

Published Eddington Evidence Base

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Evidence base for the Eddington Study's strategic assessment of returns to transport investment (Eddington Study Volume 3).

The Department for Transport is placing into public domain the evidence base of analysis provided to the Eddington Study as background for the strategic assessment of returns to transport investment. This represents just one of a number of sources considered by the Eddington Study. Other sources are referenced in the main study report.

The analysis was based on almost 170 detailed appraisals for a range of interventions including road and public transport schemes in a variety of locations across the UK. In addition, further modelling of almost 20 interventions, using more detailed local models, was undertaken¹.

For each scheme we report the New Approach to Appraisal Benefit to Cost Ratio (NATA BCR) from the Department's view and (where applicable) the Value for Money category. In a few cases the Department has taken a more cautious view than scheme promoters on the NATA BCR, particularly where it was confident about the Value for Money category. Value for Money is a more complete measure of the returns to investment and includes an assessment of environmental and social impacts. The assessment - specifically non-monetised impacts - is challenging. The best available evidence is used, but there may be uncertainties which cannot be conveyed in a single category. As such results must be interpreted with some caution.

This evidence represents the data available to the Eddington Study as of May 2006. The scheme appraisals were carried out at different stages in the approval process - either at Programme Entry or later approval stages. A number of schemes in the list were not approved for Programme Entry and are not being progressed. The Eddington Study has not generally sought to undertake Value for Money assessments of schemes which have not already been assessed during the course of Departmental business.

A number of additional schemes were identified during the course of the Eddington Study (See 'External Sources below'). It should be noted that some of these have not been fully developed and the costs and risks in particular have not been assessed to the level of confidence seen in other transport projects. As such these BCRs should be interpreted as only illustrative of the potential returns.

This evidence has been used to provide a strategic analysis of the potential returns from different types of intervention such that the Eddington Study has focused on identifying long-term priorities (post-2015). Neither this evidence base nor analysis attempts to represent the views of either DfT or Sir Rod Eddington regarding current decisions or specific priorities. Value for Money is only one of a range of factors ministers must consider when taking decisions, others include:

- Practicality / deliverability
- Public acceptability
- Distributional and equity impacts
- Affordability and financial sustainability
- Contribution to central government, local and regional objectives
- The amelioration of identified problems

We have not published information relating to one scheme which has subsequently been considered for the first round of the Productivity Transport Innovation Fund. As announced on Monday 18th December the Department will be working with promoters to develop these schemes. It would be inappropriate to publish this information in advance of these discussions and a final decision.

¹ See Atkins 2006 and MVA 2006.

Highways Agency Schemes

Scheme Name	NATA BCR New Approach to Appraisal, Benefit to Cost Ratio	Value for Money Category
A1 Peterborough to Blyth GSJ	20.5	High
A1 Willowburn to Denwick Improvement	4.1	Not assessed
A1(M) Ferrybridge - Hook Moor	3.7	Not assessed
A1(M) Wetherby - Walshford	4.2	Not assessed
A10 Wadesmill - Colliers End	4.5	Not assessed
A1033 Hedon Road Improvement	2.2	Not assessed
A11 Attleborough Bypass Improvement	3.0	Not assessed
A11 Fiveways to Thetford Improvement	5.6	Not assessed
A120 Stansted to Braintree Improvement	2.0	Not assessed
A14 Ellington to Fen Ditton Improvement	12.3	Not assessed
A14 Haughley New Street - Stowmarket Improvement (Q2 2000)	2.8	Not assessed
A160/A180 Improvement Feasibility Study	7.2	Not assessed
A160 Improvements	6.1	Not assessed
A180 Interchange	3.5	Not assessed
A180 Widening	13.0	Not assessed
A2 Bean to Cobham Phase 1	1.5	Not assessed
A2 Pepperhill to Cobham Widening	2.5	High
A2/A282 Dartford Improvement Scheme	2.0	High
A21 Flimwell to Robertsbridge - HA preferred route	2.1	High
A21 Kippings Cross to Lamberhurst Bypass	2.7	Not assessed
A21 Lamberhurst Bypass	4.2	Not assessed

