Safe roads, Reliable journeys, Informed travellers

HIGHWAYS AGENCY

NATIONAL ROADS TELECOMMUNICATIONS SERVICES PROJECT

Business Case Paper for Strategic Investment in the Telecommunication Network

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1 Basis of preparation

1.1 The National Roads Telecommunication Service (NRTS) project is a Public Private Partnership (PPP) currently being negotiated with the Preferred Bidder.. The purpose of this revision of the business case is to update the previous evaluation (Revision J) of the three options considered to ensure that the same option (Option 3) still offers the best value for the HA.

2 Outline of the present position and the problem to be solved

2.1 The HA's strategic aim is to contribute to sustainable development by maintaining, operating and improving the trunk road network in support of the Government's integrated transport and land-use planning policies. This aim relies increasingly on the deployment of new systems and applications for real-time traffic management and the delivery of information to road users (both being central to the HA's new role as network operator).

2.2 The present position is an existing telecommunication network that has grown in a piecemeal fashion over the last 30 years. This has resulted in a fragmented approach to investment that is now at odds with the national dimension of the HA's network operator role.

2.3 The telecommunication network needs strategic, national and long-term investment if it is to provide the capacity, resilience and functionality demanded by the National Traffic Control Centre (NTCC), the Video Information Highway (VIH), Active Traffic Management (ATMg), the amalgamation of Police Control Offices (PCOs) into Regional Control Centres (RCCs) and the many roadside devices that are likely to be added to the network during the life of the project.

3 Urgency of the problem

3.1 The planned roll-out of roadside devices, the development plans for technology schemes and the migration from PCOs to RCCs all rely for full functionality on the availability within the next few years of an effective, highly reliable, high integrity, high bandwidth telecommunication network. Without an immediate commitment to expenditure the transmission network will not have the capability to support these technology schemes and the HA will be unable to meet its commitments and forward programme.

3.2 The large benefits of these technology schemes (see Appendix 1) illustrate the scale of the roadside communications that are to be supported by NRTS.

4 Cost classification of the proposed expenditure

4.1 The proposed expenditure is made up of Capital and Revenue and will be classified accordingly.

5 Primary purpose of the proposed project

5.1 The primary purpose of the project is to achieve significant technical improvements in the telecommunications service.

6 Budget provision for the proposed expenditure

6.1 The estimate for new investment is currently c. £260m (plus inflation). This would be paid for, together with the operation and maintenance of the existing network, through a PFI service charge over 8½ years. The budget for this service charge has been estimated at £64m per annum Budget estimates have been approved in SR2004.

7 Statement of project's objectives

7.1 The aim of the NRTS Project is to facilitate the HA's role as network operator through the provision of telecommunications services at best value to support the current and future highway communications systems and future "Smarter Roads" initiatives.

7.2 The project's specific objectives are set out in Appendix 2. They build on the HA's prime objectives listed in the Business Plan 2004-05.

8 Description of possible solutions

8.1 In identifying possible solutions, three options for investment have been developed. Each option provides the transmission capability to enable the HA to meet its future obligations over the next 10 years. Each option is now considered over a 10½ years duration as there a 6 month handback period at the end of the contract term during which NRTS Co will still provide services, commencing 1st April 2005.

8.2 Option 1 is a Base Case strategy that contains no requirement for a national scheme and no requirement for planned investment in either the renewal of life-expired cabling or the transmission upgrade. Under this option, the HA would still continue to roll out its technology schemes and would upgrade the network capacity as required for each scheme. This would result in several transmission upgrades on the same section as more technology schemes are rolled out. Cabling would be replaced either as part of a technology scheme or when it failed. This piecemeal approach would result in failures owing to life-expired cabling, equipment and facilities. The HA would only be able to meet its obligations by means of numerous and repetitive *ad hoc* repairs, replacements and maintenance works. This would result in an inefficient investment strategy and high overall costs over the 10½ year period considered. This is detailed in the additional unplanned costs in the tables below.

