



RYR 121 – MELTON NOTTINGHAM CONNECTIVITY

Annex C

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Melton Borough Council and Charnwood
Borough Council

RESTORING YOUR RAILWAYS MELTON TO NOTTINGHAM

Appraisal Specification Report





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Melton Borough Council and Charnwood Borough
Council

RESTORING YOUR RAILWAYS MELTON TO NOTTINGHAM

Appraisal Specification Report

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1 INTRODUCTION

1.1 PURPOSE OF APPRAISAL SPECIFICATION REPORT

- 1.1.1. This Appraisal Specification Report details the approach to carrying out the economic appraisal for the short-listed options for the Melton-Nottingham Connectivity SOBC.
- 1.1.2. The option refinement and appraisal process is aligned with the Department for Transport's (DfT) Transport Analysis Guidance (TAG) and Transport Appraisal Process¹. The ASR provides details of the following:
- Approach for forecasting the demand and benefits of the scheme
 - Method for assessing each of the sub-impacts of the scheme appraisal
 - Level of scheme specification that will inform the capital, maintenance and operating cost estimation
- 1.1.3. The appraisal will be undertaken based on the level of detail available and required at SOBC stage.
- 1.1.4. The ASR is a live document, which will be updated again at:
- SOBC - to inform the appraisal to be undertaken at Outline Business Case (OBC)
 - OBC - to inform the appraisal to be undertaken at Full Business Case (FBC)

1.2 VISION AND OBJECTIVE OF THE SCHEME

- 1.2.1. The strategic objectives for the enhancement of Melton Borough's strategic rail connectivity is, as follows:
- To support housing and employment growth in the region (adopted Melton Local Plan)
 - To improve safety of the transport network for all users
 - To enhance the connectivity of Melton Borough by providing equal access to local and regional economic centres and strategic transport locations for all
 - To encourage a more evenly distributed modal share which reduces private car use and increases travel via more sustainable modes

1.3 CURRENT STAGE OF PROJECT

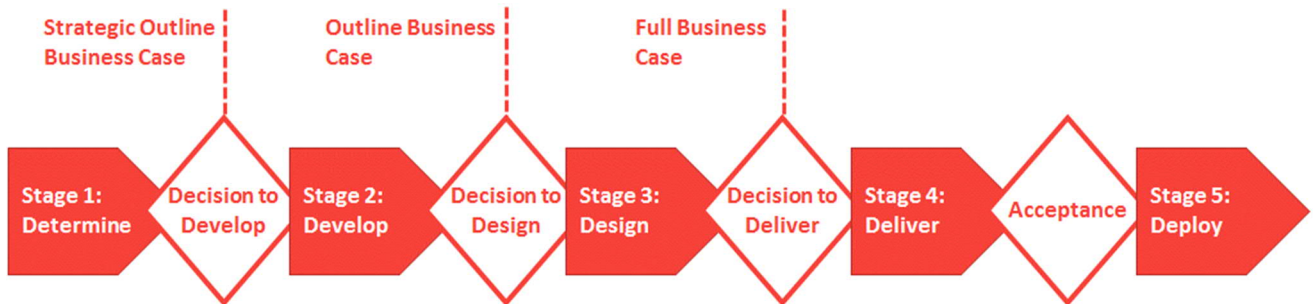
- 1.3.1. DfT identifies three investment decision points aligned with the three business case development stages, prior to the construction and operation of a scheme. The RYR Melton Connectivity scheme is currently at Stage 1: Determine.
- 1.3.2. A longlist of options meeting the above scheme objectives proceeded to a sifting process which assessed the ability of each option to:
- Meet the project's stated strategic objective to improve Melton Borough's regional rail connectivity, and specifically towards Nottingham;

¹ Department for Transport (January 2014) Transport Analysis Guidance: The Transport Appraisal Process

- Deliver improved journey times, and/or a direct journey between Melton and Nottingham;
- Be affordable in terms of likely capital costs;
- Be commercially attractive for a train operator to run; and
- Be operationally deliverable, and, minimise train performance risks taking into account known infrastructure capability and capacity.

1.3.3. A multi-criteria framework assessment was carried out for a long-list of options. Further detail is provided in the Option Assessment Report. Options were ranked with highest scores for options which best met a broad range of stakeholder objectives to improve connectivity between Melton and Nottingham. The short-listed options were taken forward for appraisal.

Figure 1-1 - Project Stages



1.3.4. The proportionate modelling and appraisal method set out in this ASR will support the further appraisal of the preferred scheme options as they are developed through the project stages (illustrated above), subject to approval at each decision point.

