

Appendix A

Value for Money Summary

A summary of the revised Value for Money case

Version dated 7 September 2011



West of England Partnership

Bath & North East
Somerset Council



North
Somerset
Council

South Gloucestershire
Council

1. Introduction

The Major Scheme Business Case for the Weston Package was submitted to the DfT in April 2009. That submission contained details for both a Preferred Scheme and Low Cost Option. Details of the Decoupled Low Cost Option was included in the Expression of Interest (EOI) to the Department for Transport (DfT) in January 2011.

This Value for Money report presents a summary of the updated Economic Case for the Weston Package Decoupled Low Cost Option (hereinafter referred to as WP1), as part of the Best and Final Funding Bid (BAFFB) to the DfT submitted on 9 September 2011. It has been prepared in accordance with the “Major Scheme Business Cases: Value for Money Guidance for Development Pool Schemes” issued in May 2011, and ongoing feedback provided by the DfT.

The West of England sub-region is made up of Bath and North East Somerset, the City of Bristol, North Somerset and South Gloucestershire. An all-purpose unitary council governs each of these four areas. The four councils are working together as the West of England Partnership to tackle transport and other strategic issues.

The Weston Package scheme is located within the boundaries of North Somerset Council. It is supported jointly through the West of England Partnership with North Somerset Council as the lead delivery authority.

This report is structured as follows:

- **2. Scheme Description:** – a description of the scheme
- **3. Scheme cost:** – a breakdown of the scheme cost
- **4. Transport Modelling:** – an overview of the modelling process
- **5. Appraisal Summary:** – a summary of the appraisal of transport impacts undertaken in relation to the Economic Case element of the government’s Five Case Model, namely: Economy, Environmental, Social, Public Accounts
- **6. Conclusion:** – including VfM category assessment

Sections 2. to 5. include a summary of changes from the previous submission. Detailed descriptions and analyses are presented in Modelling Reports (MRs) and Supporting Documents (SDs) which are listed in Annex A in a table indicating which items are new material since the April 2009 submission.

2. Scheme Description

2.1 Summary of Changes from Previous Submission

The Low Cost Option comprised a series of improvements to the transport infrastructure of Weston, which would benefit a wide range of users and, of crucial importance, support the **employment-led regeneration of the town**. The key components of the package are as follows:

SE1 M5 Junction 21 – increasing capacity for traffic heading into Weston;

SE2 Queensway – new bus only link road to access Worle railway station;

SE3 Elmham Way – bus priority measures linking regeneration areas to the town and rail network;

SE4 Weston Gateway – improving capacity through road widening and new walking and cycling routes together with bus priority measures;

SE5 Worle Station – new bus interchange including a new car park and pedestrian & cycle facilities

Each component part is described below.

2.2 SE1 – M5 Junction 21

Congestion at M5 Junction 21 (A370) is a significant barrier to movement, both to and from Weston and along the M5 itself. This congestion constrains both existing and new business in Weston. There is particular concern regarding the potential for tailbacks onto the M5.

WP1 would provide targeted capacity improvements, namely: widening the southbound off-slip, the A370 (east) approach and A370 (west) exit from 2 to 3 lanes; marking out 3 lanes on the gyratory; and new traffic signals on the M5 off-slips and the A370 (east) approaches.

The scheme benefits include; queue reduction on the M5 off-slips (especially in the PM peak period); queue reduction back onto the M5 itself benefiting strategic traffic movement on a regional level and supporting employment-led growth in Weston by addressing congestion issues.

2.3 SE2 – Queensway

The 80m bus-only link at Queen's Way would assist buses in accessing Worle Station. This new link will enable buses to avoid the congested junction at Queensway/B3440 that currently deters operators from bringing key bus

services any closer to the station than the existing terminus 600m away on Queensway.

2.4 SE3 – Elmham Way

Bus priority and traffic management on Elmham Way will assist bus access to the south of Worle Station linking it with regeneration areas. The road suffers from queues from the A370 which inhibit bus movement. The provision of improved traffic signals with crossing points will also benefit pedestrians and cyclists.