8.3 Option 2 builds on the Base Case by providing a planned approach to Renewals and thus maintains the functionality of the existing network over the 10½ year period. However, it makes no planned provision for investment to cope with significant increases in HA demand. *Ad hoc* investment in the transmission upgrade would still result in many of the inefficiencies and increased overall costs identified under Option 1.

8.4 Option 3 builds on the Base Case by providing a planned approach, through a national scheme, to both the renewals (as in Option 2) and the transmission upgrade. This strategic investment delivers on a timely basis the network capacity

and capability requirements implied in the HA's Nationally Focussed Programme and avoids the inefficiencies of the *ad hoc* investment described in Options 1 and 2. The early investment in the transmission upgrade also delivers levels of nationwide network resilience that are not achieved under Options 1 and 2 until the end of the 10½ year period.

8.5 The table below shows a summary of the costs for the three options. These costs are presented in detail in Appendix 3.

£m Real	Option 1 (Base Case)	Option 2	Option 3
Total HA risk-adjusted planned investment	0.0	115.0	258.4
Additional unplanned costs	531.9	322.5	0.0
Total	**531.9**	**437.5**	**258.4**
Incremental saving	0.0	94.4	273.5

Note: Costs presented are undiscounted prices as at 31 March 2004

8.6 Summary of Option NPVs

£m NPV	Option 1 (Base Case)	Option 2	Option 3
Total HA risk-adjusted planned investment	0.0	72.7	191.0
Additional unplanned costs	356.4	223.1	0.0
Total	**356.4**	**295.8**	**191.0**
Incremental saving	0.0	60.6	165.4

Note: Costs presented are discounted at 6% per annum to 31 March 2004

9 Best value option

9.1 Since the CIC's approval in November 2003, the costs of all three options have risen to reflect an increase in the quantity of investment required and the associated risks. Details of the changes in costs can be found in appendix A.5. The best value option is still Option 3. As well as being the cheapest option it also represents the best technical solution, as the strategic investment in the transmission upgrade will provide technical improvements and increased resilience early in the project period.

9.2 As presented, Option 3 is delivered under conventional procurement. However, the HA is currently in negotiation with the Preferred Bidder with the intention of procuring Option 3 under a Public Private Partnership, provided it continues to demonstrate value for money when compared with Option 3 under conventional procurement.

10 Recommendations

10.1 The CIC is requested to reconfirm its approval of Option 3 as the best value option.

Appendices

A.1 ANALYSIS OF THE BENEFITS IN OTHER SCHEMES ENABLED BY THE NRTS PROJECT

This project supports the technology schemes included in the HA's Nationally Focussed Programme by providing the necessary transmission capability for current and future technology services. It is assumed under each of the options presented in this paper that the current and future technology services are delivered successfully.

The significant benefits that arise from the current and future technology services are set out below to demonstrate the importance of the core transmission network. These benefits are not considered to be benefits of the NRTS project, for that would be to double count them. However, without the additional money requested under the NRTS project, the benefits of adding roadside devices to the network may never be realised.

Year beginning April	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	TOTAL
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Triple Package	£0.00	£0.00	£0.00	£34.33	£58.06	£72.35	£92.24	£111.56	£137.46	£145.28	£156.58	£807.86
Active Traffic Management	£0.00	£0.00	£0.00	£33.59	£59.15	£59.15	£120.63	£209.10	£294.51	- £407.81	£509.61	£1,693.54
Widening schemes	£0.00	£0.00	£0.00	£0.13	£5.66	£6.60	£25.07	£25.82	£28.13	£39.32	£45.28	£176.01
CCTV	£0.00	£0.00	£0.00	£3.51	£6.67	£12.49	£17.20	£18.40	£21.65	£27.89	£32.47	£140.28
TOTAL	£0.00	£0.00	£0.00	£71.56	£129.55	£150.59	£255.14	£364.87	£481.75	£620.30	£743.94	£2,817.70

Table A1 Summary of undiscounted benefits realised by the rollout of roadside devices after the NRTS upgrade of the transmission capability (based on HA estimates)

Assumptions:

1 The Benefit of Active Traffic Management is £1,018,000 per km per annum (from the Active Traffic Management Business Case).
2 The Benefit of the Triple Package is £127,000 per km per annum (from the Active Traffic Management Business Case).
3 The Benefit of Widening is £127,000 per km per annum (see Note 8).
4 The Benefit of CCTV cameras is £8,731 per km per annum (from CCTV Business Case)
5 No account has been taken of the benefits that are derived from roadside devices rolled out in the initial period, as the upgrade to the network infrastructure and transmission capability is not due to be complete until the end of the initial build period.
6 No account has been taken of benefits from existing roadside devices
7 Benefits are assumed to accrue the year after construction.
8 Not all the benefits of widening have been included, only those associated with the replacement of the telecommunications. These benefits have been assumed to be the same as those of the Triple Package.

A.2 NRTS PROJECT OBJECTIVES

The objectives of the NRTS Project are to:

- Coordinate the planning of the HA's requirement for telecommunications services;
- Maintain, operate and manage the existing and future telecommunications services;
- Upgrade and extend the telecommunications services;
- Manage changes required in the telecommunications services to meet the future needs of the HA;
- Facilitate and manage services associated with wider market and third party opportunities.

This NRTS Project would aid the HA to meet its prime objectives of reducing congestion, improving reliability and improving road safety by the following:

Reducing congestion and improving reliability	Provides the transmission services for the NTCC (responsible for strategic traffic management), MIDAS, VMS, CCTV and controlled motorway schemes. A strategic programme of infrastructure renewals and deployment of new technology in the telecommunication network will improve reliability, simplify maintenance and enable the central management of network operations. The capacity and capabilities of the telecommunications service will be improved so that faster and more comprehensive traffic data and camera images can be made available to the road user (e.g. via the Travel and Video Information Highway initiatives). Provides support for market driven future developments, e.g. roadside to vehicle communications links.
Improving road safety	Provides transmission services to MIDAS, VMS, CCTV and controlled motorway schemes, as well as supporting the wider deployment of enforcement cameras.

The NRTS project would also support "joined-up government" by providing network capacity for inter-governmental initiatives such as road pricing, The Home Office's Automatic Number Plate Recognition (ANPR) and VOSA's weigh-in-motion proposals.

A.3 ANNUAL CASH FLOWS

A.3.1 Option 1 (Base Case)

(£m undiscounted as at 31 March 2004)	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
Planned Investment												
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unplanned costs												
Capital expenditure												
As-and-when transmission upgrade	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	5.0	104.3
Additional capital investment required for upgrade in multiple steps	0.0	0.0	0.0	0.0	1.3	2.7	2.7	2.7	2.7	2.7	1.3	16.0
Additional capital investment required as a result of reconfiguration activities	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8	17.2
Longitudinal cable required on an as-and-when basis	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	1.7	36.2
As-and –when diverse routing for ATMg	0.0	0.0	1.3	1.9	0.7	3.0	7.0	8.8	9.4	7.1	2.4	41.5
Renewal on an as-and-when basis: longitudinal cabling	1.3	3.8	6.4	8.9	11.4	14.0	16.5	19.1	21.6	24.1	12.7	139.8
CCTV transmission equipment	0.2	0.3	0.5	0.6	0.8	1.0	1.1	1.3	1.4	1.6	0.8	9.6
transmission stations	0.4	0.7	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.3	1.7	19.8
Operating expenditure												
Increased cost arising from ad-hoc installation and operation of monitoring systems	6.0	6.8	4.1	1.5	1.5	3.4	3.4	1.5	1.5	1.5	0.8	32.2
Increased maintenance costs arising from not undertaking renewals	0.1	0.2	0.4	0.5	0.7	0.8	1.0	1.1	1.3	1.5	0.8	8.5
Increased staff costs required to manage as-and-when renewal of longitudinal equipment	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	3.2
Liability arising from failure to deliver services as required to TCC contract	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Increase operating costs arising from as-and-when capital expenditure	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.7	14.4
Increased overheads arising from as-and-when capital expenditure	2.0	2.3	2.5	2.6	2.8	3.5	4.1	4.4	4.7	4.7	2.3	36.1
Contingencies												
Capital expenditure	1.7	2.0	2.5	2.9	3.2	3.9	4.6	5.1	5.5	5.6	2.7	39.7
Operating expenditure	1.2	1.3	1.2	0.9	0.8	1.1	1.2	1.1	1.1	1.1	0.6	11.6
Total Unplanned Costs	29.6	34.2	37.4	38.9	41.6	52.0	60.6	64.3	68.9	69.8	34.5	531.9
Grand Total *(£m undiscounted as at 31 March 2004)*	**29.6**	**34.2**	**37.4**	**38.9**	**41.6**	**52.0**	**60.6**	**64.3**	**68.9**	**69.8**	**34.5**	**531.9**
Discount factors (%)	91.63%	86.44%	81.55%	76.93%	72.58%	68.47%	64.60%	60.94%	57.49%	54.24%	51.17%	
Grand Total *(£m discounted as at 31 March 2004)*	**27.1**	**29.6**	**30.5**	**30.0**	**30.2**	**35.6**	**39.1**	**39.2**	**39.6**	**37.9**	**17.7**	**356.4**