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A21 Tonbridge to Pembury	11.1	Not assessed
A23 Handcross to Warninglid Improvement	6.1	High
A249 Iwade to Queenborough Improvement	2.1	Not assessed
A27 Polegate Bypass	2.8	Not assessed
A27 Southerham to Beddingham Improvement	7.5	High
A3 Hindhead	3.1	High
A30 Bodmin to Indian Queens	5.5	High
A30 Carland Cross to Chiverton Cross	3.8	Not assessed
A30 Temple to Higher Carblake	2.1	Not assessed
A30/A382 Merrymeet Junction	5.7	High
A303/A358 - A303/A30 Option	2.3	Poor
A303/A358 - A358 Option	2.8	High
A34 Chieveley/M4 J13 Improvement	3.8	Not assessed
A38 Derby Junction	5.2	High
A41 Aston Clinton Bypass	3.0	Not assessed
A419 Commonhead Junction	5.7	Not assessed
A421 Great Barford Bypass	7.9	High
A428 Caxton Common to Hardwick Improvement	4.1	High
A43 M40 - B4031 Dualling	3.5	Not assessed
A43 Silvertone Bypass	4.5	Not assessed
A43 Whitfield Turn - Brackley Hatch Improvement	2.8	Not assessed
A453 Widening M1 J24 to A52	7.8	Not assessed
A46 Newark to Lincoln Improvement	2.6	Not assessed
A46 Newark to Widmerpool Improvement	14.7	High
A47 Blofield to North Burlingham	9.6	Not assessed
A5 M1 Link Road (Southern Route Strategic)	6.5	Not assessed

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A5 Nesscliffe Bypass	2.4	Not assessed
A500 Basford, Hough, Shavington Bypass	1.7	Not assessed
A500 City Road & Stoke Junction Improvement	2.1	Not assessed
A55/A483	11.2	High
A590 High and Low Newton	3.6	Low
A595 Parton to Lillyhall	4.2	High
A6 Alvaston	3.5	Not assessed
A6 Clapham Bypass	2.0	Not assessed
A6 Great Glen Bypass	2.0	Not assessed
A6 Rothwell - Desborough Bypass	3.2	Not assessed
A6 Rushden Higham Ferrers Bypass	9.5	Not assessed
A63 Castle Street Improvement - Cut and Cover Tunnel Option	1.7	Not assessed
A63 Melton Grade Separated Junction (Q2 2000)	3.9	Not assessed
A63 Selby Bypass	4.8	Not assessed
A64 Colton Lane GSJ	1.0	Not assessed
A650 Bingley Relief Road	2.3	Not assessed
A66 Long Newton Grade Separated Junction	2.0	High
A66 Stainburn & Great Clifton Bypass	3.6	Not assessed
A66 Temple Soverby Bypass and Improvements at Winderwath	2.3	High
Access to Port of Liverpool Improvement (new route from M57/M58 to Seaforth Docks)	3.0	Not assessed
M1 J10 to 13 widening	2.9	Not assessed
M1 J19 Improvement	2.9	High
M1 J6A to 10 Widening	3.5	High