2.5 SE4 – Weston Gateway

The Weston Gateway strides the A370 between the town centre and the regeneration area. The A370 is split into two one-way carriageways with two lanes in each direction providing the main traffic route to and from the town centre and access points to adjacent retail units and businesses.

Westbound dualing with associated signal crossings and junctions would accommodate through traffic and parallel cycle routes. The eastbound highway would be remodelled as a local access route and a route for buses and cyclists. Improvements to the western end roundabout include a town-bound bus lane.

2.6 SE5 – Worle Station

Worle Station is served by both local and inter-city rail services. Demand for the current car park exceeds supply. No bus interchange facilities at Worle Station restrict modal shift opportunities.

A new 320 space car park with a bus interchange; drop-off and cycle facilities together with improvements to the north-side car park are proposed.

2.7 Drawings

Drawings for the WP1 scheme are provided in Appendix M.

3. Scheme Cost

Since the previously submitted business case the overall scheme cost has reduced by £0.571m. The key areas of change have been:

QRA – The risk budget has reduced significantly as the detailed designs have progressed to give more certainty in scheme costs which has enabled the removal or reduction in the potential impact or delay of many risks.

Cost estimates – Have been updated to Q2 2011 from the previous 2008 base. This, combined with a shorter programme has reduced the inflation costs even though the inflation assumption has remained at 2.79%.

Table 3.1 Scheme Cost Comparison

| Costs (£m) | BAFB Sept 2011 | Previously submitted Sept 2009 |
|---------------------------------------|----------------|----------------------------------|
| Engineering Works | 6.904 | 7.26 |
| Land Costs | 1.935 | 1.941 |
| Staff & site supervision Costs | 1.2 | 1.005 |
| Preliminaries | 1.697 | <i>Not separately identified</i> |
| Sub-total | 11.736 | 10.206 |
| Preparatory Costs | 1.709 | 1.789 |
| Project Management | 0.049 | 0.049 |
| Outturn QRA (at 50% confidence level) | 0.969 | 2.022 |
| Inflation (Engineering works) | 0.512 | 1.479 |
| Evaluation | 0.019 | 0.02 |
| Sub-total | 3.258 | 5.359 |
| Scheme Outturn | 14.994 | 15.565 |

Further scheme cost details are provided in MR7 Worksheet 14 (Affordability and Financial Sustainability) and F Forms.

Robust Cost Estimates

All project element budgets have been independently undertaken and assessed by ECHarris using Q2 2011 prices. Further assurance has been given for the largest financial element of the project (SE1); This further independent

assurance has been given by the current Highways Agency contractor BBMM. Their estimate for J21 is within 1% of ECHarris's estimate. This not only gives certainty for J21 but also demonstrates the rates that have been used for all the elements are current, robust and sound.

A high level of design work and value engineering has been undertaken to get to the design which has now been agreed upon. This has involved robust and iterative analysis of quantities to reach a high degree of certainty of the actual quanta already sufficient for tendering purposes. We are no longer working with outline designs but well-advanced detailed designs.

We have obtained actual quotations for high value specific elements and also used contract rates for all electrical/signal works.

With this in mind and in the knowledge of future work requirements the budget allocation represents a robust assessment of the financial requirements of the project. Assuming reactivated Programme Entry in December 2011, the programme then sets out the award of tenders in less than 12 months time. The use of 15% for optimism bias in the appraisal is felt to be appropriate given this project is clearly advanced beyond the level expected at Programme Entry.

4. Transport Modelling

4.1 Summary of Changes

Since the April 2009 submission, the modelling of the Weston Package has been updated to reflect DfT feedback, updated network and development assumptions, Temprow growth and other parameters in accordance with new WebTAG guidance issued in April 2011.

A review of the do–minimum scenario has taken place and the uncertainty log has been updated. The forecast quantum of both the number of jobs and the number of dwellings has been revised downward to reflect new local planning policies.

