

**Hereford Relief Road Impact
Study - Addendum on the
economic and social impacts
of a proposed Eastern Link
Road**

A Final Report to Herefordshire Council

20 April 2012

SQW

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Approved by:	Steve Lucas Director	Date: 20 April 2012
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1: Introduction

An introduction to the proposed Eastern Link Road

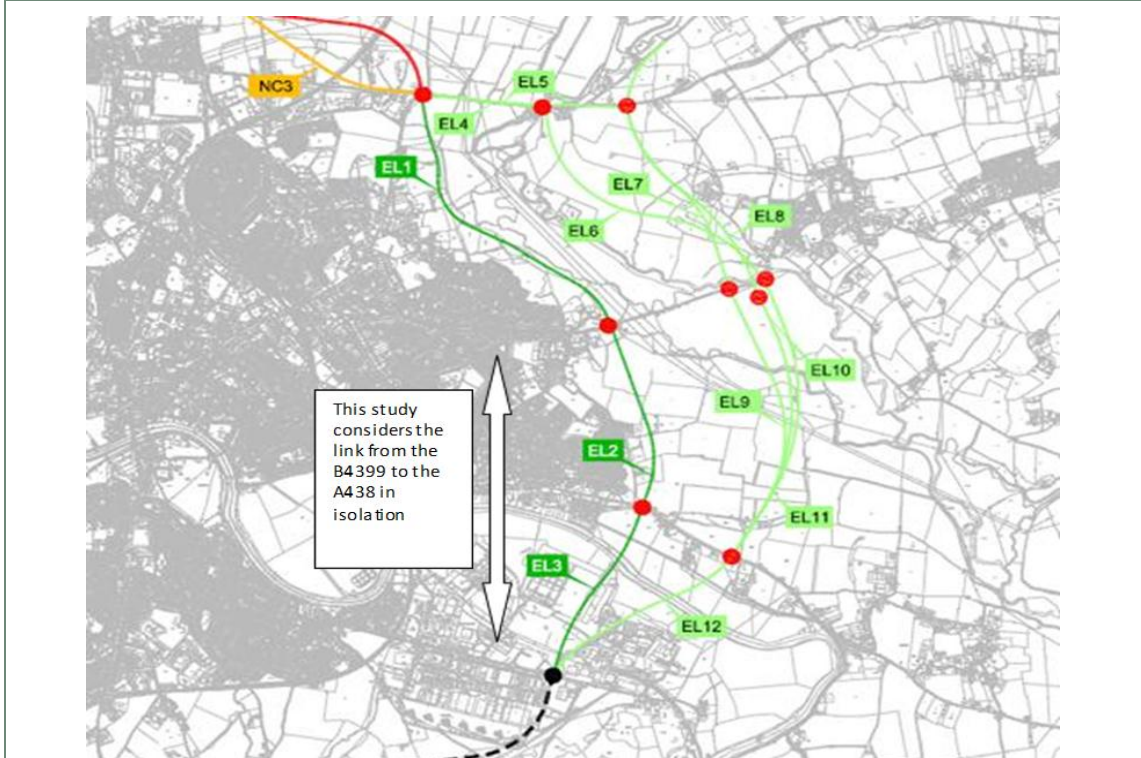
- 1.1 Congestion in Hereford has been a longstanding issue. Herefordshire Council have considered a number of options over recent years to relieve existing and future congestion in Hereford and support growth, which will be included in the forthcoming Local Development Framework (LDF). In 2010, Herefordshire Council assessed options for a relief road on both the east and west of Hereford City¹, which was followed by a consultation exercise in the same year². Informed by this evidence base, the Local Development Framework Core Strategy Revised Preferred Option, published in September 2011³, proposed a Western Relief Road to manage congestion issues across the city. In addition to growth planned around Hereford's urban extension areas and in the city centre (such as the ESG retail scheme), Hereford's Rotherwas site was awarded Enterprise Zone status in 2011, creating a real opportunity for the County (and wider Local Enterprise Partnership area) to accelerate its economic growth prospects – addressing transportation issues will play an important role in enabling this growth.
- 1.2 Herefordshire Council has commissioned an assessment of an Eastern Link Road between the Rotherwas Enterprise Zone (the B4399) and the A438 Ledbury Road. The route under consideration is illustrated in Figure 1-1 below (i.e. the links entitled EL2 and EL3). This Eastern Link Road is being considered both as a scheme in its own right, and in conjunction with the Western Relief Road (the inner route, see Annex C for a map).

¹ Informed by a report by Amey in 2010 entitled “*Hereford Relief Road: Study of Options*”

² In response to the consultation, Jesse Norman MP and officers submitted a report in October 2010 entitled “*Relieving Traffic Congestion in and around Hereford: Why East is Best. A proposal for discussion*”

³ <http://consult.herefordshire.gov.uk/gf2.ti/f/16290/119493.1/pdf/-/A5%20leafletfinal%20version.pdf>

Figure 1-1: Eastern links considered in 2010 (see EL2 and EL3)



Source: Amey Plc, March 2012. Notes: due to the extension of the Site of Special Scientific Interest (SSSI) in the vicinity of EL9 and EL10, it is considered that EL2 and EL3 are the favoured options for an Eastern Link Road.

Study aims and approach

- 1.3 SQW was commissioned in the Autumn of 2011 to assess the economic and business impacts of a proposed relief road (comparing the impacts of a relief road on the west of Hereford to one on the east), and submitted a report entitled “Hereford Relief Road – Economic and Business Impacts” to Herefordshire Council in December 2011. This report contained a detailed analysis of the strategic context and rationale for a relief road, and the potential economic and business impacts of the proposed scheme, based on consultations with key stakeholders and businesses, literature review and a detailed economic modelling exercise.
- 1.4 As a follow-up to this study, SQW has been retained by the Council to assess the economic and wider social impacts of the proposed Eastern Link Road (a) as a stand-alone scheme, (b) in conjunction with the full Western Relief Road, and (c) in conjunction with the first phase of the Western Relief Road in the south (A49 to A465). This includes an assessment of:
- The potential impact on growth prospects and productivity of existing businesses, the efficiency of labour markets, inward investment, the development of employment land and temporary construction jobs
 - Quantified gross and net impacts on employment and economic output, for Hereford City and Herefordshire County as a whole
 - Wider impacts in terms of skills matching and distributional impacts, social impacts and service provision (such as education, health and medical services)

- Implications in relation to Rotherwas Futures and the Enterprise Zone, and LDF proposals for employment land.
- 1.5 In the original brief for this study, the Council also requested an assessment of the implications of terminating the Eastern Link Road from the Rotherwas site at the B4224 Hampton Bishop Road, rather than extending through to the A438 Ledbury Road. However, Amey have assessed the scope for this option and have decided that it would have no sensible purpose (due to significant weight restrictions to the east, and the lack of links to appropriate A roads). SQW has therefore not undertaken a sensitivity test on the economic impacts of this option.
- 1.6 We have also considered the economic impacts of the scenarios above by 2019 in order to align with the scenarios tested by Amey. However, because the Eastern Link is only due for completion in 2019, the economic impacts by this point are limited. We have therefore presented this analysis in a separate annex (see Annex D).
- 1.7 Building on the research undertaken by SQW in Autumn 2011, we have undertaken further consultations (see Annex A), analysis and modelling to assess the impacts of an Eastern Link Road.
- 1.8 This report is an addendum to SQW's December 2011 report.