A.3.2 Option 2

£m undiscounted as at 31 March 2004	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
Planned Investment												
Capital expenditure												
Renewals: longitudinal cabling	3.8	3.8	0.0	0.1	0.1	0.1	0.1	0.0	11.8	30.8	19.0	69.6
Renewals: CCTV transmission equipment and transmission stations	5.0	5.2	2.7	2.9	1.7	1.6	1.3	0.0	0.0	0.0	0.0	20.4
Operating expenditure												
Transmission service operation and maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.8
Overhead – Management and Administration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overhead – Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overhead – Supervision	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contingencies												
Capital expenditure	2.3	2.4	0.7	0.8	0.5	0.5	0.4	0.0	3.2	8.2	5.1	24.1
Operating expenditure	0.01	0.01	0.01	0.01	0.0	0.01	0.01	0.0	0.04	0.08	0.04	0.2
Total Planned Investment	**11.1**	**11.5**	**3.4**	**3.8**	**2.2**	**2.2**	**1.8**	**0.0**	**15.2**	**39.5**	**24.3**	**115.0**

Option 2 (cont.)

£m undiscounted as at 31 March 2004	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
Unplanned costs												
Capital expenditure												
As-and-when transmission upgrade	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	5.0	104.3
Additional capital investment required for upgrade in multiple steps	0.0	0.0	0.0	0.0	1.3	2.7	2.7	2.7	2.7	2.7	1.3	16.0
Additional capital investment required as a result of reconfiguration activities	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8	17.2
Longitudinal cable required on an as-and-when basis	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	1.7	36.2
As-and -when diverse routing for ATMg	0.0	0.0	1.3	1.9	0.7	3.0	7.0	8.8	9.4	7.1	2.4	41.5
Renewal on an as-and-when basis: longitudinal cabling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CCTV transmission equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
transmission stations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating expenditure												
Increased cost arising from ad-hoc installation and operation of monitoring systems	6.0	6.8	4.1	1.5	1.5	3.4	3.4	1.5	1.5	1.5	0.8	32.2
Increased maintenance costs arising from not undertaking renewals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increased staff costs required to manage as-and-when renewal of longitudinal equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liability arising from failure to deliver services as required to TCC contract	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Increase operating costs arising from as-and-when capital expenditure	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.7	14.4
Increased overheads arising from as-and-when capital expenditure	2.4	2.5	2.0	1.9	1.7	2.2	2.5	2.4	3.2	4.3	2.3	27.4
Contingencies												
Capital expenditure	1.6	1.6	1.7	1.8	1.8	2.1	2.6	2.7	2.8	2.6	1.2	22.2
Operating expenditure	1.2	1.3	1.0	0.7	0.6	0.8	0.9	0.6	0.7	0.9	0.5	9.2
Total Unplanned costs	27.5	28.5	27.4	25.2	24.0	30.6	35.3	35.1	36.8	35.4	16.6	322.5
Grand Total *(£m undiscounted as at 31 March 2004)*	**38.7**	**40.0**	**30.8**	**29.0**	**26.2**	**32.8**	**37.1**	**35.1**	**51.9**	**74.9**	**40.9**	**437.5**
Discount factors (%)	91.63%	86.44%	81.55%	76.93%	72.58%	68.47%	64.60%	60.94%	57.49%	54.24%	51.17%	
Grand Total *(£m discounted as at 31 March 2004)*	**35.4**	**34.6**	**25.1**	**22.3**	**19.0**	**22.5**	**24.0**	**21.4**	**29.9**	**40.6**	**20.9**	**295.8**

