

CENTRAL RAILWAY
APPRAISAL and ASSESSMENT

December 2001

Central Railway plc
17, Cockspur Street
London SW1Y 5BL
Tel: 020 7930 6655
www.central-railway.co.uk

1. INTRODUCTION

1.1 Central Railway Freight Scheme

Central Railway plc is seeking planning approval in the UK and France to build and operate a freight railway between the north-west of England and the continent. The proposed route is approximately 600km (400 miles) long. It will link Liverpool to northern France via Manchester, Sheffield, Leicester, London and the Channel Tunnel, mainly along disused and under-used railway corridors. The proposed service will provide rail transport for long distance unaccompanied lorries. It is anticipated that access to the railway will be by a number of new freight terminals built at strategic points along the motorway network. The railway also has potential to provide track access to passenger and other rail freight services.

The proposal will be funded by the private sector and could be in operation by 2008.

Anticipated benefits from the scheme include the transfer to rail of a substantial number of freight movements that are currently being made by road and the provision of additional rail network capacity, which could reduce congestion on existing rail routes. The proposed service would attract 35% of the UK-Continental road freight within 3 years of being in operation; this is a conservative estimate.

Central Railway propose to gain consent to build and operate the railway by means of an Act of Parliament. The necessary powers are being sought through a Hybrid Bill that will be submitted to Parliament. To support the application, Central Railway has commissioned (or completed) a number of appraisal related workstreams, these include:

- Completion of a Transport Case for the scheme;
- Completion of market research and the development of a Business Case by Roland Berger;
- Environmental Impact Assessment (EIA) managed by Environmental Resources Management (ERM).

It is the Company's intention to revise the first two items as greater detail is developed during the planning of the scheme.

However, Central Railway has identified that there are other areas where the information on the scheme, consistent with the requirements of the Hybrid Bill, could be further enhanced by additional assessments and appraisals. These include both qualitative and quantitative aspects of the following:

- Contribution of the scheme towards regional and national economic development;
- Contribution of the scheme towards sustainability;
- Contribution of the scheme towards transport planning objectives for environment, safety, economy, integration and accessibility (consistent with the DTLR *Guidance on Methodology for Multi-Modal Studies* (GOMMMS) and *New Approach to Appraisal* (NATA));
- Socio-economic factors (which will be reported in the Environmental Statement); and
- Costs and benefits associated with the scheme.

1.2 Purpose of the Paper

This paper presents the proposed framework for the social and economic appraisal of the Central Railway scheme. It provides a summary of the issues surrounding each appraisal and an overview of the level of assessment proposed. This paper also aims to outline the assumptions that underpin the data requirements for these appraisals and assessments. The paper concludes with a summary of the preferred approach for each appraisal and assessment combining 'best practice' with statutory and Hybrid Bill requirements.

The approach to appraisal was developed with assistance from Entec, who also drafted this paper.

This paper will be circulated to Central Railway's key stakeholders for comment. In preparing the paper, Central Railway are seeking to engage its audience in a dialogue on the process of appraisal and assessment that is successful, viewed as having integrity and meets accepted standards for large infrastructure projects.

1.3 Appraisal and Assessment

The appraisals and assessments represent a continuum of linked evaluations. Both the sustainability and transport planning appraisals provide the opportunity for a high level consideration of the scheme. However, these appraisal processes are broadly based and aim to demonstrate consideration of options and facilitate prioritisation of project objectives. The subsequent detailed assessments (environmental impact assessment, economic development assessment, socio-economic impact assessment and cost benefit analysis) provide an opportunity to evaluate and quantify the implications of the scheme highlighted by the appraisals.

The appraisal and assessment process provides the means to consider a variety of issues in a structured, coherent and comprehensive way. They will include both the potentially positive and negative aspects of the scheme. In completing the appraisals and assessments, Central Railway is seeking to ensure that all significant issues are identified, managed and, where appropriate, mitigated. Such an approach combines elements of risk management with responsible business management. The issues are briefly discussed as follows:

- **Environmental** –The Central Railway proposal could result in a range of beneficial and adverse environmental effects. Beneficial effects include for example, the reduced atmospheric emissions resulting from the modal shifts and the reuse of land in existing transport corridors. Adverse effects could include impairment of important or designated ecological sites. A completed assessment will ensure that these effects are adequately identified, managed and where appropriate mitigated.
- **Human health** –The implementation of the Central Railway scheme could lead to a range of positive and negative effects on the health of stakeholders (employees, other rail users, receiving communities). For example, through the anticipated reduction in the volume of HGV traffic, there could be a reduction in the incidence of road accidents along primary routes. There could also be local transient changes in air quality and noise levels that could affect community well being. The appraisal and assessment process will ensure that such issues are given full and appropriate consideration.
- **Societal** – The Central Railway scheme could cause both benefits and disruption to potentially affected communities. Benefits could include providing increased opportunities for employment and greater accessibility (through the provision of track

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access to passenger services); however, the scheme could also result in increased community severance and the potential loss of amenity.

