



**Wycombe District Council**

## **High Wycombe Town Centre Masterplan**

**Infrastructure Cost Estimate**



**Project Ref: 14737/102**

**Doc Ref: R01 / rev -**

**June 2009**

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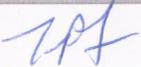
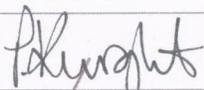
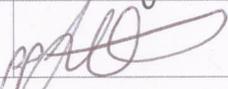
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## Document Control Sheet

**Project Name:** High Wycombe Town Centre Masterplan  
**Project Ref:** 14737/102  
**Report Title:** Infrastructure Cost Estimate  
**Doc Ref:** R01 / rev -  
**Date:** June 2009

	Name	Position	Signature	Date
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Revision	Date	Description	Prepared	Reviewed	Approved
-	31/01/09	Draft	JPF	PK	RL
-		2 <sup>nd</sup> Draft	JPF	PK	
-	27/03/09	3 <sup>rd</sup> Draft	JPF	PK	RL
-	16/06/09	4 <sup>th</sup> Draft	JPF		
-	19/06/09	Final report	JPF		

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## 1 Introduction

As part of the emerging Wycombe Development Framework, Wycombe District Council (WDC) will be consulting on the Delivery and Site Allocations DPD during summer 2009. This includes a vision for High Wycombe town centre (the town centre masterplan), which includes a number of improvements to the highway and public realm. WDC are required to assess the financial viability of the town centre masterplan which includes up-to-date costs for the proposed infrastructure improvements that are required.

In November 2005 Peter Brett Associates (PBA) provided initial cost estimates for a number of infrastructure improvement schemes across High Wycombe town centre. WDC now require PBA to provide revised costs for a selection of infrastructure improvements schemes that have been refined since 2005. This report summarises the revised infrastructure costs for nine infrastructure schemes, plus various options for some of the schemes, as agreed with WDC.

## 2 Schemes considered

There are a total of nine infrastructure schemes that have been costed. A number of the schemes have some alternative options that have also been costed. The extent of each scheme is highlighted on drawing no. 14737/102/SK002 and is described below.

### Scheme A: Sainsburys / Dovecote

- Option 1: Replace Oxford Road roundabout with a signalised T-junction, removal of Arch Way, new section of road between Sainsburys and the railway. See drawing. no. 14737/102/A-1.
- Option 2: As Option 1 but Arch Way retained as single carriageway. See drawing, no. 14737/102/A-2.

### Scheme B: Bridge Street / Westbourne Street

- Option 1: New T-junction to create new link from Westbourne Street with West Wycombe Road, new signals at Desbrough Road and West Wycombe Road. See drawing no. 14737/102/B-1
- Option 2: As Option 1 but reconfiguration of lane allocation along Bridge Street. See drawing no. 14737/102/B-2
- Option 3: As Option 1 but reconfiguration of lane allocation along Bridge Street. See drawing no. 14737/102/B-3

### Scheme C: Gas Works

- Option 1: A new link road at the west of the gas works between Queen Alexandra Road and Desborough Road. See drawing no. 14737/102/C-1.
- Option 2: An interim option to construct the southern section of the link creating a dead-end. See drawing no. 14737/102/C-2.

### Scheme D: Lilys Walk

- Option 1: A single carriageway from the Abbey Way gyratory to Desborough Road using the fly-over. See drawing no. 14737/102/D-1.
- Option 2: Full demolition of the flyover (section over existing shops remains) and replaced with public open space and single carriageway from Abbey Way gyratory to Desborough Road. See drawing no. 14737/102/D-2.

### **Scheme E: Abbey Way Gyratory**

- Option 1: Five mini-roundabouts replaced by two signalised junctions. The scheme is based on demolition of Abbey Way flyover. See drawing no. 14737/102/E-1.
- Option 2: As Option 1 but reconfiguration of signals at Queen Victoria Road. See drawing no. 14737/102/E-2.
- Option 3: As Option 1 but widened carriageway over the bridge at Queen Victoria Road and a new pedestrian bridge. See drawing no. 14737/102/E-3.
- Option 4: Five mini-roundabouts replaced by two roundabouts. Pedestrian crossings included. See drawing no. 14737/102/E-3.

