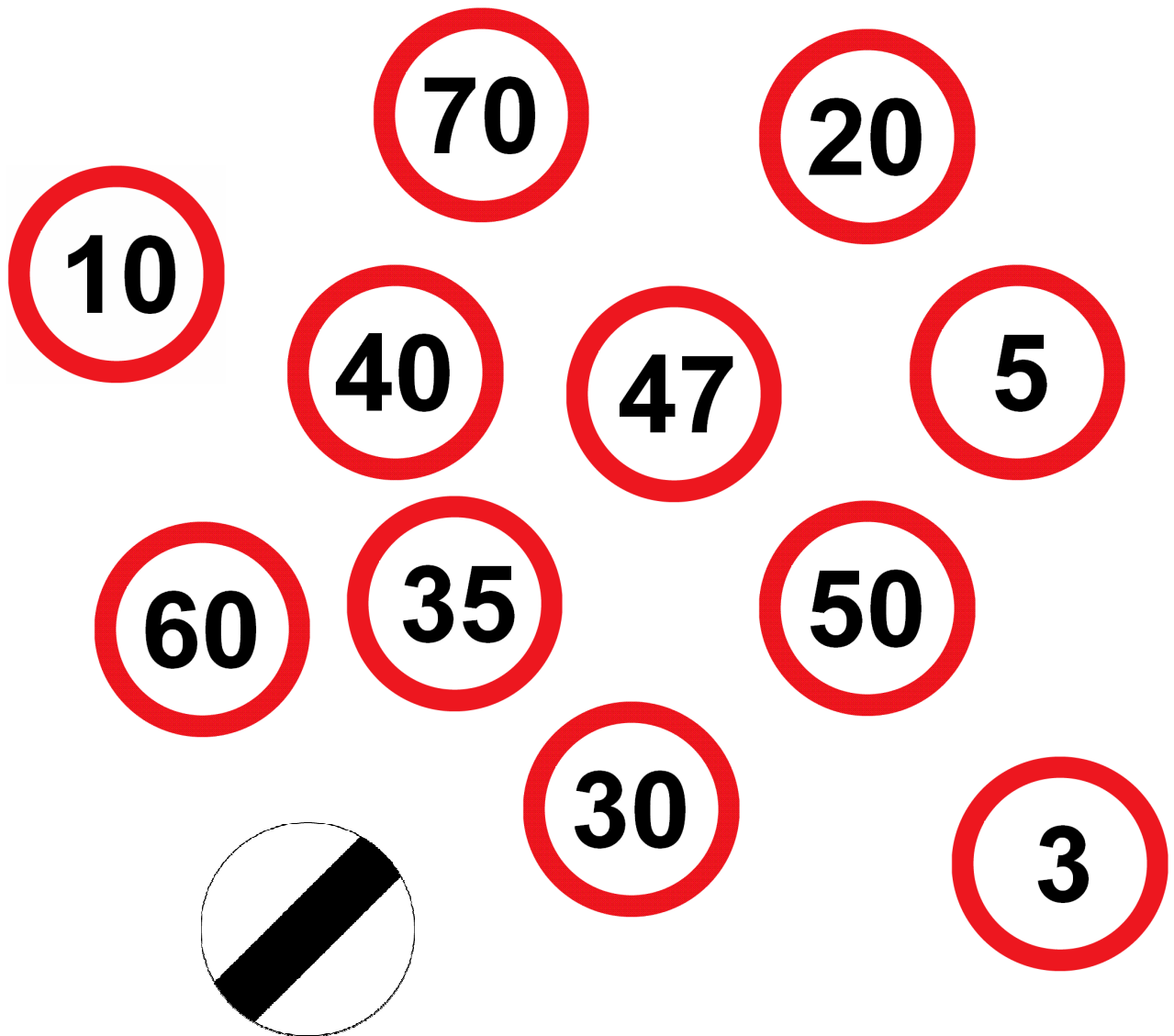
£

Other costs	
Demolishing a building	20,000
Small bridge	3,500,000



### ***Speed Signs***

Some of these signs are realistic, others you never see.



Your bypass needs **realistic** speed limits.



**Curves and Speed limits 1**

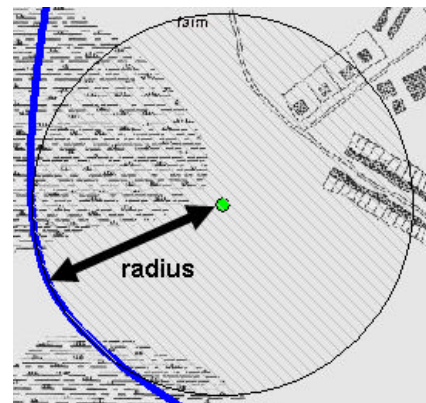
The bypass to be built will be a **dual carriageway**.

