



**Project Remit  
Oxfordshire Rail Corridor Study**

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## Document History

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## 1 Purpose and aim

The purpose of this remit is to define the scope and required outcomes of the Oxfordshire Rail Corridors Study.

The aim of the study is to understand the options for development of the current and future rail network within Oxfordshire that best meets the needs of the rail industry and county in order to support its growth agenda, whilst considering the wider network strategic needs that have a bearing on rail in Oxfordshire.

The study should align with other Government policy on housing, in particular the Oxfordshire Housing and Growth Deal (March 2018) and the wider England's Economic Heartland (EEH) area and National Infrastructure Commission (NIC) Oxford to Cambridge Growth corridor.

The requirement for this study has been driven by the National Infrastructure Commission's (NIC) recommendation (November 2017) in relation to economic growth in Oxfordshire. It is anticipated that the outputs of this study will be used to inform the Government's response to the NIC.

### 1.1 Terms of Reference

From HM Treasury – from the November 2017 Budget<sup>1</sup>):

*As a first step towards opening a station at Cowley, the government will also make available £300,000 to co-fund a study of opportunities for new stations, services and routes across the Oxfordshire rail corridor*

*This study should explore rail growth in the Oxfordshire Rail Corridor, and look at options for potential new services, stations (including Cowley, following the National Infrastructure Commission's recommendation) and routes.*

<sup>1</sup> <https://www.gov.uk/government/publications/autumn-budget-2017-documents/autumn-budget-2017>

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## 2 Project Context

### 2.1 Rail network

Oxford sits at the heart of the rail corridor that links the Great Western Mainline (GWML) at Didcot with the London Marylebone to Birmingham line at Aynho Junction, south of Banbury. This corridor is vital for inter-regional passenger and freight services between a range of destinations to the south (including the south coast, the Home Counties, and the south west) and to the north (including the East Midlands, the West Midlands, and the North West). It is designated part of the national Strategic Freight Network, with Oxford Station being the hub of the rail network in Oxfordshire.

Oxford itself is a key origin and destination for outer Thames Valley passenger services to Reading and London Paddington, for North Cotswolds services towards Worcester, and for East West Rail services to Bicester Village and London Marylebone. There is also an important local rail market centred on Oxford from all surrounding lines

The GWML runs across southern Oxfordshire and provides passenger and freight links to London, the south coast, and the south west. Didcot is a vital node in the UK rail network and is a junction for all north-south passenger and freight traffic west of London. Didcot Parkway is a main line stop on the GWML and is the second busiest station in Oxfordshire, after Oxford station.

#### 2.1.1 Rail Passenger Demand characteristics

Demand for rail travel in Oxfordshire has grown rapidly with a 70% increase in journeys to and from Oxfordshire stations in the 10 years to 2017 against a UK average increase of 53%. In 2016-17, 18.3 million journeys were made to and from Oxfordshire stations.

Oxford Station sees by far the most demand of Oxfordshire stations, with 6.6 million journeys made in 2016-17, almost one third of the county total, and an increase of 46% over ten years. Hanborough Station has seen significant growth in the last ten years, as has Radley.

The introduction of East West Rail Phase 1 services between Oxford and London Marylebone in 2016 has significantly changed demand patterns in Oxfordshire, with stations towards Bicester seeing substantial growth following the Oxford Corridor Capacity Improvement programme Phase 0. It is likely that the single most significant factor in understanding future rail demand patterns in Oxfordshire will be the introduction of further East West Rail services.

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### 2.1.2 Current Investment Programmes

Over the last few years, the delivery of the Great Western Route Modernisation Programme has seen introduction of new trains in Oxfordshire, with Intercity Express Trains replacing High Speed Trains serving Oxford, the Great Western Main Line, and the North Cotswolds Line, and Electric Multiple Units replacing diesel services serving Didcot. The proposed December 2018 timetable change will also introduce improved service frequencies and service patterns to maximise the benefits from the investment in trains and infrastructure.

The Oxford Corridor Capacity Improvement programme Phase 1 is scheduled for completion in 2018, and Phase 2 is undergoing development and requires confirmation of implementation funding to complete. Both phases enhance the capacity and capability of the railway through Oxford with additional infrastructure, signalling upgrades and an additional platform.

A major planned development which will expand regional connectivity is a direct connection to Milton Keynes and Bedford via East West Rail Western Section, anticipated in 2022/23, and later to Cambridge, via East West Rail Central Section, anticipated in 2027. These connections form the 'core' and 'enhanced' East West Rail service specification, respectively. Alignment with the developing East West Rail programme is an important strategic consideration for Oxfordshire rail.

## 2.2 Oxfordshire County

Oxfordshire is a one of the fastest growing and ambitious counties in South East England, with significant growth experienced in recent years and further planned, underpinned by strong strategic planning, partnership working and a groundbreaking Housing and Growth Deal recently signed with Government.

Oxfordshire has major education and tourist industries and is noted for the concentration of performance motorsport companies and facilities. It hosts a concentration of knowledge industries of national significance, which are expected to grow significantly (source: Oxfordshire Infrastructure Strategy, 2017). 101,000 new jobs are forecast to be created over the period 2016 to 2040, which represents an increase of 25%.

The primary locations for the provision of new employment will be within the Oxfordshire Knowledge Spine. This area includes Oxfordshire's major research centres at Harwell and Culham, the City of Oxford, and the primary growth settlements of Bicester, Didcot, Grove & Wantage and Witney. It also encompasses the major employment centres at Milton Park and Harwell, and the Oxford Science Park and Begbroke Science Park.