### **Scheme F: Abbey Way Flyover**

- Option 1: Full demolition of the flyover (section over existing shops remains) and replaced with public open space and possible commercial units, with the existing retail units below the flyover to remain in place. See drawing no. 14737/102/F-1.
- Option 2: Retain the flyover but down-grade the dual carriageway to a single carriageway. See drawing no. 14737/102/F-2.
- Option 3: Retain the flyover but reconfigure to a bus-interchange with lift access. See drawing no. 14737/102/F-3.

### **Scheme G: Queen Alexandra Road**

- Widening the carriageway between the proposed Gas Works link road and Marlow Hill to allow for right turn lanes. Note that the amount of widening required is yet to be proved by the modelling. See drawing no. 14737/102/G-1.

### **Scheme H: Desborough Road**

- Widening the carriageway between Bridge Street and the proposed Gas Works link road to allow for right turn lanes. Note that the amount of widening required is yet to be proved by the modelling. See drawing no. 14737/102/H-1.

### **Scheme I: Queen Victoria Road / Easton Street**

- Option 1: Reconfiguration of the junctions at Easton Street / Queen Victoria Road and Easton Street / Abbey Way. See drawing no. 14737/102/I-1.
- Option 2: As Option 1 but with three lane approach on the eastbound arm at Easton Street / Abbey Way junction and reconfiguration of lane allocation along Queen Victoria Road) See drawing no. 14737/102/I-2.
- Option 3: As Option 1 but with a bus priority layout of the Easton Street / Abbey Way junction. See drawing no. 14737/102/I-3.

## **3 Cost Coverage**

The costs cover the construction of the highway improvements only. The estimates cover the following areas:

- Highway construction costs broken down into the various series as set out in the Manual of Contract Documents for Highway Works
- Allowance for preliminaries (site offices etc) and traffic management – this has been set at 25% of the highway construction costs

- Allowance for minor items that have not been identified at the current stage of design – set at 10% of the highway construction costs
- Contingency allowance – set at 10% of the highway construction costs
- Allowance for utility diversions - set at 50% of the highway construction costs (see Utilities below).
- Allowance for professional fees - set at 20% of the highway construction costs
- Allowance for legal / planning fees - set at 10% of the highway construction costs.

The estimates for each of the schemes and options are given in Appendix 2.

Whilst the costs have been based on the best engineering judgement and information available there are certain aspects associated with the construction costs that can not be determined using the initial concepts and preliminary layouts. Therefore the costs exclude the following:

- land acquisition costs
- demolition of buildings (see Highway structures section below)
- construction of new buildings (e.g. commercial units in Scheme F)
- VAT
- significant site clearance, site preparation, anomalies, contaminated ground and hazardous substances
- public inquiries and associated costs
- Compensation claims (e.g. Part 1 Claims)

## Utilities

Utility costs could be significant as town centre locations will have a large number of utility apparatus present and often in confined spaces. Items such as fibre optic cables and associated chambers can add considerable costs to a scheme if they are needed to be moved. Therefore an allowance of 50% of construction costs has been included in the estimate. This allowance for utility work, be it diversion/ protection works - or new connections in the case of bus interchange on the flyover (Scheme F option 3), will provide a figure of the right magnitude. It is strongly recommended that utility searches are carried out (“C2 Notices”) and inquiries are made to statutory undertakers for budget cost estimates for utility diversion / protection works (“C3 Notices”).

## Highway structures

Although the cost of demolition of buildings is not included in the cost estimate, the demolition and removal of the Abbey Way flyover and Arch Way structure has been included in the cost estimates. Any demolition of buildings required is deemed to be covered by the redevelopment of the site and not as part of infrastructure improvements. Abbey Way and Arch Way are considered to be infrastructure / highway structures and so have been included in the cost estimate. A separate report on the demolition issues is presented in the Appendices, together with an assessment on the issues regarding widening the carriageway on Queen Victoria Road bridge as part of Scheme I - option 3.

## Cost bases

The cost estimates use rates based on 2008 tender prices for civil engineering work. In addition, estimated costs for the anticipated construction of the works in 2012 have also been considered. The 2012 costs have been estimated using the Output Price Index (OPI) - the OPI measures price levels incurred in all payments by clients of construction on all new build construction underway at the time of each index value taken every quarter of the year. The predicted future costs are based on:

- past trends
- current economic climate starting to recover by 2010
- past construction costs trends repeating from 2010 to the end of 2012.