Structure of report

- 1.9 This report is structured as follows:
- Section 2 presents our analysis of economic impacts of the Eastern Link Road, and the Eastern Link Road combined with a Western Relief Road, including net employment and GVA impacts.
 - Section 3 provides an overview of wider distributional (in terms of skills) and social impacts
 - Section 4 provides a summary of the key messages and conclusions.
- 1.10 The report is supported by two annexes:
- Annex A contains a list of individuals consulted for this study
 - Annex B presents a map of the proposed junction between the Rotherwas estate and the Eastern Link road
 - Annex C presents a map of the proposed routes for the Western Relief Road and associated phasing
 - Annex D presents the results of modelling the scenarios to 2019 only.

2: Economic impacts of the proposed link road

- 2.1 In this Section, we present our findings on the potential economic impacts of the Eastern Link Road, and the link road in conjunction with the Western Relief Road, informed by consultations with local stakeholders, travel times analysis produced by Amey, and updated economic impact modelling (building on the modelling undertaken by SQW to inform the previous assessment of the Western and Eastern Relief roads).
- 2.2 Please note, we have not repeated the details relating to the economic impacts of the Western Relief road (or congestion issues in Hereford more generally) contained within our previous study here – please refer to the Chapter 3 of our “Hereford Relief Road – Economic and Business Impacts” report, December 2011, for further details.

Gross impacts

- 2.3 Below, we assess the potential impacts of:
- (a) an Eastern Link Road as a standalone initiative;
 - (b) an Eastern Link Road and the full Western Relief Road in combination; and
 - (c) an Eastern Link Road and the southern first phase of the Western Relief Road in combination.
- 2.4 We compare these options against the alternative potential impacts of not implementing these changes (i.e. the Reference Case⁴).

Accelerating growth prospects and productivity of existing businesses

- 2.5 Feedback from consultees suggests that an Eastern Link Road would have a small positive impact on the growth prospects of existing businesses. This impact would mainly benefit businesses that serve markets located to the north and east/northeast of Hereford (especially those on the Rotherwas estate), who would be able to access existing/new markets and suppliers more easily (especially those in the east). However, it is important to note that not all businesses serve markets in the east – many serve local markets and have already located in the most appropriate place to serve these markets, and the view from some consultees was that an Eastern Link Road only make a very marginal difference to businesses serving customers within/across Hereford.
- 2.6 Because the Eastern Link Road is not expected to have a significant impact on journey times (see below), the evidence suggests that impacts on business productivity will be minimal.

⁴ Details of the Reference Case position are explained in detail in SQW’s Hereford Relief Road – Economic and Business Impacts” report (December 2011)

2.7 An Eastern Link Road and Western Relief Road would have a greater impact on the growth prospects and productivity of businesses, both those serving local markets (and therefore travelling within/across the city) and those exporting outside of Herefordshire.

Improvements to efficiency of labour markets

2.8 The evidence collated to date suggests that an Eastern Link Road alone would not have a major impact on journey times within/across Hereford or businesses' access to labour.

2.9 As illustrated below, the journey time modelling work undertaken by Amey shows a marginal decrease in travel times across Hereford (of no more than 2 minutes for each of the journeys, which are approximately four miles in length), and in some cases journey times would increase very slightly if the Eastern Link Road is implemented.

Table 2-1: Journey times without and with an Eastern Link Road by 2031 (in minutes)

		AM peak			PM peak		
		No improvement by 2031	With Eastern Link Road by 2031	Difference	No improvement by 2031	With Eastern Link Road by 2031	Difference
Route 1: N - S From A49 at Lyde To Grafton Lane	Northbound	19	18	-1.3	21	18	-2.2
	Southbound	20	18	-2.3	20	18	-2.4
Route 2: SW - NE From A465 at Belmont To A465 / A4103 Junction	Westbound	20	19	-0.9	23	21	-1.6
	Eastbound	16	17	0.6	18	17	-1.1
Route 3: E - W From A438 at Swainhill To A438 at Bartestree	Eastbound	19	18	-1.0	18	18	-0.6
	Westbound	22	21	-1.3	26	24	-1.9
Route 4: NW - SE From Tillington Road To Hampton Park Road	Eastbound	16	16	-0.5	15	16	0.3
	Westbound	16	17	0.9	19	20	0.9

Source: Amey Plc, 2012

2.10 Overall, the evidence does not suggest that the Eastern Link Road (on its own) would make a significant difference to the efficiency of the local labour market. That being said, arguably if an Eastern Link Road encourages greater inward investment (especially of higher value added activities) onto the Rotherwas estate (see below), this will have knock-on benefits for the types of higher-level job opportunities that Hereford can offer. This could help to stem the outflow of young adults, and attract more skilled workers to locate in the area.

2.11 As noted in our December 2011 report, the main concern in terms of labour markets is linking residents/workers in the new housing developments in the north west of the city (and housing

in the north at Holmer and south at Lower Bullingham) to job opportunities at Rotherwas: the Western Relief Road would make the greatest difference here.

Encouraging inward investment

- 2.12 Attracting inward investment is the area where consultees believed an Eastern Link Road would have a greater impact: this is influenced by perceptions of congestion and the ease of “doing business” in a place, and to date stakeholders are having to “paper up the cracks” relating to Hereford’s congestion issues when trying to attract inward investors. Giving potential investors more certainty around accessibility is a positive signal that the Local Authority is keen to facilitate economic growth, and an important factor in securing inward investment, especially from high growth businesses. Also, one consultee argued that many of the businesses that Rotherwas is seeking to attract have markets to the east of Hereford.
- 2.13 However, an Eastern Link Road and Western Relief Road in combination would again have a much greater impact in terms of encouraging inward investment, providing access to suppliers and markets over a greater area.