- **Economic** – The Central Railway scheme could result in significant regional, and potentially national, economic effects (such as changes in regional growth rates due to varying levels of market access and changes in transport network efficiencies). A completed appraisal or assessment will ensure that these effects are adequately identified, anticipated, managed and addressed.

Some of these issues will be principally captured through studies already commissioned. For example, environmental issues will be considered by the EIA. However, Central Railway recognise that an inadequate assessment of these issues could lead to understandable concerns over the credibility of the scheme. In consequence, Central Railway is committed to establishing an appraisal and assessment process that can effectively and demonstrably consider these issues in a coherent and comprehensive manner. In particular, where there is good reason to expect the effects' magnitude and duration (and any uncertainty surrounding them) to be significant, a detailed level of assessment will be appropriate. Objectivity in carrying out the assessments is sought by commissioning reputable consultants and seeking the views and opinions of stakeholders on the approach. In opening this dialogue, Central Railway is seeking to ensure that the approach is inclusive, is viewed as robust and rigorous and delivers the appropriate level of appraisal that is required.

2. Scope of Appraisal and Assessment

2.1 Introduction

In addition to the completed Transport Case, Business Case and Environmental Statement, Central Railway is seeking the views of its stakeholders on the following assessments and appraisals:

- Contribution of the scheme towards regional and national economic development;
- Contribution of the scheme towards sustainability;
- Contribution of the proposals towards the transport planning (GOMMMS and NATA) objectives for environment, safety, economy, integration and accessibility;
- Socio-economic factors (which will be reported in the Environmental Statement); and
- Costs and benefits associated with the scheme.

This section details the issues surrounding each of the appraisals and assessments and the level of assessment considered appropriate. Following consideration of the issues, the preferred approach will be presented.

2.2 Assumptions

The modelling that underpins the Business and Transport Case of Central Railway's proposals is recognised as critical to the credibility of the assessments. Enhanced freight modelling has been undertaken by Roland Berger on behalf of Central Railway in order to define the base case and the growth scenarios that provide the economic rationale for the proposed investment. Central Railway recognise that it is vital that such a model enjoys professional and peer support and that it is sufficiently robust to withstand scrutiny by independent and government observers. Key elements of the model include:

- A market analysis of the demands for UK-continental freight including forecasting based on economic growth projections, the determination of break even costs for various journeys and the impacts of various interchange facilities;
- Market segmentation (based on road size, rail connectivity and load size);
- An assessment of the implications of the proposals within the Strategic Rail Authority (SRAs) freight strategy;
- An assessment of the implications of the DTLR's proposals with regard to road freight movement and the anticipated growth forecasts in road traffic; and
- Estimation of the impact of variations in the level of service provision (frequency of freight movements, number of wagons, number and location of interchanges).

The results of the modelling are in Central Railway's transport case, which is published on the Company's web site (www.central-railway.co.uk) in order to develop a wide consensus on the robustness and integrity of the analysis that underpins the scheme.

2.3 Economic Development

The Central Railway scheme is predicted to make a substantial contribution to regional, and potentially national, economic efficiency through improving the efficiency of goods and product distribution and widening access to international markets. The impact of the proposals on the regional and national economy could be considered in both qualitative and quantitative terms. Without such consideration, Central Railway will not be able to establish how and where the proposals' likely beneficial and detrimental effects on the UK's regional (and national) economy will occur. Such an assessment would be valuable in informing discussions of economic issues with government departments and regional bodies.

In consequence, in qualitative terms, consideration needs to be given to the reinforcement of the regional and national economic policy framework by the Central Railway proposals. At the regional level, this will be governed by the contribution of the proposals to the *Regional Economic Strategies (RES)* and *Regional Planning Guidance (RPG)* produced by the Regional Development Agencies (RDAs), Regional Assemblies and Regional Government Offices respectively.

A brief survey of published RESs and RPGs gives some idea of regional priorities and policy indicators. Although they differ on details, there is a large degree of similarity in terms of broad objectives. For example, the RESs for the five regions directly affected by the route of the Central Railway proposal (South East, East Midlands, West Midlands, Yorkshire, and North West), all mention improving international rail freight as being important to the economic development strategies. Three of those mention the Central Railway proposal by name, of which two offer their explicit support (West Midlands and East Midlands), the other (North West) preferring to call for further assessment. The South East of England Development Agency (SEEDA), in its RES, repeatedly emphasises the need to develop rail connections, and in particular freight rail, with the Channel Tunnel. This is seen as important in reducing congestion on the M20 and M25 (and congestion generally), to support existing businesses and foster new investment.