1.4 STRUCTURE OF ASR

1.4.1. This ASR has been structured to align with the guidance set out by DfT and addresses:

- **Scheme context** – the study area, challenges and opportunities and the preferred scheme options to be modelled and appraised;
- **Transport modelling** – the approach to be taken to model the impacts of the preferred scheme options; and
- **Appraisal** – the approach for assessing each of the sub-impacts presented within the Appraisal Specification Summary Table (ASST) in line with DfT guidance.

1.4.2. The Appraisal Specification Summary Table is provided in Section 5 of this ASR. The table provides the level of assessment to be carried out for each of the areas of impacts as follows:

- Economy impacts
- Environmental impacts
- Social impacts
- Public accounts impacts

2 SCHEME CONTEXT

2.1 SCHEME OPTIONS

2.1.1. The scheme options are shown in Table 2-1. The options are compared with a Do-Minimum which is the (baseline) case plus a timetable change which represents the May 2021 train service timetable in MOIRA i.e. Option 1.

Table 2-1 – Melton-Nottingham Rail Corridor Short-Listed Options

Option	Option Specification
Option 1	Baseline plus the extension of the Crewe – Stoke – Derby service through to Newark. This is the appraisal Do-Minimum case.
Option 3	Do-Minimum plus extension of the Birmingham New Street to Leicester service through to Peterborough
Option 4	Do-Minimum plus an extra train per hour between Nottingham and Melton calling at all stations
Option 5	Do-Minimum plus an extra train per hour between Nottingham and Melton calling at limited stations
Option 9	Do-Minimum plus an extra train per hour between Nottingham and Peterborough calling at limited stations

3 DEMAND AND REVENUE APPROACH

- 3.1.1. To calculate the GJT and revenue benefits the MOIRA1 model was used. MOIRA is a rail industry recognised demand forecasting tool that calculates changes in the overall market for rail travel and change in demand across the rail network based on changes to generalised journey times for existing users. The model is based on the PDFH 5.1 parameters.
- 3.1.2. Each of the option additional train service specifications was imported from the ATTOne indicative timetables developed for each option. These timetables assumed the following:
- Existing rolling stock types;
 - Existing line speeds; and
 - May 2021 base timetable.

4 APPRAISAL

4.1 INTRODUCTION

- 4.1.1. The appraisal of the preferred scheme options will consider the quantitative, monetised impacts of the scheme, as well as the non-monetised impacts, to inform the overall Value for Money (VfM) assessment of the options.
- 4.1.2. The DfT's 'A Route Map for Updating TAG During Uncertain Times'² recognises that, since the release of the Appraisal and Modelling Strategy (2019), the outlook has changed considerably, including:
- Revised fiscal and economic outlook showing a significant reduction compared to any previous update
 - Tackling uncertainty including the impacts of coronavirus
 - A focus on 'levelling up'
 - The Government's commitment to net zero and the decarbonisation plan
- 4.1.3. This will impact how transport schemes are considered, modelled and appraised. The SOBC appraisal will take consideration of these changes as they emerge through upcoming TAG updates.
- 4.1.4. The DfT will also provide further detail of the use of scenario testing to try to capture the impact of uncertainty to capture the potential impacts of coronavirus over the longer term. The appraisal process will be reviewed to account for any further guidance from DfT as details are provided.
- 4.1.5. Within the appraisal, costs and benefits will be considered over a 60-year appraisal period (in line with the latest guidance) and converted to consistent units to allow for direct comparison. It is noted that DfT are currently reviewing guidance on appraisal periods as part of wider updates to TAG. Any updates to guidance at the time of the SOBC appraisal will be considered. DfT requests that a sensitivity test is undertaken for scheme appraisals with a revised economic forecast in anticipation of this being adopted formally within the Data Book.
- 4.1.6. All costs and benefits will be presented in the DfT's base year (2010) present values (PV), market prices (TAG Unit A1-1). Monetised impacts will be rebased to 2010 prices using gross domestic product (GDP) deflator forecasts from the TAG Data Book. Impacts will be converted to PV using social discount rates as set out in the TAG Data Book. Where required, impacts will be adjusted to market prices from the factor unit of account using the adjustment factor within the TAG Data Book.
- 4.1.7. In November 2020, the Government published an updated Green Book. The Green Book sets out the guidance applied by HM Treasury to appraise projects, programmes and policies. The headline changes within the update include an increased emphasis on the Strategic Case in business cases with proposals demonstrating national policy alignment and place-based analysis, including consideration of local impacts rather than solely national changes (i.e. additionality).