Accelerating the development of employment land

- 2.14 Linked to the point above, consultees believe that the Eastern Link Road will help to accelerate the take-up of land at Rotherwas (especially from inward investors), both before the road is completed (to a small extent) and after 2019 (to a greater degree)⁵. However, again some consultees were cautious about the scale of the impacts on land take-up at Rotherwas, emphasising that the Eastern Link Road and Western Relief Road would have a much greater impact on the development of employment land across Herefordshire as a whole.
- 2.15 Also, the junction of the Eastern Link Road with the Rotherwas estate will result in the loss of some land on Rotherwas: this is currently estimated by Amey at around 5,000m², of which about 4,000m² of the land would be developable area in the Enterprise Zone, and approximately 1,000m² would be over the existing Chapel Road (see Annex B). As a result, the employment potential/capacity of the site will be reduced slightly. This has been taken into account in the modelling analysis.
- 2.16 There are also concerns that, unless traffic is routed through the Rotherwas estate effectively between the current Rotherwas Access Road to the proposed Eastern Link Road, there is a risk that roads will need to be upgraded within the Rotherwas estate, which could result in further loss of employment land (otherwise there could be negative consequences in terms of congestion *within* the estate). At present, Amey believe that the Eastern Link Road will impact upon access to the north-east area of the Rotherwas estate, and will therefore require new links within the estate. These internal link roads are likely to encroach upon the developable area only marginally, although it is argued that this area of the estate is likely to benefit from new improved infrastructure.
- 2.17 In addition, according to Amey, Compulsory Purchase Orders (CPOs) would be necessary to enlarge a roundabout on the Rotherwas estate (where the Eastern Link Road would

⁵ A consideration of economic impacts of the proposed schemes is presented in Annex D

commence), to construct the start of the Eastern Link Road on the Rotherwas estate and to construct the internal link into the north-east of the estate (mentioned above). However, the full extent of the CPOs necessary have not been assessed by Amey at this stage, and therefore the economic impacts cannot be factored into the economic impact modelling presented within this report.

2.18 As part of this assessment, we have considered the impact of an Eastern Link Road on bringing forward the development of other employment sites on the eastern side of the city. The two key sites in close proximity to the proposed route are the Foley Trading Estate (located between the A438 and B4224) and the Whitestone Business Park (located north east of Lugwardine on the A4103).

- The Foley Trading Estate has a gross footprint of 8,000sqm, and is mainly B1 light industrial, B2 and B8 uses, with one significant landowner and several owner-occupiers and two Council premises. In late 2011, four of the 32 units at the Foley Trading Estate were vacant, amounting to around 1,000 sqm of floorspace⁶. However, this site is classified as poor/moderate in the Herefordshire Employment Land Study (2010).
- The Whitestone Business Park has a gross footprint of 13,000sqm, and is mainly B1 light industrial, B1 offices and B8 warehousing. At present, the business park is fully occupied.
- The UDP also identified undeveloped land to the east of Whitestone Business Park (just over one hectare) but a planning application has recently been submitted for the extension of offices and car park space which, if successful, would take-up the site.

2.19 Given the very limited capacity on these sites, we have assumed that the Eastern Link Road would not impact upon land take-up at these locations.

2.20 We have also assumed that the Eastern Link Road would not have an impact on the other key sites considered in SQW's December 2011 study because they are not in close proximity to the proposed route (such as the Three Elms Trading Estate, the Westfields Trading Estate, and the Holmer Trading Estate).

2.21 We have also considered the impact of an Eastern Link Road on the southern urban extension of housing at Lower Bullingham and specifically the employment created as a result of the dwellings developed (for example, in localised retail and service provision)⁷. We have assumed that the road will contribute towards the further development of this site (and therefore associated jobs), although this would take place after 2019 (whereas the Lower Bullingham site is expected to be developed between 2016 and 2020, and so much of the development is likely to have already taken place).

2.22 In the table below, we summarise our assessment of the potential impacts of an Eastern Link Road on the development of employment land and other sites in the south-east of Hereford

⁶ Source: Herefordshire Council and Valuation Office in Worcester.

⁷ We have assumed that the Eastern Link Road would not have an impact on the housing development at the Three Elms western extension or the Holmer West urban extension

(based on consultations and SQW's economic modelling). Please see our December 2011 report for our assessment of the impacts associated with the western route.

Table 2-2: Potential impacts of the proposed Eastern Link Road on the development of employment land and other sites

Site	Developable floorspace (sqm)	Status	Assumptions on impacts of an Eastern Link Road	Assumptions on impacts of an Eastern Link Road and Western Relief Road / southern first phase of the Western Relief Road
Rotherwas Enterprise Zone	167,919*	UDP employment allocation with planning permission	Small positive: Small acceleration of land take-up post-2019 as the improved access will help to attract inward investment and enable business growth. However, development of link road will result in loss of 4,000 sqm developable land on the Rotherwas estate.	Positive: Following the initial take up of the EZ within the first five years of incentives, take up may drop but be maintained at a higher level than past trends/"do minimum". Relief road will provide more attractive/competitive location for businesses and enable better access to jobs at Rotherwas (especially form urban extension areas). <i>Source: SQW's December 2011 report</i> We have assumed that the impacts of the Eastern Link Road and Western Relief Road are combined (but that the impacts are not greater than the sum of the two), but that land is lost at Rotherwas associated with the junction of the Eastern Link road.
Foley Trading Estate	c.1,000	Outside UDP. Identified as employment site in ELR 2010	No impact	No impact
Whitestone Business Park	None available	NA	No impact	No impact
Undeveloped land to the east of Whitestone Business Park	Available space currently subject to planning permission	UDP employment allocation with planning permission	No impact	No impact
Southern urban extension of housing at Lower Bullingham	NA		Positive: Assume the Eastern Link Road will contribute towards the development of this site, above and beyond what would happen anyway (but only post-2016).	Positive: Assume a Western Relief Road (with the first phase in the south) will have a considerable impact on the development of this site.

*Source: SQW analysis of employment land data and consultation feedback. Notes: * denotes before the Eastern Link Road is implemented*

2.23 The next stage of the analysis is to assess the potential job creation at the sites above. For the purposes of this study, we have drawn on the analysis in SQW's December 2011 study⁸. However, there are two adjustments we have made to this:

⁸ Because we do not anticipate any impacts on the Foley Trading Estate or Whitestone Business Park, we do not have any additional sites to consider in this study compared to our previous work in December 2011.

- To assess the impact of the Eastern Link Road, we have reduced the developable land at Rotherwas by 4,000sqm to reflect the loss of land associated with the Eastern Link Road junction, which has reduced the total jobs capacity to 5,582 jobs.
- To assess the impact of the Eastern Link Road plus the full Western Relief Road/southern first phase of the Western Link Road, we have also reduced the developable land at Rotherwas (as above) and assumed that the acceleration of land take-up at Rotherwas due to the Eastern Link Road is additional to the increase in land take-up at the site associated with the Western Relief Road.

2.24 The table below shows that the total number of gross jobs likely to be delivered by 2031 is almost 5,000 for the Eastern Link Road only, increasing to almost 5,200 if the southern phase of the Western Relief Road is implemented, and up to almost 6,900 if the full Western Relief Road is implemented. However, it is important to note that these figures compare to a ‘do minimum scenario of around 4,800 jobs that are likely to occur anyway without the proposed road interventions.