A.3.3 Option 3

£m undiscounted as at 31 March 2004	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
Planned Investment												
Capital expenditure												
Longitudinal cabling	9.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.1
Transmission upgrade	29.4	15.0	0.5	0.5	0.1	0.2	1.8	2.7	1.1	0.1	0.0	51.5
Renewals: longitudinal cabling	3.8	3.8	0.0	0.1	0.1	0.1	0.1	0.0	11.8	30.8	19.0	69.6
Renewals: CCTV transmission equipment and transmission stations	5.0	5.2	2.7	2.9	1.7	1.6	1.3	0.0	0.0	0.0	0.0	20.4
Operating expenditure												
Transmission service operation and maintenance	0.6	0.6	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.2	5.7
Installation and operation of monitoring systems	6.0	6.8	4.1	1.5	1.5	3.4	3.4	1.5	1.5	1.5	0.8	32.2
Overhead – Management and Administration	1.2	1.3	1.1	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.4	9.7
Overhead – Preparation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overhead – Supervision	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contingencies												
Capital expenditure	11.7	8.2	0.8	0.9	0.5	0.5	0.8	0.7	3.3	7.8	4.8	39.8
Operating expenditure	1.9	2.1	1.4	0.7	0.7	1.2	1.2	0.7	0.7	0.7	0.3	11.6
Total Project Costs	68.6	52.0	10.9	7.9	5.8	8.2	9.8	6.9	19.7	42.2	25.5	257.6
Unplanned costs												
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Unplanned Costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grand Total *(£m undiscounted as at 31 March 2004)*	**68.6**	**52.1**	**11.0**	**8.0**	**5.8**	**8.2**	**9.8**	**6.9**	**19.8**	**42.6**	**25.7**	**258.4**
Discount factors (%)	91.63%	86.44%	81.55%	76.93%	72.58%	68.47%	64.60%	60.94%	57.49%	54.24%	51.17%	
Grand Total *(£m discounted as at 31 March 2004)*	62.9	45.0	8.9	6.1	4.2	5.6	6.3	4.2	11.4	23.1	13.2	191.0

A.3.4 Discounted Cash Flow Analysis

The following financial assumptions have been used in preparing the tables in Appendix 3:

1 Project costs are discounted to 31 March 2004 using a discount rate of 6 % (as per HM Treasury guidance).

2 All cash flows are priced as at 31 March 2004 without inflation. Non-recoverable VAT is included (assumed to apply to 100% of capital expenditure).

3 Cash flows are assumed to occur at the middle of the year for the purposes of calculating a Net Present Value.

A.4 TOTAL NRTS PROJECT COSTS

The expenditure requested under this paper relates to the national transmission capability required to support national and regional technology schemes. The expenditure comprises all the additional money that is currently neither budgeted, nor expected to be budgeted, in other projects or schemes.

This additional money forms only part of the NRTS project. The NRTS project as a whole will pull together many strands of work that are currently within other projects or schemes. For example, the maintenance of the existing core transmission network is managed under a national contract that will be subsequently covered by the NRTS umbrella, as will the cabling elements of the "triple package" schemes. In addition, when other schemes install a roadside device such as a Variable Message Sign, the NRTS project under a call-off arrangement will be responsible for its connection to the transmission core network. The quantity of call-off items has been estimated but will depend on the number of roadside devices installed, by others, on the roadside.

For information only, the total costs of the NRTS project as currently envisaged are provided in the table below. Note that the costs of the renewals and the transmission upgrade shown in the table together make up the cost of Option 3 presented in this Business Case paper.