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/903176/tag-route-map-2020.pdf

- 4.1.8. Current focus includes supporting delivery of carbon net zero and levelling up. It is acknowledged that reducing the dominance of the BCR may require a change in mindset for decision-makers and public sector scheme promoters. DfT's Value for Money Framework (VfM) has always acknowledged that the overall VfM assessment should look wider than the BCR.

4.2 ECONOMIC APPRAISAL

SCHEME COSTS

For the SOBC stage scheme costs will be based upon unit rates for different types of route sections.

- 4.2.1. The costs will include:
- Construction costs for additional rail infrastructure
 - Operating costs maintenance and renewal costs, to estimate the whole life costs for the scheme
- 4.2.2. These costs will provide the base cost estimate for a defined price base. They will be profiled over the delivery period and a real cost adjustment will be applied to account for general inflation and construction inflation.

RISK ADJUSTMENT

- 4.2.3. Risk adjustment will be undertaken at a high-level considered proportionate for this stage of scheme development.

OPTIMISM BIAS ADJUSTMENT

- 4.2.4. Optimism bias will be applied to the scheme costs (after the application of risk-adjustment) in the range of 44-66%, as identified in TAG A1-2, given the scheme is at SOBC stage (Stage 1).

BUSINESS USERS AND TRANSPORT PROVIDERS

- 4.2.5. Business users and transport provider impacts are direct transport impacts of the scheme which are monetised as follows:
- Travel time, broken into public transport travel time savings and into highway impacts resulting from reallocation of road space
 - User charges, including fares, tariffs and tolls
 - Vehicle operating costs met by the user (applicable to highway journeys only)
 - Transport operator revenues
- 4.2.6. Changes in rail users travel time (GJT) and rail revenues will be provided by MOIRA forecasts. Highway and vehicle operating cost impacts will be assessed using the Marginal External Costs (MECs) approach set out in TAG Unit A5-4 (2020). The scheme assumes no fare changes at this stage.

WIDER ECONOMIC IMPACTS

- 4.2.7. Wider economic impacts (Level 2 benefits) include the following:
- 'Agglomeration' or 'clustering' benefits that arise from firms and workers being more productive as a result of being located 'closer' to one another as a result of a transport intervention;
 - Labour supply impacts, where an intervention encourages additional workers into the labour market;

- Output change in imperfectly competitive markets, where a transport intervention generates additional competition in local markets and hence additional GDP / GVA;
- Tax distortions: changes in tax revenue as a result of changes in labour supply;
- Land markets: inefficiently low level of investment in new developments, including:
 - Co-ordination failure: Developers may under-invest in transport improvements due to co-ordination failure, resulting in an inefficiently low level of investment in new developments
 - Land rationing: Planning policies may be inefficiently restrictive, resulting in an inefficiently low level of investment in new developments.

4.2.8. These benefits are based on well-established economic principles (such as the productivity benefits arising from increased economic agglomeration, for which there has been significant academic research), but where there remains a greater degree of uncertainty in their estimation compared to standard user and non-user benefits. Hence, for the economic appraisal they are treated as less 'certain' than Level 1 benefits and are included within an 'adjusted' BCR to be presented alongside the 'initial' BCR.

4.2.9. TAG guidance assumes that the impact of wider economic benefits is equivalent to 10% of the business user benefits (TAG Unit A2.1) for this stage of the scheme development.

ENVIRONMENTAL IMPACTS

4.2.10. This section outlines the scope and level of assessment for the environmental TAG assessments to be completed at the SOBC stage for the scheme.

4.2.11. The environmental topics to be covered in the appraisal comprise:

- Noise;
- Air Quality;
- Greenhouse Gases;
- Landscape and Townscape;
- Historic Environment;
- Biodiversity; and
- Water Environment.

4.2.12. The noise, air quality and greenhouse gas topics will be assessed using MECs and are quantified and monetised using the reduction in highway-kms travelled as some road users switch to rail and the application of unit values for measuring the environmental impacts.

4.2.13. The remaining environmental impacts will be assessed qualitatively as appropriate for the stage of scheme development.

4.2.14. The results are documented in the Appraisal Summary Table.

SOCIAL AND DISTRIBUTIONAL IMPACTS

4.2.15. Social and distributional impacts are assessed qualitatively as appropriate for the stage of scheme development. The results will be presented in the Appraisal Summary Table for each option.

COMMUTING AND OTHER USERS

4.2.16. The appraisal of commuting and other user benefits, and the impact of the scheme on journey time reliability will be undertaken using the same process detailed for business users and transport

providers. The appropriate values of time and vehicle operating costs will be applied using the TAG Data Book for commuting and other purposes.