Table 2-3: Developable floorspace and job (FTE) creation summary

	Developable floorspace (sqm) ⁹	Total jobs capacity (gross)	Impacts on jobs delivered by 2031			
			Do minimum	Eastern Link Road Only	Eastern Link Road <u>and</u> full Western Relief Road	Eastern Link Road <u>and</u> southern first phase of Western Relief Road
Rotherwas Enterprise Zone	167,919 OR 163,919 (if Eastern Link Road is implemented)	5,719 OR 5,582 (if Eastern Link Road is implemented)	3,872 ¹⁰	4,003	4,356	4,073
All other sites considered in the December 2011 study ¹¹	49,907	1,688	649	649	1,586	720
Service jobs associated with the urban extensions	NA	950	285	304	950	380
Total			4,806	4,955	6,892	5,173

Source: SQW analysis

Temporary construction jobs

2.25 The temporary employment opportunities associated with the construction of the road(s) are presented in Table 2-4 below. Using coefficients for jobs created through expenditure on the road infrastructure, the number of contribution jobs directly created by implementing the

⁹ We have not made any changes to the assumptions on type of usage compared to our December 2011 study

¹⁰ This assumes that the original developable floorspace of 167,919 sqm is maintained because if the road is not built, the 4,000 sqm of land will not be lost at Rotherwas Enterprise Zone

¹¹ See Tables 3-3 and 3-4 in our December 2011 report. This includes the Three Elms Trading Estate, Holmer Trading Estate, Westfields Trading Estate, Holmer Road vacant plot, commitments outside of the ELR (19 small sites), the Three Elms Urban Extension)

Eastern Link Road is estimated at 204 person years of construction employment, compared to 1,044 if the Eastern Link Road is combined with the Western Relief Road (and only 23 person years of construction employment if neither route is implemented).

Table 2-4: Capital expenditure on transport infrastructure and associated jobs by 2031

	Do minimum	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of Western Relief Road
Total capital expenditure - on the relief road	£0m	£24m	£133m	£43m
Total capital expenditure - on other transport infrastructure	£3m	£3m	£3m	£3m
Total construction expenditure	£3m	£27m	£136m	£46m
Total person years of construction employment	23	204	1,044	356

Source: SQW analysis based on construction data sourced from Herefordshire Council and Amey Plc (2010 and 2012). Employment coefficients sourced from the Construction Skills Network.

2.26 We have also estimated the level of construction employment created indirectly as the employment sites are brought forward, as presented in Table 2-5. As the Eastern Link Road and Western Relief Road scheme is likely to bring forward more employment land, it is likely to generate more indirect person years of construction employment than the Eastern Link Road alone. However, it is important to note that these are gross figures, and a large share would happen anyway, as shown by the “do minimum” scenario.

Table 2-5: Indirect construction jobs by 2031

	Unit build cost (£/sqm)	Do minimum		Eastern Link Road		Eastern Link Road and full Western Relief Road		Eastern Link Road and southern first phase of Western Relief Road	
		Total cost (£m)	person yr of construction employment supported	Total cost (£m)	person yr of construction employment supported	Total cost (£m)	person yr of construction employment supported	Total cost (£m)	person yr of construction employment supported
B1 Office	1,291	84	643	86	661	104	798	87	667
B1 Ind	861	26	201	27	206	38	295	29	226
B2	861	28	216	29	222	35	272	29	227
B8	538	3	23	3	24	5	37	4	33
Total		141	1,082	145	1,114	182	1,402	150	1,152

Source: SQW analysis

Net employment impacts

- 2.27 We now convert gross job impacts into net impacts upon the Hereford and Herefordshire areas, above and beyond what might happen anyway (i.e. the Reference Case), to understand the net attributable jobs associated with (a) an Eastern Link Road, (b) an Eastern Link Road plus Western Relief Road and (c) an Eastern Link Road plus the southern first phase of the Western Relief Road.
- 2.28 For consistency, the additionality assumptions around deadweight, leakage, displacement and multipliers used in this analysis are the same as those presented in our December 2011 report (see page 26-27).
- 2.29 As before, we have not included the temporary construction jobs in our assessment of net impacts – although as noted in our December 2011 report, given the substantial capacity that exists in the construction sector, it is likely that many of these jobs would not be created otherwise, and that jobs will be created for unemployed residents in Herefordshire.
- 2.30 Our assessment is presented in the table below. In summary,
- An Eastern Link Road is likely to create an additional 218 jobs for residents of *Hereford City* by 2031, compared to an additional 3,054 jobs if the Eastern Link Road is combined with a full Western Relief Road or 534 if the Eastern Link Road is combined with the southern first phase of the Western Relief Road.
 - An Eastern Link Road is likely to create an additional 243 jobs for residents of *Herefordshire County* by 2031, compared to an additional 3,398 jobs if the Eastern Link Road is combined with a full Western Relief Road or 595 if the Eastern Link Road is combined with the southern first phase of the Western Relief Road.

Table 2-6: Net impacts on Hereford City and Herefordshire County by 2031

	Net impacts on Hereford City			Net impacts on Herefordshire County		
	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road
Gross permanent direct jobs created if the road is implemented	4,955	6,892	5,173	4,955	6,892	5,173
<i>Estimated leakage</i>	1,090	1,516	1,138	496	689	517
<i>Estimated job displacement</i>	715	987	747	1,162	1,612	1,214
Net jobs before multipliers	3,150	4,389	3,288	3,297	4,590	3,442
Multiplier impacts	4,064	5,661	4,241	4,748	6,610	4,956
Total net attributable	7,214	10,050	7,529	8,045	11,200	8,398

	Net impacts on Hereford City			Net impacts on Herefordshire County		
	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road
jobs						
<i>Gross permanent jobs (reference case), minus ...</i>	4,806	4,806	4,806	4,806	4,806	4,806
<i>Estimated reference case leakage</i>	1,057	1,057	1,057	481	481	481
<i>Estimated reference case job displacement</i>	694	694	694	1,127	1,127	1,127
<i>Net reference case jobs before multipliers</i>	3,055	3,055	3,055	3,198	3,198	3,198
<i>Multiplier impacts of reference case</i>	3,941	3,941	3,941	4,605	4,605	4,605
<i>Total net attributable jobs under reference case</i>	6,995	6,995	6,995	7,802	7,802	7,802
Overall net attributable jobs associated with the option	218	3,054	534	243	3,398	595

Source: SQW analysis

Economic output impacts

- 2.31 We now use the data above on net employment created by the proposed road(s) to assess net economic output (measured by Gross Value Added).
- 2.32 The results are presented in Table 2-7 below, and show that the net additional GVA impact of an Eastern Link Road is estimated at £9.9m for Hereford City and £11.1m for Herefordshire as a whole by 2031.
- 2.33 The GVA impacts are considerably higher if the Eastern Link Road is implemented in conjunction with a full Western Relief Road, predominantly due to the greater scale of employment land (and associated jobs) brought forward by a relief road which circulates the city from north to south.

