

A2 Buncrana Road
Addendum to the Stage 1 Scheme Assessment Report
The Department of Regional Development, Roads Service
March 2008

Client:



Prepared by:
Tom McKay
Project Manager

Approved by:
Ronnie Craig
Project Director

A2 Buncrana Road

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225 Bath Street, Glasgow, G2 4GZ
Telephone: 0141 222 6400 Fax: 0141 222 6499 Website: <http://www.fabermaunsell.com>

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Introduction

1 Introduction

- 1.1 Faber Maunsell (FM) was appointed by the Department for Regional Development, Roads Service (RS) to assist in the completion of Statutory Procedures for the improvement of the A2 Buncrana Road between Pennyburn Roundabout and the Border with the Republic of Ireland. This combines two schemes listed in the Regional Strategic Transport Network Transport Plan (RSTN-TP) 2005 – 2015 i.e. Pennyburn Roundabout to Skeoge Roundabout, and Skeoge Roundabout to the Border with the Republic of Ireland.
- 1.2 The Project Brief describes the primary objective of the project thus: *"Improve traffic flows on Buncrana Road to achieve 2 traffic lanes in each direction between Pennyburn Roundabout, at the junction with Strand Road and Culmore Road, and the Border with the RoI"*.
- 1.3 A report entitled "A2 Buncrana Road – Stage 1 Scheme Assessment Report" dated September 2007 was prepared summarising the work undertaken on the schemes.
- 1.4 This report included an estimate of the cost of the routes examined, and was broken down into the following sections:
- Works
 - Land
 - Preparation and Supervision
 - Optimism Bias
- 1.5 Works costs were prepared using a combination of Spons Price Book and RS unit rates (see Appendix A), increased to the year of estimate using the ROADCON indices contained within document entitled "Quarterly Building Price & Cost Indices", published by the Department of Trade & Industry.
- 1.6 Land costs were estimated using the information available at the time, the main source being the RS unit rates included in Appendix A of this report. However, it is generally accepted that land costs in Northern Ireland had escalated significantly in recent years so it was felt that a more robust estimate should be undertaken.
- 1.7 Following discussions between RS and FM, it was concluded that the best method of obtaining an accurate estimate of land value was to approach Land & Property Services (LPS) (previously known as the Valuation and Lands Agency) to undertake the estimate, as it would be in a position to use its experience and knowledge of recent land values in the local area to provide a reasonably accurate estimate.
- 1.8 To allow LPS to produce an accurate estimate, the various routes had to be designed to a level of detail not undertaken for the purposes of the Stage 1 report. The schemes taken forward to Stage 2 for further study (i.e. The Red, Blue and Navy options between Pennyburn Roundabout and Skeoge Roundabout and the Navy option between Skeoge Roundabout and the Border with the Republic of Ireland) were developed during the Stage 2 assessment to a level which allowed the preparation of draft preliminary land plans. Schedules were also prepared, indicating ownership data and area required.
- 1.9 These draft preliminary land plans and schedules were issued to LPS in November 2007. These draft preliminary plans and schedules are included in Appendix B of this report.
- 1.10 LPS issued a response to Roads Service under covering letter dated 28 January 2008.
- 1.11 It should be noted that these preliminary land plans and schedules were for costing purposes only. The preliminary plans and schedules were based on the information available at the time, and were not intended to be regarded as a draft vesting plan, and not intended to be an accurate representation of actual land required for the scheme.

Land Cost Estimates

2 Land Cost Estimates

- 2.1 On 28 January 2008, LPS issued its response to the RS request for estimates of the land costs associated with the routes.
- 2.2 These estimates included an assessment of the purchase price of the land, and also an allowance for severance and disturbance.
- 2.3 As the Brown option was not taken forward to Stage 2, that option was not been developed to a sufficient level of detail to allow draft land plans to be prepared and sent to LPS to undertake a cost estimate. However once the LPS estimates had been received, FM undertook an exercise to produce an estimate for the Brown option, using the information provided by LPS.
- 2.4 A summary of the estimates is provided below:

Table 2-1 – Summary of Land Cost Estimates

	Red	Brown	Blue	Purple	Navy
Land	£ 8.619	£ 8.669	£ 12.546	£ 15.385	£ 1.762

Note: all costs are in £ million



Scheme Cost Estimates

3 Scheme Cost Estimates

3.1 As discussed in the previous sections, the production of preliminary land plans required the routes to be developed to a level of detail in excess of that normally required for the Stage 1 assessment.

3.2 The development of the routes also allowed revised works cost estimates to be undertaken. These estimates were generally prepared using Spons Price Book.

3.3 There follows a summary of some of the assumptions used in the production of the costs estimates.

COST ESTIMATE ASSUMPTIONS

Preliminaries

3.4 Preliminaries have been assumed to be 15% of the total works cost.

Site Clearance

3.5 Site clearance was based on the plan area within the confines of the proposed highway boundary, with a higher rate used for site clearance of the live carriageway.

Fencing

3.6 Only the rural section between Skeoge Roundabout and the Border may be fenced depending on adjacent development progress, with the costs associated with providing a boundary within the urban setting being undertaken largely as Accommodation Works.

Safety Fencing

3.7 Safety fencing will only be required between Skeoge Roundabout and the Border e.g. on the dual carriageway central reserve, where the proposed speed limit is 50mph or greater.

Earthworks

3.8 Only limited Geotechnical information was available at the time of the preparation of the cost estimates, hence the cost of earthworks would be subject to refinement during scheme development.