RELIABILITY IMPACT ON COMMUTING AND OTHER USERS

Reliability impacts for commuters and others will be assessed qualitatively given the stage of scheme development. The impact will be considered with respect to reduced waiting times reducing travel uncertainty and improving reliability.

PHYSICAL ACTIVITY

- 4.2.17. The appraisal of physical activity captures the health benefits of a change in the number of people travelling by active modes (i.e. cycling and walking), or a change in the distance travelled.
- 4.2.18. At the SOBC stage there is likely to be limited understanding of the first mile / last mile contributions that the Melton connectivity scheme would support. Consequently, a high level qualitative active travel assessment will be carried out. TAG Unit A5.1 (2020) will be used to inform the approach to the high-level assessment of the potential for the Melton connectivity scheme to influence the number of active travel users.

JOURNEY QUALITY

- 4.2.19. Journey quality measures the real and perceived physical and social environment while travelling. This includes:
- Traveller care: Aspects such as cleanliness, level of facilities, information and the general transport environment
 - Travellers' views: The view and pleasantness of the external surroundings during the journey
 - Traveller stress: Frustration, fear of accidents and route uncertainty
- 4.2.20. A qualitative appraisal of the change in journey quality as a result of the introduction of additional train services will be undertaken in line with TAG Unit A4.1 (2020).

ACCIDENTS

- 4.2.21. A high-level quantification and monetisation of impacts will be undertaken using the Marginal External Costs (MECs) approach set out in TAG Unit A5-4 (2020) based on the change in highway-kilometres estimated by MOIRA.

SECURITY

- 4.2.22. The introduction of the additional rail services may affect the level of real and perceived security for transport users. In line with TAG Unit A4.1 (2020), the qualitative assessment of these impacts will reflect the changes in security between the with-scheme and without-scheme and the likely number of users affected.

ACCESS TO SERVICES

- 4.2.23. A qualitative assessment of accessibility will be undertaken. An assessment of the change in the ease of use of the system will be considered between the with-scheme and without-scheme, e.g. step-free access, provision for wheelchairs and provision of information.

AFFORDABILITY

- 4.2.24. The assessment of affordability is based on the changes in the monetary cost of travel that form part of the decision-making processes for travellers. The assessment should identify if the intervention is likely to lead to negative or positive affordability outcomes for low income groups or for vulnerable groups. In line with TAG Unit A4.2 a qualitative strategic personal affordability review will be undertaken to understand the potential changes in modal cost and affordability issues.

SEVERANCE

- 4.2.25. A qualitative assessment of severance, namely creating physical barriers to mobility will be undertaken comparing the with-scheme and without-scheme. This will consider the nature of any severance, or reduction in severance and the scale of the number of those impacted, in line with TAG Unit A4.1.

OPTION VALUES

- 4.2.26. TAG Unit A4.1 defines option value as the willingness to pay to preserve the option of using a transport service for trips not yet anticipated or currently undertaken by other modes, over and above the expected value of any such feature use. Given the early stage of the development of the Melton Connectivity scheme a qualitative assessment will be considered for the SOBC. This will be based on the catchment of the scheme and the change between in the availability of transport services with-scheme and without-scheme.

4.3 APPRAISAL REPORTING

REPORTING OF COSTS

- 4.3.1. The treatment of costs in the economic appraisal and BCR calculation will be dependent on how the scheme will be funded, and ultimately whether costs are attributed to the public or private sector. In line with guidance (TAG Unit A1-2), costs (both capital expenditure and whole life costs) incurred by the private sector will be subtracted from the Present Value of Benefits (PVB). Revenue attributed to the private sector will be removed from these costs incurred. Costs to the public sector (both capital and whole life costs) are captured within the Present Value of Costs (PVC). Any revenues attributed to the public sector will be subtracted from these costs.
- 4.3.2. For the SOBC, high-level assumptions will be made for the purposes of the economic appraisal for meeting the costs of the scheme.

INDIRECT TAX REVENUES

- 4.3.3. The change in indirect tax revenues to central Government will be captured within the appraisal. For the appraisal of the options to be assessed, the change in tax revenues will consider:
- Changes in tax revenues generated through fuel and non-fuel vehicle operating costs for highway users
 - Changes in tax revenues as a result of changes in public transport fares (which are not taxed)
- 4.3.4. The changes in tax revenues as a result of highway users will be captured by the change in car-kms travelled. For public transport fares this will be quantified based on the change in transport operator revenue and using the indirect tax adjustment factor and the proportion of non-business users.

For inclusion in the appraisal the changes in indirect tax revenues will be adjusted to 2010 PV. In line with TAG Unit A1-1. Changes in tax revenues are captured within the PVB in the economic appraisal.