Table 2-7: Estimated net additional GVA generated by each Scenario (£m) by 2031

Hereford			Herefordshire		
Eastern Link Road	Eastern Link Road and Western Relief Road	Eastern Link Road and southern first phase of	Eastern Link Road	Eastern Link Road and Western Relief Road	Eastern Link Road and southern first phase of

	Hereford		Herefordshire			
			the Western Relief Road			the Western Relief Road
B1 Office	5.1	45.6	7.1	5.6	50.1	7.8
B1 Ind	1.7	28.0	4.9	1.9	31.8	5.5
B2	2.0	18.1	3.3	2.3	20.5	3.8
B8	0.2	3.3	1.9	0.2	3.8	2.2
Other	0.9	31.6	4.5	1.0	34.7	5.0
Total	9.9	126.6	21.7	11.1	140.9	24.2

Source: SQW analysis, informed by ONS and BRES data to estimate GVA per person in employment by sector.

3: Wider social impacts of the proposed link road

- 3.1 In this Section, we provide an assessment of the skills/qualification opportunities associated with the jobs created as a result of the road(s), and summarise key messages on the wider social implications from our consultations.

Sharing the benefits – matching job opportunities with people

- 3.2 To estimate the potential for the road options to provide economic opportunity for Hereford’s existing and future residents, it is necessary to estimate the potential breakdown – by required skill level – of the jobs likely to be generated by on the currently available and future development land that will be influenced by the investment options.
- 3.3 Estimation of the average skill requirement of the business sectors that are relevant to the road options (such as manufacturing, transport, distribution, professional and business services, etc.) can be made by interrogation of datasets available from the Office of National Statistics together with the various relevant sector skills councils (such as SEMTA).
- 3.4 Use of this method suggests that the typical profile of qualification requirements for each of the development type analysed in this report are as follows.

Table 3-1: Qualifications among existing businesses (UK data)

Development Type	NVQ Level 4+	NVQ Level 3	NVQ Level 2	NVQ Level 1	Other qualifications	No qualifications
B1 Industrial	23%	32%	22%	11%	9%	3%
B2	12%	14%	20%	19%	19%	16%
B8	12%	14%	20%	19%	19%	16%
B1 Offices	25%	34%	19%	10%	9%	3%
Other	18%	24%	20%	15%	14%	10%

Source: SQW

- 3.5 The next step is to convert the assumptions for the average skill profile by broad sector into specific estimates for the gross jobs – net of the Reference Case – that are expected to be created by the two alternative options for the road investment considered in this report.
- 3.6 The results are presented below for each Option in turn, starting with the Eastern Link (only) option. That is, with the Eastern Link only option, 135 additional gross jobs (net of the Reference Case) will be generated, of which 20% would be at NVQ level 4, 27% at NVQ level 3, etc.

Table 3-2: Skills/qualification breakdown of expected jobs - Eastern Link Only (net of the Reference Case):

	NVQ Level 4+	NVQ Level 3	NVQ Level 2	NVQ Level 1	Other qualifications	No qualifications	Total
B1 Industrial	6	8	6	3	2	1	26
B2	4	4	6	6	6	5	31
B8	0	0	1	1	1	1	3
B1 Offices	14	19	11	6	5	2	57
Other	3	4	4	3	3	2	19
Total	28	37	27	18	17	10	135
% of Overall Total	20.4%	27.1%	20.0%	13.1%	12.2%	7.2%	100%

Source: SQW analysis

3.7 Next, we present the results for the combined Eastern Link plus Western Relief Road option:

Table 3-3: Skills/qualification breakdown of expected jobs - Eastern Link Road and Western Relief Road (net of the Reference Case)

	NVQ Level 4+	NVQ Level 3	NVQ Level 2	NVQ Level 1	Other qualifications	No qualifications	Total
B1 Industrial	108	151	104	52	42	14	471
B2	36	42	60	57	57	48	302
B8	10	11	16	15	15	13	79
B1 Offices	139	189	106	56	50	17	556
Other	120	156	135	98	93	63	665
Total	413	549	420	278	258	155	2,072
% of Overall Total	19.9%	26.5%	20.3%	13.4%	12.4%	7.5%	100%

Source: SQW analysis

3.8 Under the Eastern Link Road and Western relief Road combined option, there would be a larger number (about 2,070) additional gross jobs (net of the Reference Case), of which about 46% would be NVQ level 3 or higher.

3.9 Comparing the two options side-by-side, the key points are as follows

- The combined Eastern Link Road and Western Relief Road generates significantly greater numbers of gross jobs (net of the Reference Case) compared to the Eastern Link only. The difference is around 1,930 gross jobs.
- Both options generate a very similar skills profile for jobs.

Wider social benefits

- 3.10 Six health and social organisations have been consulted on the main challenges and constraints facing their organisations in relation to transport in and around Hereford. Following this they were asked to comment on the likely consequences for their organisations and the services they provide if the Eastern Link Road was (a) not implemented, (b) was implemented, or (c) was implemented in conjunction with the proposed Western Relief Road. The remainder of this section summarises their responses to these questions and provides their overall support for each option.

Educational institutions

- 3.11 The congestion south of the river was highlighted as a particular challenge for both students and staff due to the single river crossing causing delays. However, none of the organisations consulted reported that this was preventing students or staff from getting to college on time. The main issue highlighted was related to the cost and frequency of public transport provision, as well as concern regarding cuts to public transport subsidies that may force more people to drive adding to the congestion already present. One organisation commented that currently around a quarter of its students drive to college, a proportion that is likely to increase if the cost of public transport continues to rise. Travel times and punctuality are only affected when the current transport provision is under stress during peak times and unforeseen incidences such as breakdowns and accidents. This may increase as transport volumes rise however, ultimately this would depend on the alternative modes available and the progress of other transport and regeneration initiatives affecting the area's population growth.
- 3.12 If the Eastern Link Road is *not* implemented, the impact on educational institutions is thought to be minimal by consultees, and the catchment area they serve would remain the same. Concerns were expressed in relation to the viability of the Hereford Futures Urban Village project and falling demand for educational services due to the combined effects of an aging population and net out migration of the young population. Accessibility to these educational institutions would likely to remain the same however: one consultee commented that the Eastern Link Road will not impact upon its plans to expand the catchment area it serves as a specialist college. One consultee stated that improvements to the employment and economic prospects of the County are essential for the future sustainability of the County's education providers.
- 3.13 If the Eastern Link Road *is* implemented, consultees believed that there would be minimal impact on the catchment area or reach of these educational institutions. Accessibility for those traveling from Ross in the South would be improved however (although many already take a detour via Ledbury Road) and the introduction of the new link road could see a further reduction in travel times of up to 20%. In addition, it would also make for an 'easier journey'.

The proposed Eastern Link Road would make travelling between campuses easier for students and pupils. The implementation of the Eastern Link Road by itself is thought to benefit businesses in the East, but would be unable to relieve the City's transport issues solitarily.