4.2 Modelling Overview

The Greater North Somerset (G–NS) modelling system consists of three key elements:

- Highway model representing vehicle–based movements across the North Somerset area for a typical 2006 morning peak hour (08:00 – 09:00), an average inter–peak hour (10:00 – 16:00) and an evening peak hour (17:00 – 18:00);
- Public transport model representing bus and rail based movements across the same area but for the AM peak and inter–peak only; and
- a five–stage multi–modal incremental demand model that considers the impact on frequency choice, main mode choice, time period choice, destination choice, and sub–mode choice in response to changes in generalised costs across the 24–hour period (07:00 – 07:00).

All three models have been developed to be compliant with the requirements for appropriate Variable Demand Modelling (TAG Unit 3.10), Modelling Public Transport Schemes (TAG Unit 3.11) and Modelling Road Pricing (TAG Unit 3.12).

Full details of the transport modelling are provided in SD1 to SD3, MR1 Forecasting Report and MR4 Do Minimum Schemes and Sensitivity Tests. Responses to previous DfT questions are contained in SD5 Response to DfT Comments Technical Note.

4.3 Sensitivity scenarios

There are two core sensitivity tests required by the DfT revised Value for Money guidance:

- A high growth scenario; and
- A low growth scenario.

The high and low growth tests reflect uncertainty regarding economic growth and fuel prices and are based upon the sensitivity test suggested in WebTAG unit 3.15.3.

High Growth

Demand increases by +2.5% for forecasts from the model base year, rising with the square root of the number of years to +15% for forecasts 36 years ahead. For other modes a similar methodology should be employed with the +2.5% replaced as follows: bus travel +1.5%; rail travel +2.0%.

Low Growth

Demand decreases by –2.5% for forecasts from the model base year, rising with the square root of the number of years to –15% for forecasts 36 years ahead. For other modes a similar methodology should be employed with the –2.5% replaced as follows: bus travel –1.5%; rail travel –2.0%.

4.4 Annualisation factors

Details of annualisation factors used in TUBA assessment are provided in MR3 Annualisation Report. These are applied to identify scheme benefits for AM and PM peak, inter-peak, off-peak and weekend time periods.

5. Appraisal

5.1 Summary of Changes

Since the April 2009 submission, appraisal of the Weston Package has been updated to reflect the updated transport modelling, updated guidance and more detailed appraisal for some impacts in line with discussions with the DfT and new guidance issued in April 2011. For impacts where the potential change is not considered significant, the assessment has not been updated. This is in accordance with the Value for Money Guidance for Development Pool Schemes (paragraph 6.), which states promoters “are strongly recommended to rely, where possible, on existing evidence and make changes on an exceptions basis”.

The appraisal is presented in the April 2011 (draft) AST (TAG unit 2.7.2d) and discussed further below under the impact headings of the Economy Case of the Five Case Model.

Table 5.1 sets out whether the assessment of impacts has been updated or remains as per the previous submission.

Social and Distributional impacts have also been assessed in line with DfT guidance and incorporated into the scheme appraisal.

Table 5.1 – Assessment of Impacts

| Impact | | Assessment Status |
|-----------------|--|-------------------|
| Economy | Journey time: Business users & transport providers | Updated |
| | Reliability impact on Business users | Updated |
| | Regeneration | As previous |
| | Wider Impacts | Updated |
| Environment | Noise | As previous |
| | Air Quality | As previous |
| | Greenhouse gases | Updated |
| | Landscape | As previous |
| | Townscape | As previous |
| | Heritage of Historic resources | As previous |
| | Water Environment | As previous |
| Social | Journey time: Commuting and Other users | Updated |
| | Reliability impact on Commuting and Other users | Updated |
| | Physical activity | As previous |
| | Journey quality | As previous |
| | Accidents | Updated |
| | Security | As previous |
| | Access to services | Updated |
| | Affordability | Updated |
| | Severance | As previous |
| | Option values | As previous |
| Public Accounts | Cost to Broad Transport Budget | Updated |
| | Indirect Tax Revenues | Updated |

5.2 Appraisal Summary

The updated AST and supporting analysis is provided in MR7 Worksheets and F Forms. Each impact is discussed further below under the Economy Case

impact headings of the Five Case Model, giving assessment details if not reported in the supporting documents or modelling reports.