The importance of freight rail is also emphasised by the revised *Policy Planning Guidance Number 13*, issued by DTLR to local planning bodies. This gives much greater priority to the need to plan for use of rail for freight and specifically states that local authorities should:

- Identify, and where appropriate, protect sites and routes which could be critical in developing infrastructure for the movement of freight (such as major freight interchanges including facilities for road, rail or water transport) and ensure that such routes are not unnecessarily severed by new developments; and
- Promote opportunities for freight generating capacity to be served by rail or waterways.

It is anticipated that these priorities will be reflected in the Regional Transport Strategies (RTS) being completed. Thus, in principle (and from an initial review of the relevant strategies) it appears that at the regional level the Central Railway proposals have a high degree of conformance with individual objectives and targets. This view will need to be substantiated by a comprehensive review of RES, RTS and through consultation with the RDAs, Regional Assemblies and Regional Government Offices.

When considering the qualitative assessment at the national level, strategy and policy documentation from the DTLR, Department of Trade and Industry (DTI) and SRA would provide the appropriate policy framework for evaluation. The Government's 1998 Integrated Transport White Paper, *A New Deal for Transport* stated that the Government wanted to see a real increase in the use of rail freight and the SRA was asked to develop appropriate targets. The 10 Year Plan, *Transport 2010* published by the Government in July 2000 sets a target of 80% growth in the goods carried by the rail over the next decade. The Plan seeks to establish

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a transport system that sharpens the competitiveness of British industry whilst lessening the impact of transport on the environment (at both local and global levels). Of particular interest is the SRA's Freight Strategy which builds on the Government's 10 year commitment. The SRA states in the strategy that it is seeking to improve the productivity of the rail freight services, to improve the quality of the freight service, to develop freight capability on alternative routes and to invest in additional capacity. Again a superficial assessment of the strategies would suggest a high degree of complementarity between national strategy and the Central Railway scheme; however, such a view would need to be substantiated with a detailed assessment of the national strategy and policy context.

When moving from the qualitative assessment to the quantitative assessment of economic impacts, consideration of the direct consequences of investing capital in the UK and the consequential multiplier effects will be required. Indirect benefits will also need to be considered. These could include the potential regeneration benefits of the scheme. Prior to the Channel Tunnel Rail Link (CTRL), regeneration benefits had been considered too uncertain to be quantified in money terms. However, during the Government's renegotiation of terms to support CTRL, the Government did include a monetised assessment of the regeneration benefits. It is noted in the National Audit Office's (NAO) report on the CTRL that:

'In the Government's view, the innovation of quantifying regeneration benefits in money terms as part of this type of analysis was successful. The Department intends to place more emphasis on quantified regeneration benefits in future projects and is undertaking research on guidance as to what form this quantification might take.'

In consequence, for Central Railway to demonstrate best practice in this area, it will need to include the quantified net benefits of regeneration.

A quantitative assessment of the transport effects of the proposal in each region would also support the broad level qualitative assessment. A study with an explicit economic impact methodology is planned, possibly based on regional input-output analysis and associated multipliers. These could then usefully be supplemented by a regional impact assessment in terms of each region's stated measurement indicators. Although there are slight variations across regions, these tend to concentrate on headline indicators suggested by DTLR. These include gross domestic product (GDP) per head, workforce in employment and gross hourly earnings.

In summary, a high level evaluation of the strategy and policy context for the Central Railway scheme suggests a high degree of consistency; however, such a view needs to be substantiated through a more detailed appraisal. The economic effects associated with the scheme will include changes in the movements of goods, the functioning of the economy (at a regional level) and the potential employment opportunities. Given that such effects (both positive and negative) will have an impact on the wider community, there is a need to ensure that the impacts will be adequately considered during the design phase. In particular, both qualitative and quantitative aspects of the contribution of the scheme to regional and national economic development will need to be considered by a comprehensive economic development assessment.

Approach:

Central Railway proposes to complete both a qualitative and quantitative assessment of the economic contribution of the scheme to the regional and national economy that will include a comprehensive assessment of the policy and strategy context, stakeholder views and a detailed input-output regional analysis (where possible).