REPORTING OF THE APPRAISAL

- 4.3.5. The reporting of the economic appraisal and the results will be detailed in the Economic Assessment Report and summarised in the Economic and Strategic Cases of the SOBC. As required by DfT, the Transport Economic Efficiency, Public Accounts and Analysis of Monetised Costs and Benefits tables will be populated for the options appraised. Sensitivity testing will also be undertaken and reported.
- 4.3.6. The findings of the appraisal of each scenario will be set out in the Appraisal Summary Tables, with the appropriate accompanying TAG worksheets completed.

5 APPRAISAL SPECIFICATION SUMMARY TABLE

The appraisal specification summary table is shown below.

Impacts	Sub-impacts	Proposed proportionate appraisal methodology	Reference to evidence and rationale in support of proposed methodology	Type of Assessment Output (Quantitative/ Qualitative/ Monetary/ Distributional)
Economy	Business users & transport providers	Use of MOIRA to estimate change in generalised journey cost	TAG Unit 1-3 TAG Databook	Quantitative /Monetary
	Reliability impact on Business users	Review of options impact on reducing journey reliability through removing interchanges for rail users and reduced congestion on roads	TAG Unit A1-3	Qualitative
	Regeneration	n/a	n/a	n/a
	Wider Impacts	Review of scope of connectivity benefits to support planned housing and employment growth.	TAG Unit A2-1	Qualitative
Environmental	Noise	Identification of potentially significant noise impacts based on estimate of MECs	TAG Unit A3 TAG Unit A5-4	Qualitative / Monetary
	Air Quality	Consideration of air quality impacts using estimate of MECs	TAG Unit A3 TAG Unit A5-4	Qualitative / Monetary
	Greenhouse gases	Estimate using MECs and consideration of mode shift	TAG Unit A5-4	Qualitative / Monetary
	Landscape	High-level assessment of landscape impact	TAG Unit A3	Qualitative
	Townscape	High-level appraisal of townscape character and potential visual impact	TAG Unit A3	Qualitative
	Heritage of Historic resources	High-level appraisal of likely archaeological and built heritage asset risk	TAG Unit A3	Qualitative
	Biodiversity	High-level assessment of potential impacts on most highly valued biodiversity resources	TAG Unit A3	Qualitative
	Water Environment	High-level assessment of potential environmental effects on surface water features and groundwater	TAG Unit A3	Qualitative

Impacts	Sub-impacts	Proposed proportionate appraisal methodology	Reference to evidence and rationale in support of proposed methodology	Type of Assessment Output (Quantitative/ Qualitative/ Monetary/ Distributional)
Social	Commuting and Other users	Use of MOIRA to estimate change in generalised journey cost	TAG Unit 1-3 TAG Databook	Quantitative / Monetary
	Reliability impact on Commuting and Other users	Review of options impact on reducing journey reliability through removing interchanges for rail users and reduced congestion on roads	TAG Unit A1-3	Quantitative / Qualitative
	Physical activity	High-level assessment of potential for promoting greater use of active travel	TAG Unit A5-1	Qualitative
	Journey quality	Assessment of change in journey quality (traveller care, views and stress)	TAG Unit A4-1	Qualitative
	Accidents	Estimate using MECs	TAG Unit A5-4	Qualitative / Monetary
	Security	Assessment of changes in real and perceived security of users	TAG Unit A4-1	Qualitative
	Access to services	Assessment of changes in ease of use of the transport system	TAG Unit A4-1	Qualitative
	Affordability	Strategic personal affordability review	TAG Unit A4-2	Qualitative
	Severance	Assessment of changes in extent of physical barriers to mobility	TAG Unit A4-1	Qualitative
	Option values	High level assessment of change in option values	TAG Unit A4-1	Qualitative
Public Accounts	Cost to Broad Transport Budget	Estimation of capital costs, operating costs and revenues to the public sector	TAG Unit A1-1 TAG Unit A1-2	Monetary
	Indirect Tax Revenues	Estimate of MECs and indirect tax impact of change in PT revenue	TAG Unit A1-1	Monetary

6 CONCLUSIONS

- 6.1.1. The ASR will remain a 'live' document and will be updated as the scheme develops, and further information becomes available. The next steps for the ASR are likely to involve:
- Reviewing the scheme description in line with developments to scheme design
 - Reviewing the assessment methodology including the approach to modelling
 - Reviewing the ASR in line with TAG updates including the development of the 'uncertainty toolkit' to reconfirm the validity of our approach and specification to assessment of the scheme
- 6.1.2. The ASR will continue to be reviewed and update as further details of DfT and TAG updates are provided. Following the successful approval of the SOBC, the ASR will be again be updated for OBC.



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