5.2.1 Economy

Journey times: Business users & transport providers

Journey time savings have been identified through the use of DfT TUBA software. Full details of the cost benefit analysis assessment and assumptions are provided in MR2 Cost Benefit Analysis Technical Note. Tuba input / output files are included in MR8.

Additional rail benefits have been assessed in line with feedback received from the DfT since the 2009 MSBC submission. Full details are contained in SD7 Rail Benefits Report.

Reliability impact on Business users

Following a qualitative assessment in the 2009 MSBC submission, Reliability impacts have now been quantified based on DfT guidance. The methodology used is described in SD6 Reliability Impacts Methodology Report.

Regeneration

A qualitative assessment of Regeneration impacts (formerly Wider Economic Impacts) has been undertaken. The overall assessment of wider economic impacts is neutral, because the scheme does not affect a Regeneration Area, but wider economic benefits are anticipated due to improved accessibility for business, customers and employees.

Wider Impacts

A Wider Impacts assessment has been undertaken. Details are provided in MR2 Cost Benefit Analysis Technical Note.

5.2.2 Environmental

With the exception of Greenhouse Gases, the assessment of Environmental impacts has not been updated since the 2009 MSBC submission, as the potential change is not considered significant. Aggregate impacts of Greenhouse Gases have been assessed based on TUBA outputs using updated values for carbon in accordance with DfT guidance.

Details for the assessment of Environmental impacts are provided in SD4 Environment Report and worksheets in MR7.

5.2.3 Social

Journey times: Commuting and Other users

Journey time savings have been identified through the use of DfT TUBA software. Full details of the cost benefit analysis assessment and assumptions are provided in MR2 Cost Benefit Analysis Technical Note. TUBA input / output files are included in MR8.

Additional rail benefits have been assessed in line with feedback received from the DfT since the 2009 MSBC submission. Full details are contained in SD7 Rail Benefits Report.

Reliability impact on Commuting and Other users

Following a qualitative assessment in the 2009 MSBC submission, Reliability impacts have now been quantified based on DfT guidance. The methodology used is described in SD6 Reliability Impacts Methodology Report.

Physical activity

A qualitative assessment has been undertaken as summarised in the AST.

Journey quality

A qualitative assessment has been undertaken as summarised in the AST.

Accidents

Accident impacts have been quantified using methods as discussed with the DfT. Full details are provided in MR5 Accident Appraisal Technical Note.

Security

The security appraisal presents changes to personal security as a result of the schemes proposed in the WP1, and is summarised in the AST. The appraisal looks at the five areas of:

- The level of surveillance, both passive and active (CCTV), for pedestrians, cyclists and public transport users;
- The perceived safety of waiting facilities at public transport stops;
- The perceived safety of walking and cycling routes;
- The perceived safety of road crossing facilities; and
- The security of car parking facilities, where relevant.

Three potential impacts have been considered:

- Better – The existing conditions will be made better by the proposed scheme;
- Neutral – There would be no changes to the current conditions (this impact has also been used when the factor could not be considered

- Worse – The existing conditions would be made worse by the proposed scheme.

Worksheet 10 in MR7 summarises the scoring for each element of the WP1. The changes which would impact on security are summarised in text below. Table 5.2 summarises the overall scoring for the scheme. These summary worksheets provide a summarised scoring for each factor and based on these summaries an overall scoring for each option has been provided.

Table 5.2 Security Summary Worksheet

| Factor | Qualitative Summary |
|-------------------------------------|---------------------|
| Surveillance | Slight Beneficial |
| Pedestrian/cycle route security | Slight Beneficial |
| Public transport waiting facilities | Slight Beneficial |
| Crossing facilities | Moderate Beneficial |
| Car park security | Slight beneficial |

There would be a *Slight Beneficial* impact on security as a result of the scheme.