2.4 Sustainability Appraisal

The Government has stated that it wants sustainable development to be at the centre of policy making. At its heart is the simple concept of ensuring a better quality of life for everyone – now and for generations to come. This has been interpreted by the Government as meeting the following four key objectives:

- Social progress which recognises the needs of everyone;
- Effective protection of the environment;
- Prudent use of natural resources; and
- Maintaining high and stable levels of economic growth and employment.

There are a number of aspects of the proposal that could contribute towards sustainability. These are as follows:

- Improvement in the efficiency of distribution and functioning of the economy;
- Improving market accessibility;
- Improving mobility and accessibility;
- Improving use of existing infrastructure;
- Minimising pollution and greenhouse gases;
- Encouraging the efficient use of resources (for example brownfield land adjacent to motorway interchanges); and
- Reducing community disruption and improving community safety (for example through reducing the incident of road accidents by removing HGV movements).

Through reference to a regional and national sustainable policy framework, there is an opportunity to assess in a more comprehensive and systematic manner the contribution of the Central Railway proposals to the elements of sustainability. Reference points would include the UK Sustainable Development Strategy and its 15 headline indicators, supplemented by the Regional Sustainability Frameworks and sustainability appraisals of the RESs. Such an approach would produce a qualitative assessment of the contribution of the Central Railway proposals towards or away from sustainability objectives (defined at the regional and national level). It is recognised that such an appraisal would also benefit from stakeholder involvement. In particular, this could provide validation of the approach, consensus on the outcomes and could anticipate areas of potential concern.

A completed sustainability appraisal will enable Central Railway to demonstrate conformance with the Government's sustainability expectations and the SRA's statutory duty to contribute towards the achievement of sustainable development under Section 182 of the Transport Act 2000. It is also recognised that the process of completing the sustainability appraisal could also enhance relationships pursued by Central Railway. In consequence, although an overview of the contribution of the scheme to sustainability has been completed, it is recognised that a more comprehensive appraisal will be required to demonstrate adequately conformance with regional and national expectations in this policy area.

Approach

Central Railway proposes to complete a sustainability appraisal, using a qualitative approach consistent with a regional and national sustainability framework developed from the Government's Sustainability Strategy, *A Better Quality of Life: A Strategy for Sustainable Development in the UK*, the Regional Sustainability Frameworks and sustainability appraisals

completed by the RDAs. The appraisal would require the engagement and involvement of the key stakeholders in the proposals.

2.5 Transport Planning Appraisal

To meet the anticipated requirements of regulatory, Parliamentary and public scrutiny, an objective transport planning appraisal and assessment will be required that is robust, and complementary to Government guidance. A draft Transport Case¹ has already been prepared, which sets out the general transport implications of the scheme. As more detailed information becomes available this document will be updated and inform the appraisal.

The transport planning appraisal will consider the implications of different options that exist for the development of the Central Railway scheme. These include:

- A high level, strategic consideration of the preferred route;
- Freight and passenger services offered; and
- Options for specific interchanges and route aspects.

Central Railway transport planning appraisals will employ a methodology that is consistent with NATA and GOMMMS. However, it should be noted that these tools were not designed to assess a privately funded rail freight infrastructure project that will serve a specific, existing freight market. Particular differences are:

- GOMMMS seeks to identify solutions to problems for all modes of transport within a defined study area, whereas the Central Railway scheme is designed to serve an existing freight market.
- The approach has an implicit assumption that the proposals are publicly funded, whereas Central Railway will be privately funded.

The GOMMMS objectives and sub-objectives are as follows:

- Environment (including sub-objectives for Noise, Local Air Quality, Greenhouse Gases, Landscape, Townscape, Heritage of Historic Resources, Biodiversity, Water Environment, Physical Fitness and Journey Ambience);
- Safety (including sub-objectives for Accidents and Security);
- Economy (including sub-objectives for Transport Economic Efficiency, Reliability and Wider Economic Impacts);
- Accessibility (including sub-objectives for Option Value, Severance and Access to the Transport System); and
- Integration (including sub-objectives for Transport Interchange, Land Use Policy and Other Government Policies).

A high level evaluation of the issues associated with each sub-objective indicates that the appraisal and evaluation will vary depending on the degree of relevance to the Central Railway scheme. For example, the applicability of “option value”, which considers journey options available to travellers, will be limited. Option value only becomes relevant when considering the potential to provide track access for new passenger services and where existing passenger services could be upgraded as a consequence of railway track, electrification and capacity improvements. It is noted that the DTLR, as stated in the

¹ Draft UK Transport Case: Central Railway; August 2001 (Available at www.central-railway.co.uk)

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GOMMMS, permit some variation in the level of detail contained within appraisals. This is in order to ensure that the focus of the study will be in those issues deemed important. In consequence, Central Railway is following this advice in considering which of the sub-objectives are most appropriate to the scheme.

