

Hereford Western Relief Road (Half Moon) Scheme BCR Note

- 1.1 This note provides a summary of the main components of Benefit Cost ratio developed for the Hereford Western Relief Road “half moon”, A49 to A49 option.
- 1.2 The benefit cost ratio for the half moon option was 12.6. The table below presents a high level breakdown of the results:

Table 1 Herford Relief Road: Half Moon Option

Present Value of Costs	£76.81m
Present Value of Benefits	£971m
Net Present Value	£897m
Benefit Cost Ratio	12.6

- 1.3 The benefits chiefly arise from the following sources:
- Travel time savings
 - Vehicle operating costs
- 1.4 These are derived from three main groups:
- Business users (passenger and freight)
 - Commuters
 - Other purposes
- 1.5 It should be noted that within this assessment no benefits were derived for public transport users (principally bus users in this context), however given the nature of the scheme it is likely that public transport users would also receive benefits from the scheme as the centre of Hereford would become less congested.
- 1.6 The table below summarises the main benefits by trip purpose

Table 2 Benefits by Purpose (£m) discounted over 60 years

	Business (car)	Business (freight)	Commute	Other	Total
Travel Time	£178.10	£237.70	£195.50	£307.64	£918.90
Vehicle Operating Costs	£7.12	£20.16	£12.92	£22.74	£62.94
Total	£185.29	£257.88	£208.40	£330.38	£981.84

- 1.7 It can be seen that the total of the benefits is around £10m higher than the total of the present value of benefits presented in table 1. This is due to the impact of the reduction in greenhouse gases which increases benefits by around £10m but also the impact on indirect tax revenue which lowers benefits by around £21m. Table 3 summarises this.

Table 3 Summary of Present Value of Benefits

£m	
Travel Time Savings	£918.90
Vehicle Operating Costs	£62.94
Greenhouse Gases	£10.30
Indirect Taxation	-£20.95
Total	£971.45

1.8 Clearly travel time savings represent the largest single group of benefits, a not unsurprising result given the impact of the scheme on removing traffic from central Hereford. The table below presents a breakdown of the distribution of travel time saving benefits by the size of time saving. That is to say the aggregation of time savings between origin and destination pairs by group. These results are presented for the three modelled years of 2022,2027 and 2032.

Table 4 Distribution of Benefits (£m undiscounted) by time savings

Journey Purpose	Year	Greater than 5 minute increase	2 - 5 minute increase	0 - 2 minute increase	0 - 2 minute decrease	2-5 minute decrease	Greater than 5 minute decrease
Business	2022	-1	-5	-114	1456	2280	3357
	2027	-1	-1	-143	1562	2300	3290
	2032	-2	-35	-276	1331	3003	5828
Commute	2022	0	5	-48	438	882	1280
	2027	0	5	-67	432	981	1683
	2032	0	-49	-180	293	902	4133
Other	2022	0	-5	-152	1196	1951	2437
	2027	0	-1	-160	1320	2017	2261
	2032	0	-13	-243	1078	2584	4466

1.9 It can be seen that whilst there are a small number of disbenefits where journey times are increased there are very large benefits with a substantial benefits accruing in the five minutes or greater category.