Access to services

The JLTP contains key accessibility targets to improve accessibility to health, employment and education, WP1 would contribute to these objectives in the following ways:

Worle Station

The Worle station improvements would incorporate new bus stops, passenger waiting facilities and bus turning areas on both the north and south sides of the station supporting proposed and extended bus services. These facilities would improve interchange between rail and bus, and between bus services, slightly benefiting access to the transport system.

Elmham Way Bus Priority

The Elmham Way bus priority scheme would speed up bus journey times south from Worle station in the morning peak period. This would have a significant benefit to access to the transport system for non-car owning residents of the Worle and St George's areas. It would also improve access to the transport system for residents of the proposed new development area in and around Locking Parklands.

Queenway Bus Priority

The Queen's Way bus priority scheme would enable some bus services which currently terminate at Worle Sainsbury's to be extended to Worle Station. This would improve accessibility for residents in the Worle and North Worle areas, and would enhance the possibilities for interchange between rail and bus, making other journeys possible by public transport. This scheme would slightly benefit access to the transport system.

Town Gateway

The bus gates on Winterstoke Road which would enable buses to bypass peak congestion on Marchfields Way at the town gateway, would significantly improve access to the transport system by bus for the new buses proposed for future developments in the Airfield and Locking Parklands areas. The eastbound bus gate would also slightly benefit the existing bus routes that terminate at Asda. The scheme would improve access to the transport system for residents of the new development areas.

Drove Roundabout

The bus lane on the westbound approach to Drove Roundabout would enable buses to bypass peak congestion on the A370. This would improve access to the transport system by bus for the new buses proposed for future developments in the Airfield and Locking Parklands areas.

Junction 21 Improvements

The improvements to Junction 21 of the M5 would have minimal effect on access to the transport system.

Affordability

No changes are proposed to the existing public transport fare structures and hence the scheme is proposed to have no impact on affordability.

Severance

The principal sources of severance and therefore barriers to movement in Weston are caused by the two railway lines. The main line which bypasses Weston-super-Mare station is the more significant in terms of severance with fewer crossing points. The railway lines to Weston-super-Mare station also causes severance to a lesser degree. In addition, a number of roads within Weston cause significant severance due to the volume of traffic and limited pedestrian crossings, in particular the dual-carriageway A370 route (Somerset Avenue, Flowerdown Bridge, Herluin Way, Marchfields Way/Winterstoke Road). The following sections describe the effects of each element of the WP1 on the level of severance in the town.

Worle Station

The station improvements would have no impact on severance.

Elmham Way Bus Priority

The new crossing facilities proposed at the junction of Elmham Way, Bransby Way and Rowan Place, on the route to Herons Moor Community Primary School, would reduce severance across Elmham Way.

Queen's Way Bus Priority

The Queen's Way bus priority scheme would have no impact on severance.

The Gateway

Marchfields Way would increase from 2 traffic lanes to 4, increasing severance. To counteract this, the scheme would incorporate two new crossing facilities on Marchfields Way and at the junction of Marchfields Way and Winterstoke Road towards the town centre. The overall result would be a reduction in severance, including for school pupils walking or cycling to Wyvern Community School. Winterstoke Road would carry reduced traffic due to the bus gate closing it to through traffic, and hence severance on Winterstoke Road would be reduced. Overall, the scheme is considered to have a slight beneficial effect on severance.

Drove Roundabout

The Drove Roundabout scheme would have no impact on severance.

Junction 21 Improvements

The Junction 21 improvements would have no impact on severance.

Summary

Overall, the scheme would have a **Slight Beneficial** effect on severance.

Option values

The Option Value benefit category within NATA focuses on the impact of providing alternatives to "typical" travel modes primarily for access to employment opportunities. The guidance is currently for discussion, but has emphasised that the benefits will be greatest in situation where scheme improve options for travel to "major employment centres".