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M1 widening junctions 30 to 42 Northbound Collector Distributor	2.0	High
M20 J 10A	5.9	Not assessed
M25 J1b - 3 Widening	6.5	Not assessed
M25 J28/A12 Brook St Improvement	7.2	High
M25 Jct12-15 Widening	2.3	Not assessed
M25 Rapid Widening DBFO section 1	5.5	Not assessed
M25 Rapid Widening DBFO section 2	4.6	Not assessed
M25 Rapid Widening DBFO section 4	2.4	Not assessed
M25 Rapid Widening DBFO section 5	2.2	Not assessed
M27 J11-12 Climbing Lane	2.6	High
M27 J3-4 Widening	7.1	High
M4 Junction 18	3.4	High
M40 Junction 15 Longbridge Bypass	5.8	Not assessed
M40/A404 Handy Cross Junction Improvement	4.9	Not assessed
M5 Hallen Hill	3.7	High
M5 Jct 19-20 N/B Climbing Lane (Tickenham Hill)	4.1	High
M5 Jct 19-20 S/B Climbing Lane (Naish Hill)	9.3	High
M6 Carlisle to Guards Mill	N/A ²	High
M60 Jct 5-8 Widening	3.8	Not assessed
M62 Route 2 Junction 25 to 28	4.7	High

² This scheme has negative net cost to government which means the BCR is misleading.

Local Road Schemes

Scheme Name	NATA BCR New Approach to Appraisal, Benefit to Cost Ratio	Value for Money Category
A1073 Spalding to Eye Improvement Scheme	5.4	High
A13/A138 Sadler's Farm Junction	11.3	High
A167 Chilton Bypass	5.9	High
A228 Leybourne and West Malling Bypass	4.0	High
A31 Hickley's corner underpass	2.3	High
A35 Codford to Heytesbury Improvement	1.5	Poor
A36 Wylve Valley Relief Road, Salisbury area	3.0	Low
A41 Expressway/A4031 All Saint Way Junction Improvement	3.0	High
A4146 Stoke Hammond	4.2	High
A429 Barford Bypass	3.9	High
A507 Ridgmont Bypass	4.3	High
A58 Blackbrook Diversion	3.0	High
A631 West Bawtry Improvements	8.5	High
Barnstaple Western Bypass	5.6	High
Beverley Integrated Transport Plan	1.9	Medium
Bexhill Hastings Link Road	3.1	High
Brierley Hill Sustainable Access scheme	5.6	High
Burgh Le Marsh Bypass	3.3	High
Burnt Tree Junction Improvement	2.7	High
Carlisle Northern Development Route	8.6	High

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DETC	4.4	High
Earl Shilton Bypass	5.6	High
East Kent Access Phase 2	4.1	High
East Leeds Link Road	2.9	High
Edge Lane West	3.2	High
Greater Manchester Urban Traffic Control	5.2	High
M4 J11 Mere oak (Reading) ³	7.7	High
Owen Street Level Crossing Relief Road, Tipton	1.5	Medium
Pegswood Bypass	5.0	High
Pleasley Bypass Extension	3.3	High
Rotherwas Access Road	1.0	Poor
Scarborough Integrated Transport Scheme ⁴	2.7	High
Selly Oak New Road Major Scheme	2.8	High
SEMMMS New Relief Road Scheme	5.7	High
Sheffield Northern Inner Relief Road phases 2 and 3	2.9	High
Sittingbourne Northern Relief Road	5.8	High
South Lowestoft Relief Road	2.8	High
Southend Major Scheme	2.2	Medium
Taunton Third Way and Northern Inner Distribution Road	5.2	High
Tunstall Northern Bypass	3.5	High
W2EMMS ⁵	4.5	High
Waverley Link Road	6.2	High
West Midlands Urban Traffic Control	4.3	High

³ Also includes public transport elements.

⁴ Also includes public transport elements.

⁵ Multi-Modal Strategy Package – includes a number of different schemes, including HA roads.