The following provides an overview of the factors to be considered within each objective. Their relevance is then indicated for Central Railway's proposals (with modifications suggested as appropriate):

Sub-Objective	Issues	Relevance
Environment	The methodology for the Environment Objective and its sub-objectives has been developed in a paper written by ERM for Central Railway ² .	4
Safety accidents	– The SRA has established guidance on how to assess potential railway accidents. Central Railway has identified data sources to establish the potential extent of accidents per kilometre of rail. A sensitivity analysis would be needed for each option. It is anticipated that the significance of the issue could be greatest when considering the potential option to provide access to passenger trains on Central Railway's route. It is anticipated that the scheme would secure a modal shift from road to rail (which has been estimated to be equivalent to 960 million vehicle km by 2010) and it is anticipated that this could lead to a reduction in the traffic accidents by over 400 occurrences. It is acknowledged that these figures are indicative; however they illustrate the potential of the scheme to provide a positive contribution to road safety. Such effects could then be converted into Net Present Values (NPVs) in the Cost Benefit Analysis (CBA).	4
Safety – security	This sub-objective concerns the level of security at sites (in terms of perceived and actual threats from crime) experienced by staff and service users. The GOMMMS provides a series of indicators to facilitate evaluation of any scheme against the sub-objective. Within the framework of the GOMMMS, an overview of the indicators would suggest that the proposals would lead to a slight improvement in security due to improvements associated with the Central Railway proposals (improved definition and security around sites, perimeters, entrances and exits, depots and interchanges). These will be broadly consistent for each of the options considered.	4 This will be considered in limited detail owing to the nature of the Central Railway scheme,
Economy transport economic efficiency (TEE)	– The TEE is interpreted in the GOMMMS as a CBA of the transport case. The CBA is covered elsewhere in this paper (section 2.7); however, the results will be presented in a format consistent with the requirements of this sub-objective.	4

² Central Railway EIA: Environmental appraisal methodology for scheme alternatives, ERM; June 2000

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Sub-Objective	Issues	Relevance
Economy reliability	<p>– The reliability sub-objective summarises the impact of the proposals on any improvements in journey time reliability for transport users. In consequence, the effects of the proposals and comparisons with existing freight movements by road and alternative rail movements would need to be considered. Central Railway's proposed freight service will have greater journey time reliability compared to road haulage which is affected by current motorway congestion. In addition, the proposals could contribute to an improvement in the reliability of existing rail services through the provision of additional track capacity. The transfer of freight from road to rail could also lead to a reduction in the disruption of existing road users through securing a reduction in congestion. GOMMMS also requires consideration of the effect of a proposal on the level of network stress (defined as the ratio of Annual Average Daily Traffic Flows against the designed capacity of a road). The anticipated reduction in the number of vehicle movements from the implementation of the Central Railway scheme could contribute to a relative reduction in network stress in key parts of the highway network. Such a provisional view will be elaborated on within the appraisal.</p> <p>Such changes could be ascribed monetary values in the CBA.</p>	4
Economy wider economic	<p>– This provides an opportunity to complete a qualitative assessment of the contribution of the scheme to regeneration along its route. Such information will be drawn from the economic development assessment and the CBA.</p>	4
Accessibility option value	<p>– The option value sub-objective concerns the value of the service placed on it by potential service users. It refers to possible future use rather than any direct and immediate use and will be referenced against a 'do-nothing' scenario. It is primarily applied to passenger services; however, there are a number of elements of the Central Railway proposals (and options associated with them) where the implications for option values would need to be considered. This would include the opening of previously closed transport lines and the potential for such lines to provide access for passenger services. Clearly, those options that propose to provide access to passenger services will perform better in this type of analysis than those that do not provide such opportunities. Given the nature of the scheme and attendant options, a qualitative approach is proposed to determine the relative importance placed on such option values.</p>	4
Accessibility severance	<p>– The appraisal under this sub-objective concerns the effects of the Central Railway proposals on those using non-motorised modes. It provides a qualitative judgement of the impact ranging from neutral through to severe. The reliance of the Central Railway proposals on the use of existing transport corridors and disused railway lines will limit the level of severance experienced by communities. In consequence, it will be important to consider the level of disruption already experienced by communities due to existing earthworks and transport networks.</p> <p>Central Railway proposes to extend the appraisal of the severance sub-objective to consider the disruption of waterways as well as land based transport modes.</p>	4