- 3.14 As these educational institutions are located in the North East of the City, the majority of the transport flow is across the city rather than using the A49 from North to South. The Eastern Link Road coupled with the Western Relief Road was the option most favoured by the two of the educational institutions consulted; one was indifferent to both proposals as they considered the likely impact on them as an institution to be marginal. The two reported that this combination was most likely to increase their catchment areas, as improved access would encourage people to come from further afield, particularly those from the South West where transport provision is poorer. This would reduce travel times for students and staff travelling from this direction. Further, the consultees believed that the reduction in congestion may greatly impact retail and manufacturing sectors, providing employment opportunities for college graduates and increased potential for higher value jobs.

Health and medical services

- 3.15 The two consultees from the health and medical services sector reported that generally travel in and around the City is difficult. Particular pinch points include the new traffic light system at the junction with the A465 and A49, Newmarket Street and Commercial Road.
- 3.16 If the Eastern Link Road is *not* implemented, response times are likely to increase (especially following the move to a single major hub on the Ross Road for the Ambulance Service in early April). This is also likely to impact staff making their way in from the current Leominster, Ross, Bromyard and Ledbury hubs which will still be used for staff to park and pick up emergency vehicles. Accident rates are likely to increase as the road network becomes busier and frustration and risk-taking increases.
- 3.17 If the Eastern Link Road *is* implemented, consultees believed there would be a minimal positive impact on response times. No real impact is likely to be experienced in relation to service reach or accident rates. In contrast, if the Eastern Link Road is implemented alongside the Western Relief Road, 'minutes' could be taken off response times and the transfer of patients, especially to the West where the majority of the City's housing estates are situated.
- 3.18 It was also noted that less heavy traffic through the centre of the City is likely to improve the health of residents caused by pollution, and accidents are likely to reduce. One consultee, however, feels that these benefits would be greater with the implementation of both the Eastern Link Road plus Western Relief Road together. There may also be added health benefits in people's improved perceptions of walking and cycling as a result of less congested roads.

Fire and rescue and police services

- 3.19 Crossing the River Wye at rush hour creates pinch points for the police service in both directions at present, and constitutes a key constraint to transport and accessibility in and around Hereford. Hence the police service would support traffic management proposals

which would reduce these issues (and/or pinch points at Bath Street, Blue School Street and New Market Street in both directions).

- 3.20 West Mercia Police and Hereford and Worcester Fire and Rescue Service were unable to comment further at this time. They are currently in talks with the Council regarding the proposed transport routes, as well as other matters concerning the wider Edgar Street Regeneration plans that they believe will have significant effects on their services.

Public transport

- 3.21 Congestion in the centre of Hereford means that the public transport network is prone to severe delays, particularly around the river crossing. Any relief/link roads that relieve congestion in the city centre would be beneficial for the functioning of the existing public transport network and help to provide a more reliable service – the combination of an Eastern Link Road and Western Relief Road is expected to have the greatest impact in this respect. However, there are issues around the commercial viability of bus routes to Rotherwas – at present, peak journeys to/from Rotherwas are commercially viable, but the Council subsidises hourly journeys in between peak hours, and the site is not accessible via bus outside of core working hours (creating issues for those working on shifts). An Eastern Link Road is not expected to have a significant impact on the commercial viability of running bus routes to Rotherwas, although there may be indirect benefits in the longer-term as the Rotherwas estate becomes more developed and creates greater demand for public transport.

4: Summary and conclusions

- 4.1 In this Section, we provide an overview of the eastern link road, outlining the rationale for the intervention, and potential outcomes and impacts. The results of this assessment should be read alongside SQW's December 2011 report that considered the potential socio-economic impacts of the Western Relief Road, and to which this (April 2012) report is an Addendum.

Rationale and strategic fit

- 4.2 Congestion in Hereford has been a longstanding issue. Herefordshire Council have considered a number of options over recent years to relieve existing and future congestion in Hereford and support growth, which will be included in the forthcoming Local Development Framework (LDF). The Local Development Framework Core Strategy Revised Preferred Option, published in September 2011¹², proposed a Western Relief Road to manage congestion issues across the city. In addition to growth planned around Hereford's urban extension areas and in the city centre (such as the ESG scheme), a portion of Hereford's Rotherwas Industrial Estate was awarded Enterprise Zone status in 2011. This creates an opportunity for the County (and wider Local Enterprise Partnership area) to accelerate its economic growth prospects, but it also creates the potential for additional traffic congestion.
- 4.3 Herefordshire Council has commissioned an assessment of an Eastern Link Road between the Rotherwas Enterprise Zone (the B4399) and the A438 Ledbury Road. This Eastern Link Road is being considered both as a scheme in its own right, in conjunction with the full Western Relief Road and in conjunction with the southern first phase of the Western Relief Road.

Summary of key findings

- 4.4 Overall, the evidence indicates that an Eastern Link Road will have positive economic impacts for Herefordshire. SQW's findings on the expected economic impacts of an Eastern Link Road are as follows:
- A positive impact in terms of growth and productivity prospects for existing businesses (especially those on the Rotherwas Estate) serving markets to the east of Hereford.
 - No significant impact is expected on the efficiency on the labour market or businesses' access to labour living in Herefordshire (however, if the road helps to attract high value added inward investment, there will be indirect benefits in creating additional numbers of higher paid employment opportunities).
 - A positive impact on attracting inward investment, especially to the Rotherwas Enterprise Zone, creating more certainty around accessibility and confidence in prospects for growth.

¹² <http://consult.herefordshire.gov.uk/gf2.ti/f/16290/119493.1/pdf/-/A5%20leafletfinal%20version.pdf>

- Linked to the point above, acceleration in the take-up of land at the Rotherwas Enterprise Zone. However, the evidence suggests that the scale of this increase – above and beyond what would happen anyway – is likely to be relatively modest.
- In quantified terms, we expect that the Eastern Link only would result in a net additional 218 jobs for residents of Hereford City, and 243 jobs (FTE) for Herefordshire as a whole, by 2031 (that is, above and beyond what would be expected under a do-minimum reference case scenario).
- The creation of around 200 temporary construction jobs associated with the construction of the Eastern Link Road only. The creation of construction jobs associated with the development of employment land, above and beyond what is likely to happen anyway, is minimal. This is because the *net additional* amount of employment land likely to be brought forward by an Eastern Link Road by 2031 is low compared to what would happen otherwise.
- We expect that the Eastern Link would result in a net additional £11.1m in economic output (measured by GVA) for Herefordshire as a whole by 2031, above and beyond what we would expect under the do-minimum option.
- Impacts on educational institutions (in terms of ease of access for students, delays and catchment areas) are likely to be low for most staff/students (except those travelling from Ross to the North-East of Hereford),
- An Eastern Link Road is likely to help to improve response times of the ambulance service to some extent.

4.5 The extent and scale of economic impacts would be considerably higher if the Eastern Link Road is implemented in conjunction with a Western Relief Road. This applies across all of the areas listed above, but impacts are significantly greater in relation to increasing the speed and scale of employment land take-up, job creation, improving the efficiency of the labour market, and GVA impacts. This option is also likely to have a much greater impact on response times for the health service and accident rates.