The maximum legal speed on a dual carriageway is **70 miles per hour**.

However, where a dual carriageway is **curved** the safe speed limit might be **less** than 70 miles an hour.

The safe speed limit is worked out by measuring the **radius of the curve**.

The radius of the curve is the same as the **radius of the circle** that fits the curve.



Once the radius of the curve is measured, the safe speed limit can be worked out from the following table from the Department of Transport.

Speed Limits for Curves						
Radius of curve (m)	1020	720	510	360	255	180
Safe speed limit (kph)	120	100	85	70	60	50

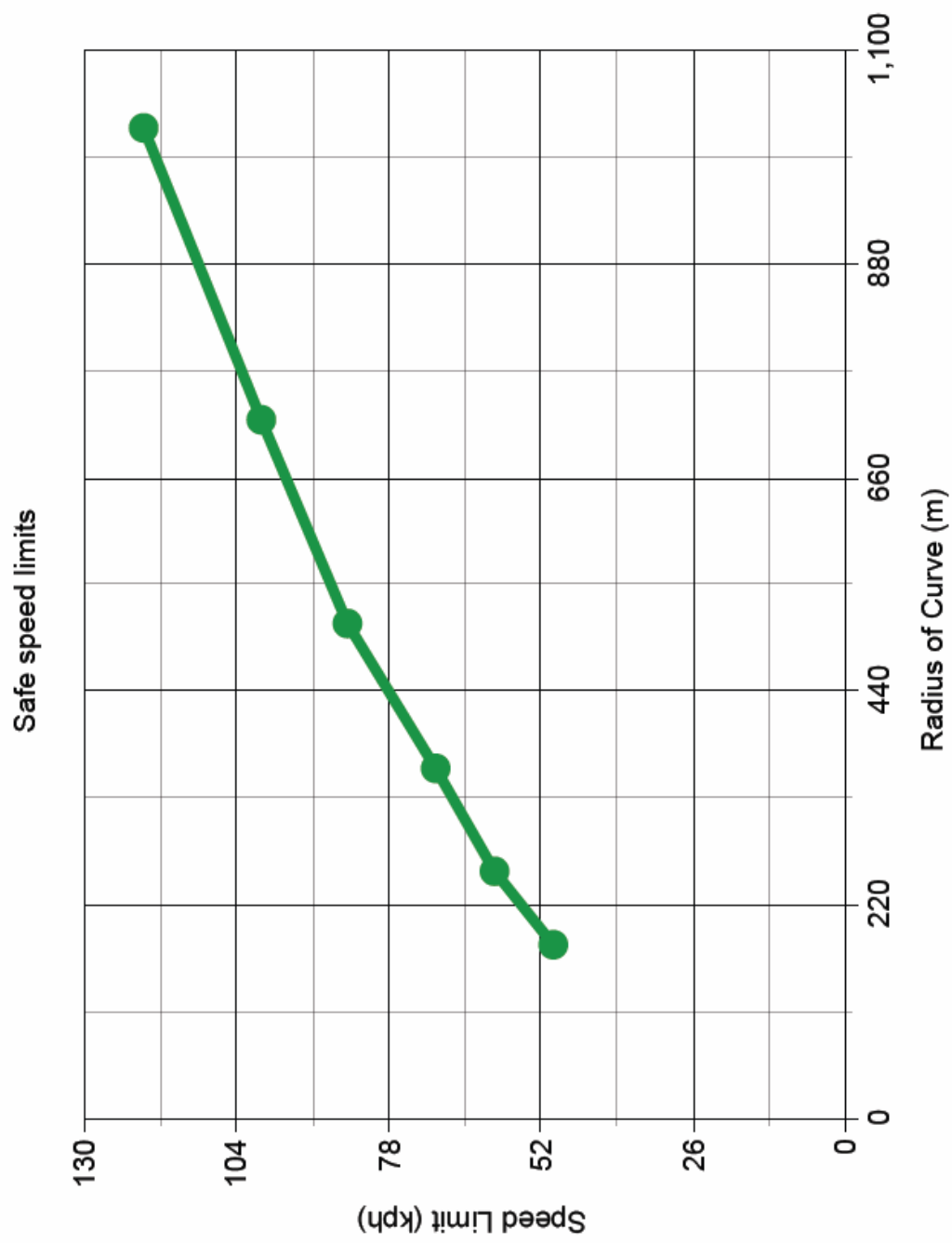
**Notes**

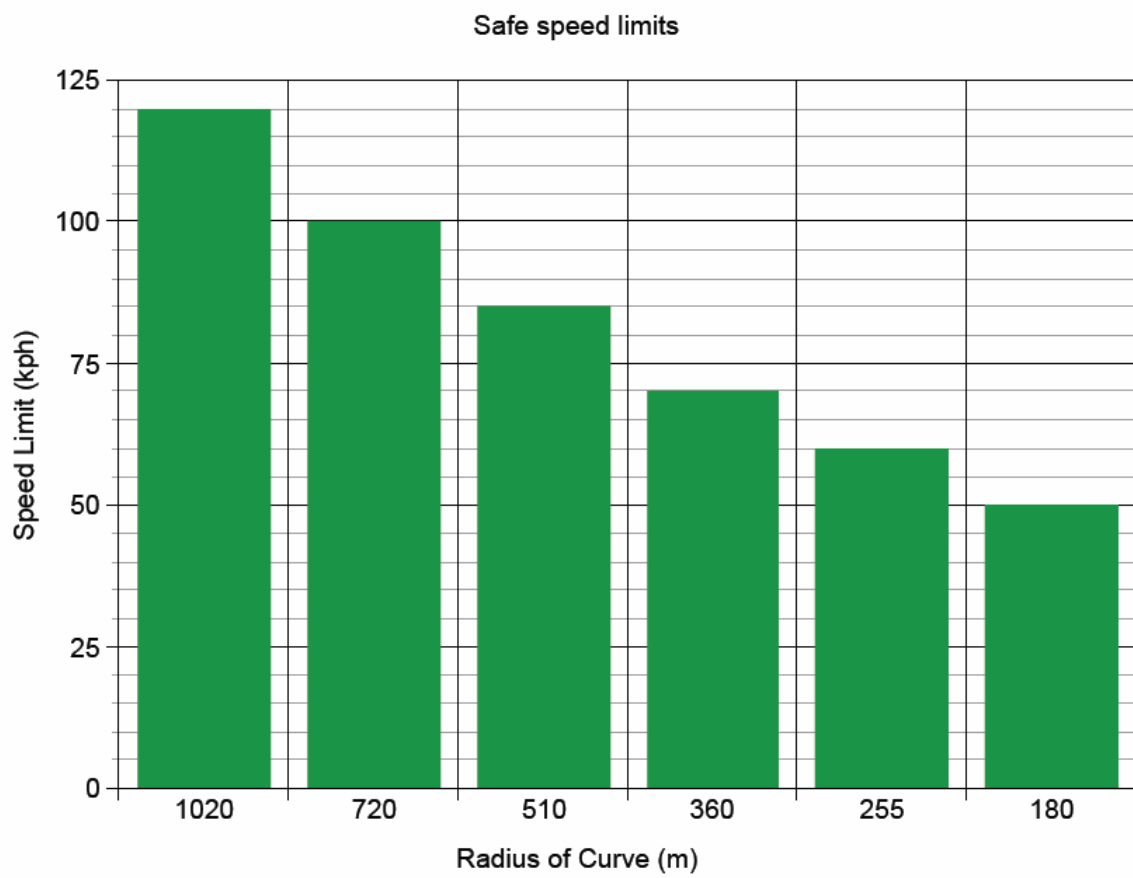
The radius of curve is given in metres (m).