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Sub-Objective	Issues	Relevance
Accessibility – access to transport system	The GOMMMS is predicated in an assessment of <i>individuals</i> access to the transport system rather than access by companies to the freight transport system. In consequence, this sub-objective is considered to be of limited direct applicability to the Central Railway proposals. However, consideration will be given to the secondary benefit from providing track access to passenger services and other freight operators, and to the benefit of freeing up capacity on existing railway and road networks.	4 This will be considered in limited detail owing to the nature of the Central Railway scheme.
Integration transport interchange	– The interchange sub-objective provides a framework to consider the qualitative impact of the interchanges within the Central Railway proposals on reliability, use of facilities, freight transfer, timetabling, level of information and security. In this respect this extends the consideration of the each of the options under the separate sub-objective headings for reliability and security. It also allows the opportunity for consideration of the number of interchanges improved, the number of new interchanges created and the approximate number of users affected.	4
Integration land use	– This sub-objective requires consideration of the Central Railway proposals within the context of national, regional, strategic and local land use planning policies. GOMMMS also encourages consideration of transport policies and strategies. These issues will be addressed in detail in the sustainability appraisal; however, they will be presented in the Appraisal Summary Table (AST) required by the GOMMMS.	4 Summarises Sustainability Appraisal (SA).
Integration other government policies	– Under this sub-objective, appraisal is required of the Central Railway proposals against other Government policies. This is to establish the extent to which the Central Railway scheme could contribute to, or be consistent with, Government policies. It is anticipated that these will be considered as part of the other appraisals (sustainability and economic development); however, they will be presented in the AST.	4 Summarises elements of SA, CBA and Economic Assessment.

The table above demonstrates that transport objectives and sub-objectives can provide an effective means to present the transport planning appraisal of Central Railway's scheme. It should be noted that the detailed options around service provision are not mutually exclusive but represent an extension of the service offering over time. It should also be noted that the approach summarises the results of other workstreams (which will be more detailed than those envisaged in the GOMMMS for each sub-objective).

There are a number of locations where the transport planning appraisal has been used or will be used to consider a number of route and terminal alternatives developed by Central Railway. These include:

- Rugby to Leicester route options and Midlands terminal;
- London / M25 route option;
- West of London Terminal.

These specific route elements of the scheme will be developed to minimise disruption and secure the optimum wider community benefits.

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The transport planning appraisal brings together consideration of various sub-objectives, detailed in the Government's guidance. It provides Central Railway with the opportunity to present a consistent evaluation of all of the transport issues relevant to community and stakeholder interest. Such an approach will also facilitate an informed and balanced view of the proposals by stakeholders and key audiences such as DTLR and the SRA. The approach will aim to demonstrate conformance with the expectations of a rigorous and objective appraisal. However, it has to be cognisant of the specific features of the Central Railway scheme. The appraisal will also provide the opportunity to refine the scheme design to enable the development to proceed in a form that takes into consideration community expectations. It is proposed that the draft Transport Case will be revised to include the results of the transport planning appraisals.

Approach

Central Railway propose to undertake an appraisal consistent with the requirements of the government transport appraisal methodology.

The approach will be applied to:

- A high level, strategic consideration of the preferred route;
- Freight and passenger services offered: and
- A consideration of specific modal interchanges and route aspects.

2.6 Socio-Economic Contribution to the Environmental Statement

An Environmental Statement (ES) is a requirement of the Community Directive 97/11/EC (which amends the Directive 85/337/EEC). These Directives have established the process, known as EIA, which systematically draws together, an assessment of a project's likely significant environmental effects. The Town and Country Planning (EIA) Regulations 1999 sets out how these proposals apply in the UK. It should be noted that the Regulations apply to schemes requiring planning permission rather than schemes proceeding by way of a Hybrid Bill. However, as indicated in Standing Order 27A of the Standing Orders of the House of Commons, Central Railway's proposals have to demonstrate consistency with Schedule 4 of the Regulations. Central Railway has recognised that the nature and scale of its proposals, along with its commitment to demonstrating best practice, will ensure that its Environmental Statement will be consistent, not only with Schedule 4 of the Regulations but also the spirit and intention of the Regulation.

Part I of Schedule 4 of the Regulation states the information that should be included in the Environmental Statement:

3. A description of the aspects of the environment likely to be significantly affected by the development, including in particular, population, fauna, flora, soil, water, air, climatic factors, material assets including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.

4. A description of the likely significant effects of the development of the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects if the development resulting from:

- *The existence of the development;*

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- *The use of natural resources;*
- *The emissions of the pollutants, the creation of nuisance and the elimination of waste.*

Central Railway is in the process of agreeing the scope of the main, statutory environmental bodies (the Countryside Agency, DEFRA, English Heritage, English Nature, the Environment Agency and the Forestry Commission). When agreed the scope will be published in a Scoping Report.