4.6 The expected net impacts in employment terms of a combined Eastern Link Road and full Western Relief Road are expected to be:

- For Hereford City: 3,054 jobs by 2031 above and beyond do-minimum (cf 534 if just the southern first phase of the Western Relief Road is implemented)
- For Herefordshire as a whole: 3,398 jobs by 2031 above and beyond do-minimum (cf 595 if just the southern first phase of the Western Relief Road is implemented)

4.7 The expected net impacts in terms of net additional GVA of an combined Eastern Link Road and full Western Relief Road are expected to be:

- For Hereford City: £126.6 million p.a. of net additional GVA by 2031 above and beyond do-minimum (cf £21.7m if just the southern first phase of the Western Relief Road is implemented)

- For Herefordshire as a whole: £140.9 million p.a. of net additional GVA by 2031 above and beyond do-minimum (cf £24.2m if just the southern first phase of the Western Relief Road is implemented)

Conclusions and Recommendations

- 4.8 Our overall conclusion is that the option of undertaking the Eastern Link Road only would offer modest levels of economic impact (in terms of providing employment, GVA, labour market efficiency opportunities and in terms of addressing the symptoms of economic deprivation). The Eastern Link Road only option would also offer only small contributions towards the strategy objectives of accelerating the development of Rotherwas Industrial Estate and the wider LDF proposals for current and future employment land in Hereford and Herefordshire.
- 4.9 In the table below, we summarise the key metrics on which our conclusions are based, and make an overall assessment of potential value-for-money (vfm) offered by the schemes. In terms of vfm, whilst the cost to build the Eastern Link Road plus a Western Relief Road is around six times the cost of the Eastern Link Road on its own, the net number of jobs created by former option by 2031 is 14 times higher. Based on the analysis in this report, the cost per net job for the Eastern Link Road is likely to be around £109,000, whereas the cost per job for the Eastern Link Road plus a full Western Relief Road is in the region of £40,000 or £77,800 if only the southern first phase of the Western Relief Road is implemented (undiscounted figures).

Table 4-1: Summary of key metrics

	Eastern Link Road only	Eastern Link Road plus full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road
Total cost of infrastructure investment	£26.5m	£135.7m	£46.3m
Net job creation (for Hereford city) by 2031	218	3,045	534
Net job creation (for Herefordshire County) by 2031	243	3,398	595
Cost per net job (for Herefordshire County)	£109,000	£40,000	£77,800
Net GVA impact by 2031	£11.1m	£140.9m	£24.2m

Source: SQW analysis. Notes: Cost per job and GVA figures are undiscounted.

- 4.10 On the basis of the evidence and analysis contained within this report, we recommend that the Eastern Link Road only option should be dismissed as providing insufficient economic impact and poor value for money.

Annex A: Consultees

A.1 The following table presents the list of individuals and organisations consulted as part of this study.

Table A-1: List of consultees

Name	Position & Organisation
Samantha Banks	Strategic Planning Officer – Herefordshire County Council
Jesse Norman	Member of Parliament for Hereford and South Herefordshire
Paul Bradley Lloyd	Economic Development Officer - Herefordshire County Council
Alan Lewis	Public Transport Manager
Ray Stone	Business Representative – Rotherwas Enterprise Zone
Neil Kerr	Chair of the Herefordshire Business Board
Ken Davies	KGD Industrial Services
Jonathan Godfrey	Principle – Hereford Sixth Form College
Phil Collins	Proprietor of Collins Design & Build Ltd
Tracey Goodwin	Landowner
Richard Heatly	Principal – College of Art
Andrew Morgan	Strategic Planner, West Mercia Police
Doug Holloway	Area Manager – West Midlands Ambulance Service
Christian Homersley	Head of Estates, Facilities and Capital Planning – Wye Valley NHS Trust
Ian Peake	Principle – College of Technology

Source: SQW

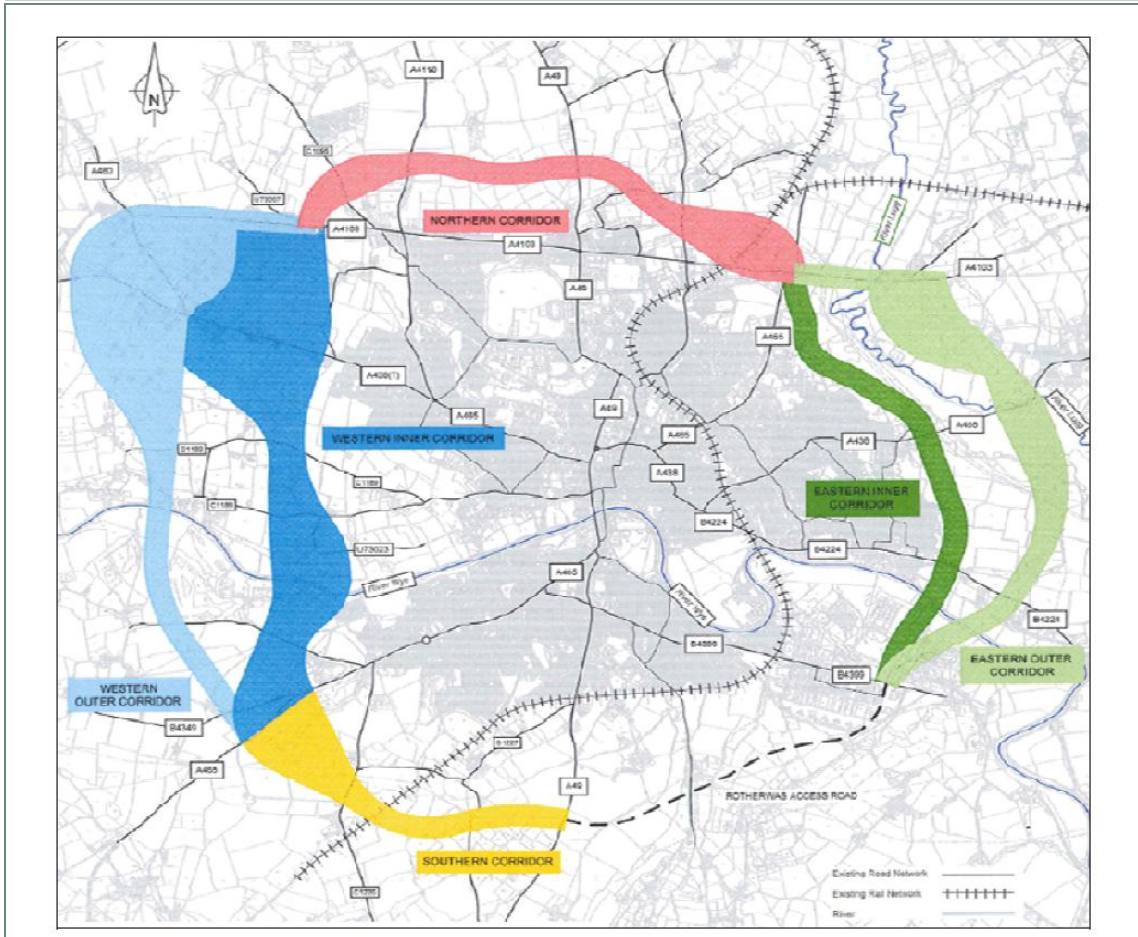
Annex B: Proposed junction at Rotherwas

- B.1 The junction of the Eastern Link Road with the Rotherwas estate will result in the loss of some land on Rotherwas: this is currently estimated at around 5,000m², of which about 4,000m² of the land would be developable area in the Enterprise Zone, and approximately 1,000m² would be over the existing Chapel Road. The map below has been produced by Amey Plc to illustrate the route of the proposed junction.