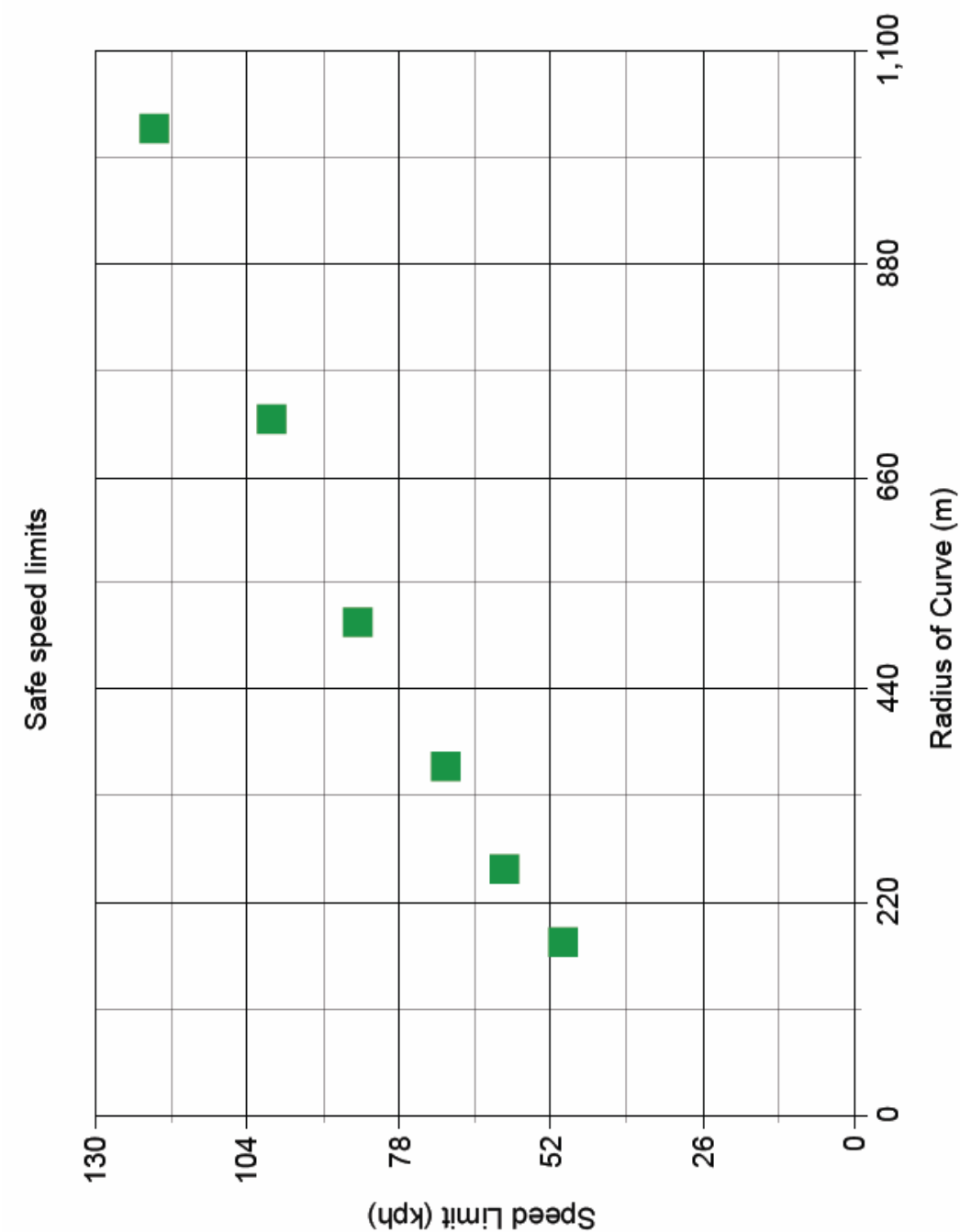
Safe speed limits are given in kilometers per hour (kph).

There are precisely 1000 metres in 1 kilometre.

There are approximately 1.6 kilometres in a mile.









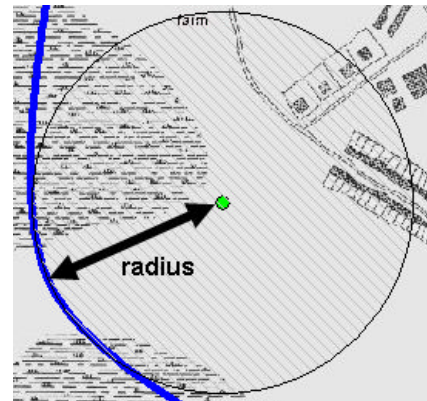
**Curves and Speed limits 2**

The bypass to be built will be a **dual carriageway**.  
The maximum legal speed on a dual carriageway is **70 miles per hour**.

However, where a dual carriageway is **curved** the safe speed limit might be **less** than 70 miles an hour.

The safe speed limit is worked out by measuring the **radius of the curve**.

The radius of the curve is the same as the **radius of the circle** that fits the curve.



Once the radius of the curve is measured, the safe speed limit can be worked out from the following table.

Speed Limits for Curves						
<b>Radius of curve</b> (metres)	<b>1020</b>	<b>720</b>	<b>510</b>	<b>360</b>	<b>255</b>	<b>180</b>
<b>Safe speed limit</b> (miles per hour)	<b>75</b>	<b>62.5</b>	<b>50</b>	<b>44</b>	<b>37.5</b>	<b>31</b>