The economic and societal effects predicted by appraisals and assessments described in this paper will be reported in its Environmental Statement. The requirement of Schedule 4 to describe effects on population will be met by this means. Central Railway will in consequence consider the following socio-economic dimensions:

- A description of the socio-economic characteristics of the population through which the route will pass (regional economic parameters including employment levels, productivity, growth and capacity, as well as a more detailed definition of the businesses directly affected);
- A description of the potential effects of the route and proposed construction and operation on communities (such effects could include property values, temporary and permanent employment, multiplier impacts, regeneration benefits);
- A description of the anticipated national socio-economic effects of the proposals (regarding functioning of the transport network, economic efficiencies, accident changes);
- Identification of those effects that are considered to be significant (either through the magnitude of the effect, number of affected communities or through the potential severity of the change);
- Identification of potential mitigating measures designed to minimise any such significant adverse socio-economic effects.

Much of this information will be derived from the completion of the other workstreams. Of particular interest will be where appraisal methodologies have been used to quantify effects and determine likely costs or benefits. A completed assessment of the socio-economic considerations will benefit the project by the identifying and subsequently mitigating all significant adverse environmental effects from Central Railway's proposals.

Approach

Central Railway proposes to complete a socio-economic assessment of its proposals using outputs from other workstreams (sustainability appraisal, economic appraisal and CBA). The results of the assessment will be reported in the ES that will accompany Central Railway's parliamentary application.

2.7 Cost Benefit Analysis (CBA)

The cost-benefit analysis will evaluate and compare all those economic costs and benefits which are quantifiable in monetary terms. These costs and benefits will be either internal or external in nature. Internal costs and benefits will include the capital and running costs of the scheme (in the former case), and the project's expected net revenue stream (in the latter case). They are internal in that they will result directly from the operations of the proposed scheme, and then accrue to or be borne by Central Railway. The external costs and benefits result directly or indirectly from the scheme, but accrue to parties other than the scheme operators, for instance, householders and members of the general public. Examples may include local

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air pollution around freight interchanges and reduced congestion on long-distance road routes as a result of lorries being transported by train. External effects are qualitatively different from internal ones in that affected parties may not be directly involved in decision-making. The role of the cost-benefit analysis will therefore be to incorporate these external effects into an overall evaluation of the costs and benefits of the proposed scheme, so that an assessment of the project's economic viability can be made.

Should the cost-benefit analysis predict that the proposal has positive net benefits, then the project is economically viable and worthy of consideration for assent. If the analysis predicts positive net benefits and the financial business case suggests non-viability, then this provides justification for possible government financial support on the basis of the external benefits. It should be noted however that Central Railway has a robust business case and will not be seeking any government support. If the project has positive net benefits according to the cost-benefit analysis and the business case, but they are greater in the latter case, then this suggests the existence of negative externalities which, although not affecting the overall viability of the project, may merit consideration for internalisation in some way (e.g. through compensation payments or compensatory projects).

If the project fails the cost-benefit test while receiving support on the basis on the business case, this indicates that the project should not proceed until the implied negative externalities are corrected.

Nature of effects to be evaluated in the cost-benefit analysis

When evaluating the scheme's costs and benefits, the distinction between internal and external effects is relevant since it influences the appropriate level of analysis in each case. The internal costs and benefits of the scheme, and any uncertainty surrounding their magnitude, variance and duration over time, represent internal risks which Central Railway and its investors have deemed worth bearing so that the scheme can proceed.

The external costs and benefits of the scheme represent external or public effects. In cases where the scale or severity of effect is considered to be substantial and the number of communities and sectors affected could also be significant, there will be compelling society expectations from those affected to complete a detailed assessment of such effects.

There is an additional type of benefit which will need to be taken into account. It relates to the extra benefit that consumers generally enjoy from consumption over and above the price they are required to pay for it. Although some consumers would be willing to pay more than other consumers, competition in markets generally means that all consumers pay more or less the same price. The extra that some consumers would be prepared to pay is called the 'consumers surplus'. In the Central Railway case, it reflects the higher value of time savings which some freight operators might have when compared to others, or the higher value of certain types of freight.

Implications for design of the cost-benefit analysis

The cost-benefit analysis should adopt a high level of analytical detail for the external effects of the proposed scheme. Greater detail should be applied where effects are locally or sectorally concentrated. For example, detailed assessment of the following effects should be completed:

- Air pollution effects around freight interchanges;
- Traffic congestion effects around interchanges;
- Noise effects along the route of the proposed freight line.