Drainage

3.9 The drainage estimates assume that discharge will be direct into local watercourses or into the large diameter Skeoge culvert which runs beneath or parallel to the existing corridor, and that no dedicated drainage system will be required to discharge into the River Foyle.

Pavements

3.10 Where the proposed route lies on the same line as the existing carriageway, overlay of the existing pavement has been assumed. However, this assessment is based solely on a walkover survey, and no detailed assessment of the road pavement has been undertaken to date.

Kerbs & Footways

3.11 It has been assumed that existing kerbs and footways will remain unless directly affected by the proposed routes.

Road Lighting

3.12 It has been assumed that a replacement lighting scheme will be installed along the whole route, as the condition of or compliance with design standards of the existing lighting scheme is unknown.

Accommodation Works

3.13 An estimate of the Accommodation Works required has been undertaken, however it is too early in the assessment process to provide a robust estimate.

Structures

3.14 It is likely that there will not be a large structural cost associated with the scheme, and the only structures likely to be required are localised strengthening of the Skeoge culvert above where it is not currently trafficked, and a number of small retaining walls which may be required to avoid

undue impact on properties. The extent of these retaining walls will be assessed in more detail during the next stage of the assessment process.

Statutory Undertakers Diversions

- 3.15 C2 returns in accordance with the Northern Ireland Roads Authority and Utilities Committee (NIRAUC) Code of Practice, however the assessment process is at too early a stage to accurately identify the likely costs of any diversions. Therefore a standard 5% of works costs has been assumed for the purposes of the cost estimate.

Land Cost

- 3.16 These are discussed elsewhere within this report.

Preparation and Supervision

- 3.17 Preparation costs have been taken as 12% of construction cost plus land cost, and supervision costs taken as 5% of construction cost plus land cost. These percentages are in accordance with defaults assumed within the COBA program.

Optimism Bias

- 3.18 Optimism Bias has been included at 44% on works cost (in accordance with DEM 91/05), and 15 % on land cost.

- 3.19 As the costs estimates have been prepared using designs which have been developed to a greater level of detail than previous estimates, consideration was given to reducing the Optimism Bias used. However it was felt that the above figures of 44% on works and 15% on land should continue to be used.

Risk Allowance

- 3.20 As no risk workshop has been undertaken to date, and hence no risk register prepared, the risk allowance is zero.

- 3.21 As the scheme progresses through development, Optimism Bias will decrease, with the appropriate risk allowance increasing.

SCHEME COST SUMMARY

- 3.22 The following tables indicate the current cost estimates for all routes examined during the Stage 1 assessment.

Table 3-1 – Summary of Scheme Costs Pennyburn Roundabout to Skeoge Roundabout

	Red	Brown	Blue	Purple
Works	£ 9.404	£ 9.912	£ 10.036	£10.159
Land	£ 8.619	£ 8.669	£ 12.546	£ 15.385
Preparation & supervision	£ 3.064	£ 3.159	£ 3.839	£ 4.342
Optimism Bias	£ 6.779	£ 7.051	£ 7.987	£ 8.688
Total	£ 27.866	£ 28.791	£ 34.408	£ 38.575

Note: all costs are £ million

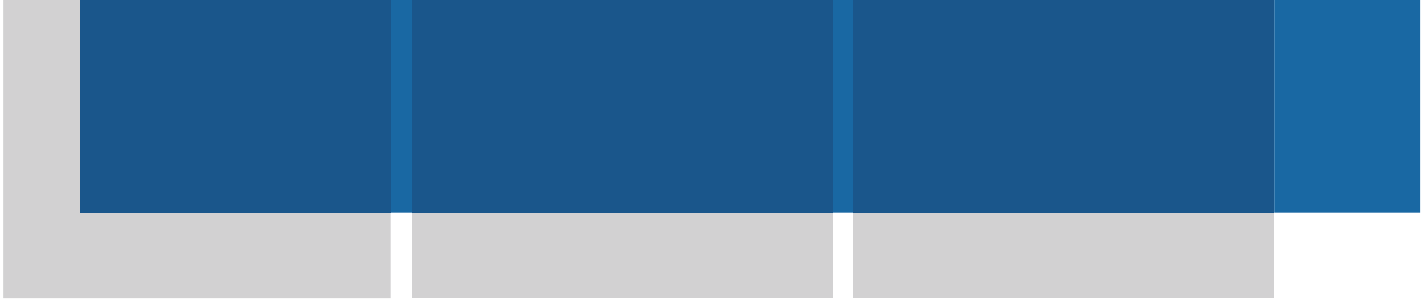
Table 3-2 – Ratio of Scheme Costs

Red	Brown	Blue	Purple
1.00	1.03	1.23	1.38

Table 3.3 – Summary of Scheme Costs Skeoge Roundabout to Border with the Rol

	Navy
Works	£5.917
Land	£ 1.762
Preparation & supervision	£ 1.305
Optimism Bias	£ 3.442
Total	£ 12.427

Note: all costs are £ million



Summary

4 Summary

- 4.1 This report summarises the latest scheme cost estimates undertaken during Stage 1 for the A2 Buncrana Road Improvements scheme.
- 4.2 The conclusions of the Stage 1 Scheme Assessment report remain unaltered:
- the Red, Blue and Purple routes will be taken forward for further consideration for the section between Pennyburn Roundabout and Skeoge Roundabout;
 - The Navy route will be taken forward for further consideration for the section between Skeoge Roundabout and the Border with the Republic of Ireland.

Appendix A – RS Unit Rates

Appendix B – Draft Land plans & Schedules

Appendix B – Draft Preliminary Land Plans & Schedules