Annex C: Western Relief Road route

- C.1 The Western Relief Road route is presented in the diagram below in three phases (yellow – blue – pink). The southern first phase of the Western Relief Road is shown in yellow.

Table C-1: Relief Road route options:



Source: Amey, 2010, Hereford Relief Road Study Options

Annex D: Economic impacts to 2019 only

- D.1 In this Annex, we present the key findings from the modelling in relation to economic impacts (jobs and GVA) at 2019 only (rather than 2031, as presented in the main report), and compare these against the ‘do minimum’ scenario by 2019. The tables presented here mirror those contained within Section 2 of the main report.
- D.2 Overall, the net job and GVA impact of an Eastern Link Road only by 2019 is low – the road will only have just been completed, so the net economic impact (above and beyond the ‘no minimum’) results from a slight uplift in inward investment/job creation on Rotherwas associated with the increased confidence that the commitment of a link road might have prior to its actual opening.
- D.3 The net impact of an Eastern Link Road and southern first phase of the Western Relief Road will be slightly greater because of the additional confidence associated with the commitment to the southern first phase (which will be nearing completion by 2019, if not complete). However, the net impact of an Eastern Link Road and full Western Relief Road is slightly higher still – this is because the promise of a second and third phase of the Relief Road (even though not built by 2019) will create additional confidence in investment/growth through to 2019.

Employment land take-up, and associated job creation

Table D-1: Developable floorspace and job (FTE) creation summary

	Developable floorspace (sqm) ¹³	Total jobs capacity (gross)	Impacts on jobs delivered by 2019			
			Do minimum	Eastern Link Road Only	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of Western Relief Road
Rotherwas Enterprise Zone	167,919 OR 163,919 (if Eastern Link Road is implemented)	5,719 OR 5,582 (if Eastern Link Road is implemented)	2,941	2,955	2,955	2,955
All other sites considered in the December 2011 study ¹⁴	49,907	1,688	195	195	207	195
Service jobs associated with the urban extensions	NA	950	91	91	304	304
Total			3,227	3,241	3,466	3,454

Source: SQW analysis

¹³ We have not made any changes to the assumptions on type of usage compared to our December 2011 study

¹⁴ See Tables 3-3 and 3-4 in our December 2011 report. This includes the Three Elms Trading Estate, Holmer Trading Estate, Westfields Trading Estate, Holmer Road vacant plot, commitments outside of the ELR (19 small sites), the Three Elms Urban Extension)

Temporary construction jobs

Table D-2: Capital expenditure on transport infrastructure and associated jobs

	Do minimum	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of Western Relief Road
Total capital expenditure - on the relief road (£m)		24	43	43
Total capital expenditure - on other transport infrastructure (£m)	3	3	3	3
Total construction expenditure (£m)		27	46	46
Total person years of construction employment	23	204	356	356

Source: SQW analysis based on construction data sourced from Herefordshire Council and Amey Plc (2010 and 2012). Employment coefficients sourced from the Construction Skills Network.

Table D-3: Indirect construction jobs

	Unit build cost (£/sqm)	Do minimum		Eastern Link Road		Eastern Link Road and full Western Relief Road		Eastern Link Road and southern first phase of Western Relief Road	
		Total cost (£m)	person yr of construction employment supported	Total cost (£m)	person yr of construction employment supported	Total cost (£m)	person yr of construction employment supported	Total cost (£m)	person yr of construction employment supported
		B1 Office	1,291	56	433	57	435	57	437
B1 Ind	861	18	137	18	137	18	138	18	137
B2	861	20	155	20	155	20	156	20	155
B8	538	2	17	2	17	2	16.75	2	16.75
Total		96	741	97	744	97	747	97	744

Source: SQW analysis

Net employment impacts

Table D-4: Net impacts on Hereford City and Herefordshire County by 2019

	Net impacts on Hereford City			Net impacts on Herefordshire County		
	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road
Gross permanent direct jobs created if the	3,241	3,466	3,454	3,241	3,466	3,454

	Net impacts on Hereford City			Net impacts on Herefordshire County		
	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road	Eastern Link Road	Eastern Link Road and full Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road
road is implemented						
<i>Estimated leakage</i>	713	763	760	324	347	345
<i>Estimated job displacement</i>	472	499	498	763	813	810
Net jobs before multipliers	2,056	2,204	2,196	2,154	2,307	2,299
Multiplier impacts	2,652	2,844	2,833	3,102	3,322	3,310
Total net attributable jobs	4,708	5,048	5,030	5,256	5,629	5,609
<i>Gross permanent jobs (reference case), minus ...</i>	3,227	3,227	3,227	3,227	3,227	3,227
<i>Estimated reference case leakage</i>	710	710	710	323	323	323
<i>Estimated reference case job displacement</i>	470	470	470	760	760	760
<i>Net reference case jobs before multipliers</i>	2,047	2,047	2,047	2,145	2,145	2,145
<i>Multiplier impacts of reference case</i>	2,641	2,641	2,641	3,089	3,089	3,089
<i>Total net attributable jobs under reference case</i>	4,688	4,688	4,688	5,234	5,234	5,234
Overall net attributable jobs associated with the option	20	360	341	22	395	375

Source: SQW analysis

Net GVA impacts

Table D-5: Estimated net additional GVA generated by each Scenario (£m) by 2019

Hereford			Herefordshire		
Eastern Link Road	Eastern Link Road and Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road	Eastern Link Road	Eastern Link Road and Western Relief Road	Eastern Link Road and southern first phase of the Western Relief Road

	Hereford			Herefordshire		
B1 Office	0.5	1.2	0.5	0.6	1.3	0.6
B1 Ind	0.2	0.3	0.2	0.2	0.4	0.2
B2	0.2	0.3	0.2	0.2	0.4	0.2
B8	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	10.1	10.1	0.0	11.1	11.1
Total	0.9	12.0	11.1	1.1	13.2	12.2

Source: SQW analysis, informed by ONS and BRES data to estimate GVA per person in employment by sector.