A higher level of analysis of positive air pollution and congestion effects associated with reduced road freight traffic will be appropriate. This reflects the more diffuse and disparate nature of these effects and indicates that a regionally based assessment will be appropriate.

Central Railway's Property Protection Scheme does not remove the need to assess amenity effects which might affect property values (e.g. increased noise levels). This reflects Central Railway's commitment to a detailed assessment process.

Proposed methodological approach for the cost-benefit analysis

A generalised pathway approach will be adopted for the estimation of the economic costs and benefits of external impacts. Where more detailed assessment is undertaken, this will involve the application of existing exposure- or dose-response relationships and available population data to estimated changes in relevant physical parameters, for instance, air quality, traffic densities and flows, and noise levels. These relationships will be taken from the existing literature. The predicted effects will be translated into economic quantities through the application of economic damage functions or unit values, also available in the existing literature.

Allowance will be made for the fact that economic values for external effects are likely to change over the lifetime of the proposed project, due to changes in incomes and to changes in the underlying physical parameters. For instance, the external costs of traffic congestion could well be higher in 2010 compared with today, given predicted traffic growth. This can be taken account of via knowledge of relevant elasticities estimated in or derived from the

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economics literature. Account will also need to be taken of the possible effects of government policy, for instance, the 10-Year Plan, *Transport 2010*.

The cost-benefit analysis is intended to adopt a social perspective so that an overall assessment of the project's viability can be made (rather than simply a private financial perspective). Therefore, a social time horizon and discount rate could be applied. An appropriate time horizon would be 25 years (in common with the methodology employed for the economic evaluation of government policy), although for such a major infrastructure project, a longer time horizon may be justified. A six per cent discount rate is recommended for appraisal of government projects, reflecting the social attitude to risk, so this rate is appropriate in this case also. Note that both of these factors are likely to increase the viability of the project relative to the private (commercial) perspective, where higher discount rates and shorter time horizons are the norm.

In other respects, the cost-benefit analysis methodology will be consistent with government guidelines for undertaking such analyses (e.g. DEFRA, Project Appraisal and the Environment), updated where appropriate to reflect academic and other advances.

Approach

Central Railway proposes to complete a CBA of the scheme in line with DTLR guidance using a generalised pathway approach employing values derived from the existing literature. This will provide an analysis of the external effects that will enable an overall evaluation of the costs and benefits of the proposals, so that an assessment of the project's economic viability can be made.

3. Summary

The following provides a summary of the proposed approach to appraisal and assessment, and the anticipated output.

Appraisal and Assessment	Approach	Outputs
Economic development	Complete both a qualitative and quantitative assessment of the economic contribution of the proposal to regional and national economy which will include a comprehensive assessment of the policy and strategy context, stakeholder views and a detailed input-output regional analysis (where possible).	Objective regional and national economic assessment of Central Railway's scheme.
Sustainability appraisal	Complete a sustainability appraisal, using a qualitative approach consistent with a regional and national sustainability framework developed from the Government's Sustainability Strategy <i>'A Better Quality of Life: A Strategy for Sustainable Development in the UK'</i> , the Regional Sustainability Frameworks and sustainability appraisals completed by the RDAs and requiring stakeholder engagement and involvement.	Objective appraisal of the complementarity of Central Railway's scheme with national and regional concepts of sustainability.
Transport planning appraisal	Undertake an appraisal consistent with the requirements of the government transport appraisal methodology. The approach will be applied to: <ul style="list-style-type: none"> • A high level, strategic consideration of the preferred route; • Freight and passenger services offered; and • A consideration of specific modal interchanges and route aspects Update the "Draft Transport Case" following completion of the appraisal.	Objective appraisal of the complementarity of Central Railway's proposals with the Government's five transport objectives of environment, safety, economy, accessibility and integration.
Socio-economic assessment	Complete a socio-economic assessment of its proposals using outputs from other workstreams (sustainability appraisal, economic appraisal and CBA) combined with a qualitative assessment of key stakeholder views (completed in conjunction with the consultation work for the ES) to ensure that the completed ES meets regulatory and best practice requirements.	Assessment of the socio-economic impacts associated with Central Railway's proposals.
Cost Benefit Analysis	Complete a CBA of the Central Railway scheme in line with DTLR guidance using a generalised pathway approach employing values derived from the existing literature. This will provide Central Railway with an analysis of the external effects that will enable an overall evaluation of the costs and benefits of the scheme, so that an assessment of the project's economic viability can be made.	Objective analysis of the external and internal costs and benefits associated with Central Railway's scheme.