We have considered two scenarios for future prices and more specifically those for 2012 - the proposed construction period of the infrastructure improvements. The first scenario is based on early recovery and strong growth trends to give the maximum OPI value at the end of 2012, with scenario two based on late recovery with weak growth giving a minimum OPI value at the start of 2012. From the above two scenarios the OPI value could fall between the maximum of 172 and minimum of 158 - therefore an average OPI value of 165 will be used. Compared to the existing OPI value of 159, for which the 2008 cost estimate is based on, this is a rise of 4% from 2008 to 2012. Therefore the 2012 cost estimate will be based upon an approximate increase of 4% from the 2008 cost estimate.

A more detailed, graphical, illustration of the process in determining the future OPI value is given in Appendix 2.

## 4 Infrastructure Cost Estimate Summary Table

The estimated costs for each of the infrastructure schemes and associated options for based on 2008 construction costs and predicted costs for 2012 are presented in the table below. The 2008 construction costs are also presented on drawing no. 14737/102/SK002 rev B.

Scheme		2008 Costs <sup>1</sup>	2012 Costs <sup>1</sup>
Scheme A: Sainsbury / Dovecote	Option 1	£ 5,850,000	£ 6,050,000
	Option 2	£ 5,100,000	£ 5,300,000
Scheme B: Bridge Street / Westbourne Street	Option 1	£ 2,150,000	£ 2,250,000
	Option 2	£ 2,150,000	£ 2,250,000
	Option 3	£ 2,150,000	£ 2,250,000
Scheme C: Gas Works	Option 1	£ 950,000	£ 1,000,000
	Option 2	£ 750,000	£ 750,000
Scheme D: Lilys Walk Alternative	Option 1	£ 1,800,000	£ 1,900,000
	Option 2	£ 5,300,000	£ 5,500,000
Scheme E: Abbey Way Gyratory	Option 1	£ 2,400,000	£ 2,500,000
	Option 2	£ 2,400,000	£ 2,500,000
	Option 3	£ 3,150,000	£ 3,200,000
	Option 4	£ 2,300,000	£ 2,350,000
Scheme F: Abbey Way Flyover	Option 1	£ 4,950,000	£ 5,150,000
	Option 2	£ 7,200,000	£ 7,450,000
	Option 3	£ 4,300,000	£ 4,450,000
Scheme G: Queen Alexandra Road		£ 300,000	£ 300,000
Scheme H: Desborough Road		£ 300,000	£ 300,000
Scheme I: Queen Victoria Road / Easton Street	Option 1	£ 1,050,000	£ 1,050,000
	Option 2	£ 1,200,000	£ 1,200,000
	Option 3	£ 1,100,000	£ 1,150,000

Notes: 1 - The costs have been rounded to the nearest £50,000

Table 1: Summary of estimated infrastructure construction costs

The above costs exclude the following items:

- land acquisition costs
- demolition of buildings
- VAT
- significant site clearance, site preparation, anomalies, contaminated ground and hazardous substances
- adjustment for risk (Quantitative Risk Analysis)
- adjustment for optimum bias
- Compensation claims

## 5 Conclusion

The proposed infrastructure improvements to High Wycombe Town Centre have been estimated to cost up to £21m, depending on which options are progressed. The costs for each option are detailed on drawing no. 14737/102/SK002 rev B. It should be noted that the cost estimates are based on initial concept designs and are for construction of highway related items only. There could be significant increases due to utility diversions and protection works – detailed investigation of which is outside the current scope of work. It should be noted that the work undertaken in producing the cost estimates does not include any adjustments for optimism bias, and a detailed Quantitative Risk Analysis has not been undertaken. In relation to DfT's Green Book related guidance, Transport Analysis Guidance Unit 3.5.9 The Estimation and Treatment of Scheme Costs, the costs provided in this estimate can be considered as "*base cost – the basic costs of a scheme before allowing for risks, though these should incorporate realistic assumptions of changes in real costs over time*" and do not include any adjustments for risk or optimism bias.

The cost estimates can be used as part of the process in assessing the financial viability of the High Wycombe town centre masterplan. As cost estimates have been produced for various scheme options, a judgement can be made as to which is the preferred option and should be included in the town centre masterplan.

### Recommendations

In order to gain greater cost certainty the following actions are recommended:

- design of the preferred infrastructure options are progressed to greater detail
- inquiries are made to statutory undertakers for budget cost estimates for utility diversion / protection works
- assessment is undertaken in accordance with the Green Book / DfT's Transport Analysis Guidance, including quantitative risk analysis and optimism bias assessment