	Existing costs (£m)	Option 3		NRTS Total costs With VAT(£m)	NRTS Total costs Without VAT(£m)
		Renewals (£m)	Transmission upgrade (£m)		
Capital expenditure					
Longitudinal cabling	152.7	69.6	18.1	**240.3**	**204.5**
Transmission upgrade			51.5	**51.5**	**43.8**
CCTV Mast Service	0.0			**0.0**	**0.0**
Transmission stations		7.5		**7.5**	**6.4**
Local connections	71.2	12.9		**84.1**	**71.6**
Aerial site service [zero net cost]				**0.0**	**0.0**
Operating expenditure					
Transmission service operation and maintenance	91.5	0.8	4.9	**97.2**	**97.2**
Installation and operation of monitoring systems			32.2	**32.2**	**32.2**
Consultancy Service	2.6			**2.6**	**2.6**
Overhead - Management and administration	2.1	0.0	9.7	**11.8**	**11.8**
Contingencies					
Capital expenditure	51.9	24.1	15.8	**91.7**	**78.1**
Operating expenditure	24.0	0.2	11.4	**35.6**	**35.6**
Total	396.1	115.0	143.4	**654.5**	**583.8**

Table A4-1 Analysis of the total NRTS project costs (Total costs undiscounted as at 31 March 2004)

A.5 CHANGES BETWEEN REVISION J AND REVISION K OF THE CIC BUSINESS CASE PAPER

	Revision K		Revision J		Change		Reason for significant changes
	Renewals (£m)	Transmission upgrade (£m)	Renewals (£m)	Transmission upgrade (£m)	Renewals (£m)	Transmission upgrade (£m)	
Capital expenditure							
Longitudinal cabling	69.6	18.1	43.3	15.3	26.3	2.8	**Renewals:** length of cable renewals increased as a consequence of fewer schemes forecast (with were providing widening by stealth) and an uplift in the rate to include a proportion of night-time working. **Transmission upgrade:** addition of battery backup supplies at transmission stations.
Transmission upgrade		51.5		42.6		8.9	Additional transmission equipment to enable PCOs to view CCTV pictures after the creation of RCCs.
CCTV Mast Service							
Transmission stations	7.5		7.8		-0.3		
Local connections	12.9		13.5		-0.6		
Aerial site service [zero net cost]							
Operating expenditure							
Transmission service operation and maintenance	0.8	4.1	0.5	1.3	0.3	2.8	Error in previous estimate for operational costs
Installation and operation of monitoring systems		32.2		30.6		1.6	Error in previous estimate for operational systems
Consultancy Service							
Overhead - Management and administration	0.0	9.7	0.2	10.0	-0.2	-0.3	
Contingencies							
Capital expenditure	24.1	18.6	16.3	22.9	7.8	-4.3	Total contingencies increased in line with costs and
Operating expenditure	0.2	12.3		2.9	0.2	9.4	some movement in contingencies from CAPEX to OPEX
Total	115.0	146.3	81.6	125.6	33.4	20.7	

A.6 CHANGES BETWEEN REVISION K AND REVISION L OF THE CIC BUSINESS CASE PAPER

	Revision L		Revision K		Change		Reason for significant changes
	Renewals (£m)	Transmission upgrade (£m)	Renewals (£m)	Transmission upgrade (£m)	Renewals (£m)	Transmission upgrade (£m)	
Capital expenditure							
Longitudinal cabling	69.6	18.1	69.6	18.1			
Transmission upgrade		51.5		51.5			]
CCTV Mast Service							
Transmission stations	7.5		7.5				
Local connections	12.9		12.9				
Aerial site service [zero net cost]							
Operating expenditure							
Transmission service operation and maintenance	0.8	4.9	0.8	4.1		0.8	Correction of an earlier error
Installation and operation of monitoring systems		32.2		32.2			
Consultancy Service							
Overhead - Management and administration	0.0	9.7	0.0	9.7			
Contingencies							
Capital expenditure	24.1	15.8	24.1	18.6		-2.8	Change in the contingency to reflect the PSC
Operating expenditure	0.2	11.4	0.2	12.3		-0.9	Change in the contingency to reflect the PSC
Total	115.0	143.4	115.0	146.3			