Local Public Transport Schemes

Scheme Name	NATA BCR New Approach to Appraisal Benefit to Cost Ratio	Value for Money Category
Altrincham Interchange, Greater Manchester	1.0	Medium
Bletchley Link 2 Public Transport Scheme	3.1	High
Bradford Interchange	1.0	Low
Cambridge Guided Bus	2.0	Not assessed
Coleshill Multi Model Interchange	4.8	High
Coventry Rapid - Preferred scheme	1.9	High
Doncaster QBC	1.7	Medium
Greater Bristol Bus Network	3.2	High
Haxby Station	3.0	High
Leeds Supertram	2.3	High
Mansfield Interchange	4.4	High
Newcastle - Eldon Square Concourse	1.2	Low
North West Taunton Package	1.8	Medium
Nottingham Express Transit Extension	2.0	High
South Hampshire Rapid Transit	3.6	High
SPARK Leamington Spa and Warwick Integrated public transport Improvement	2.8	High
Surrey Pegasus, Guildford Area	1.4	Low
Warrington Interchange	2.0	High
Wolverhampton Town Access and Interchange	2.2	High
MyBus, West Yorkshire	4.0	High

Rail Schemes

Scheme Name	NATA BCR New Approach to Appraisal, Benefit to Cost Ratio	Value for Money Category
Crossrail Hybrid Scheme	1.6 to 2.6 ⁶	Not assessed
Thameslink Upgrade	2.1 to 3.0 ⁶	Not assessed

Schemes from external sources

Scheme Name	Type of Scheme	NATA BCR New Approach to Appraisal, Benefit to Cost Ratio	Value for Money Category
A228 Main Road to Ropers Lane	Local Road	2.4	Not assessed
A66 Tees Valley gateway Study	Local Road	3.2	Not assessed
Canal Towpath	Walking/Cycling	24.5	Not assessed
DLR London City Airport	Light Rail	1.7	Not assessed
DLR Woolwich Extension	Light Rail	1.1	Not assessed
Glasgow Airport Rail System	Rail	1.1	Not assessed
Heysham to M6 Link	Local Road	7.4	Not assessed
High Speed Line London-Glasgow	Rail	1.9	Not assessed
High Speed Line London-Manchester	Rail	1.9	Not assessed
High Speed Line London-West Midlands	Rail	1.9	Not assessed
Improved Walking and Cycling Facilities (Sustainable Development Commission)	Walking/Cycling	2.6	Not assessed
Jubilee Line Extension	Light Rail	1.7	Not assessed
Stansted Surface Access	HA	11.7	Not assessed

⁶ The higher BCR includes wider economic benefits, such as agglomeration.

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TFL Rail Vision	Rail	2.5	Not assessed
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Modelling

Scheme Name	Type of Scheme	NATA BCR New Approach to Appraisal, Benefit to Cost Ratio
ECML 2a (Additional inter-peak services to 5tph between Leeds and London)	Rail	1.3
ECML 2b (Additional WAGN Peak commuter capacity)	Rail	2.2
HP-Leeds to Sheffield Highway Improvements	HA	1.3
HQ-Leeds Urban Area Highway Improvements	Local Road	3.6
HR-Leeds Urban Area Major Public Transport Investment	Public Transport	2.7
HU-Intra Leeds Bus Fare Reduction (30%) and Frequency Increase (20%)	Public Transport	2.6
HV-Leeds to Bradford Improved Highway Connections	Local Road	2.8
HW-Leeds to Bradford Public Transport Improvements	Public Transport	4.0
IF-West Yorkshire County Bus Fares Reduction (30%) and Frequency Increase (20%)	Public Transport	3.0
IJ-South and West Yorkshire County Bus Fares Reduction (60%) and Frequency Increase (20%)	Public Transport	2.7
IB-HP+HU (Leeds to Sheffield Highway Improvements + Leeds Urban Area Bus Fares and Frequency Enhancements)	Public Transport	1.8
IH-South Yorkshire County Bus Fares Reduction (30%) and Frequency Increase (20%)	Public Transport	3.2
II-HP+HV+IF+IH (South and West Yorkshire County Bus Fares Reduction (30%) and Frequency Increase (20%), Leeds to Sheffield	Public Transport	2.6

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and Leeds to Bradford Highway Improvements)		
M6 Active Traffic Management	HA	1.8
MML Time Savings (Time savings distributed along MML between Mill Hill and Sheffield)	Rail	11.0