The scheme does not have a significant impact on major employment centres, but does provide improvements to travel choice for access to Weston as a regional employment centre in particular. On this basis the impact has been assessed as **Slight Beneficial**.

5.2.4 Public accounts

Cost to Broad Transport Budget

Scheme costs have been updated as detailed in Chapter 3. Net Present Cost of the Broad Transport Budget has been obtained from the TUBA assessment.

Indirect Tax Revenues

Indirect tax revenues (impact on Wider Public Finances) have been calculated based on TUBA outputs.

Full details of the cost benefit analysis assessment and assumptions are provided in MR2 Cost Benefit Analysis Technical Note. TUBA input / output files are included in MR8. Further details are given in the PA table in MR7.

5.2.5 Distributional

Social and Distributional Impacts have been assessed in line with DfT guidance and incorporated into the AST. A summary is provided in MR6 Social and Distributional Impacts Summary.

5.3 Summary of Monetised Impacts

Table 5.3 gives a summary of the monetised impacts for the Core Scenario and High / Low growth sensitivity tests, which reflect changes in benefits from TUBA assessment of each scenario. The AMCB table is provided in MR7.

| Impact | (£000s) | Core | Low | High |
|--|----------------|---------------|---------------|---------------|
| Noise | | 856 | 856 | 856 |
| Greenhouse Gases | | 824 | 787 | 830 |
| Accidents | | 3,037 | 3,037 | 3,037 |
| Consumer Users | | 19,476 | 13,999 | 21,612 |
| Business Users and Providers | | 23,985 | 15,377 | 27,381 |
| Reliability | | 5,235 | 5,235 | 5,235 |
| Wider Impacts | | 2,410 | 2,410 | 2,410 |
| Additional Rail Benefits | | 3,830 | 3,830 | 3,830 |
| Indirect Taxation Revenues | | -1,823 | -1,679 | -1,870 |
| Present Value of Benefits (PVB) | | 57,830 | 43,852 | 63,322 |
| Broad Transport Budget | | 9,385 | 9,385 | 9,385 |
| Present Value of Costs (PVC) | | 9,385 | 9,385 | 9,385 |
| Net Present Value (NPV) | | 48,445 | 34,467 | 53,937 |
| Benefit to Cost Ratio (BCR) | | 6.16 | 4.67 | 6.75 |

The sensitivity tests demonstrate that the scheme maintains a 'Very High' Value for Money rating under the varying growth assumptions.

6. Conclusion

The updated appraisal demonstrates that the WPI scheme has a Value for Money category rating of **Very High** based on the BCR of 6.16 and consideration of non-monetised impacts.

The sensitivity tests undertaken demonstrate that the scheme maintains a 'Very High' Value for Money rating under the varying growth assumptions.

Annex A: Supporting documents list

| Ref. | Document | Update since April 2009? |
|--------|--|--------------------------|
| Appx M | Scheme Drawings | Updated |
| MR 1 | Forecasting Report | Updated |
| MR 2 | Cost Benefit Analysis Technical Note | Updated |
| MR 3 | Annualisation Report | Updated |
| MR 4 | Do Minimum Schemes and Sensitivity Tests | Updated |
| MR 5 | Accident Appraisal Technical Note | Updated |
| MR 6 | Social and Distributional Impacts Summary | Updated |
| MR 7 | Worksheets and F Forms (including TEE Tables) | Updated |
| MR 8 | TUBA input / output files | Updated |
| | | |
| SD 1 | G-NS v2 Public Transport Local Model Validation Report | As previous |
| SD 2 | G-NS v2 Demand Model Development Report | As previous |
| SD 3 | G-NS v2 Highway Local Model Validation Report | As previous |
| SD 4 | Environment Report | As previous |
| SD 5 | Response to DfT Comments Technical Note | Updated |
| SD 6 | Reliability Impacts Methodology Report | Updated |
| SD 7 | Rail Benefits Report | Updated |

MR: Modelling Report

SD: Supporting Document (previously submitted to DfT)