The Oxfordshire Housing and Growth Deal requires housing growth to plan, and deliver for, 100,000 dwellings by 2031 (source: Oxfordshire Housing and Growth Deal, 2017). This equates to 5,100 units per year, which represents a step change in delivery of new housing, which averaged 2,333 dwellings per year from 2011 to 2015. Overall, Oxfordshire population growth is forecast at 39% between 2016 and 2040, or 267,700 people.

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Provision of both housing and employment growth is reliant upon provision of suitable transport infrastructure. Heavy rail is envisaged as having a significant role to play. The Oxfordshire Infrastructure Strategy (2017) quantified the key role rail investment is proposed to play in supporting Oxfordshire’s ambition, including identifying a number of priority interventions that would be considered further through this study.

### 3 Project Objectives

The objectives of the study are:

- identify opportunities for rail stations, services and routes along the Oxfordshire corridor specifically including Oxford Station and the rail corridor that runs through it (Didcot – Oxford – Aynho)
- explore the drivers and potential for rail growth along the Oxfordshire corridor that can directly enable and support economic and housing growth; and
- set out a high level strategy for potential rail interventions over a thirty year time frame identifying phased requirements for the short, medium and longer term.

### 4 Project Outcomes

The outcome of the study is to:

- provide a high level strategy that sets out potential rail interventions over a thirty year timeframe presented as a phased programme of priorities for the short, medium and long term, clearly associated with industry and wider planning timescales and milestones
- present socio-economic appraisals which include the wider economic benefits of rail investment within and around the City including the GVA uplift generated and the jobs and housing supported for each option (*drawing upon existing modelling work being undertaken for the Oxfordshire Local Industrial Strategy*) to enable partners to better understand the relative benefits of different rail service patterns and infrastructure requirements, so investment can be prioritised
- demonstrate how prioritised rail investment can support the economic and wider development in Oxfordshire, including the Housing & Growth deal (and the commitment to housing provision it includes) and the emerging Joint Strategic Spatial Plan
- provide linkages and interdependencies with the emerging Oxfordshire Local Industrial strategy
- align with the new approach to future enhancement planning through the Rail Network Enhancements Pipeline and Market-led Proposals and how rail schemes are progressed. This will enable the study outputs to be fed into this process.
- present proposals for development and delivery funding, consistently with the future enhancement planning process, and the potential early release of funds to enable specific schemes to be developed.

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The outputs are envisaged to include a high-level strategic study report, which identifies high-level business case(s) for the Oxfordshire programme of interventions, makes recommendations on the commitments required from funders and presents the opportunities for investment in rail infrastructure and services required to deliver growth.

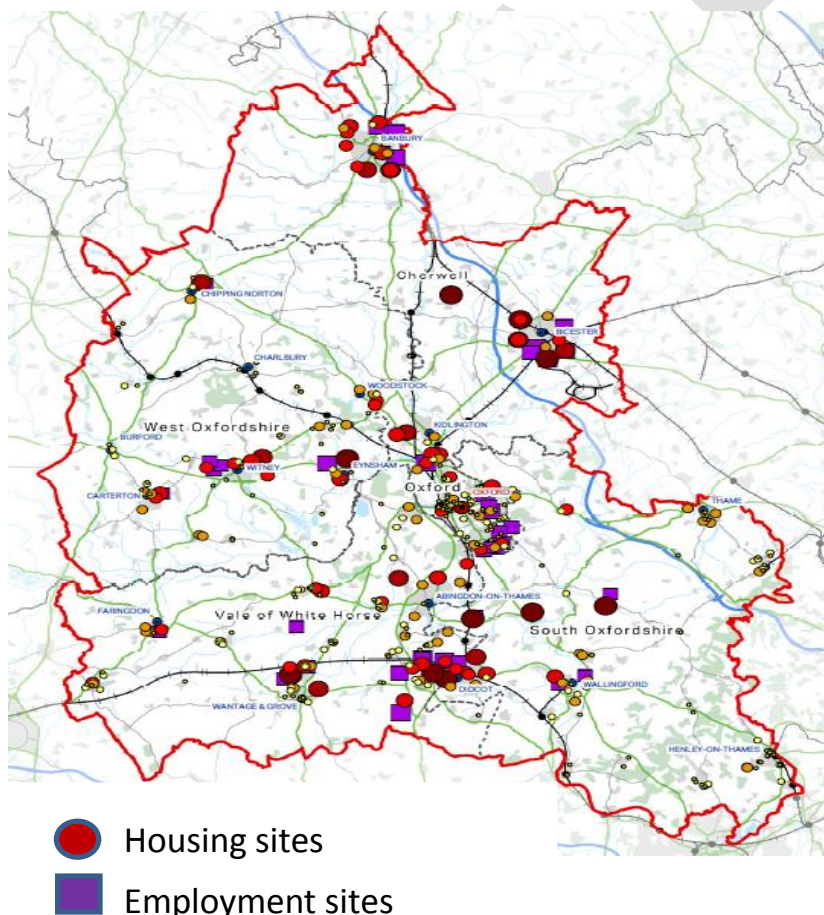
## 5 Study overview

### 5.1 Scope

The overall scope of the study is to set out the potential of rail to support sustainable economic growth in the Oxfordshire rail corridor.

#### 5.1.1 Geographical scope area

The geographical scope of the study will be the county of Oxfordshire. However, the purpose of the study is to support Oxfordshire’s growth agenda so those sites identified for strategic growth will be prominent in the geographical scope of the study. The following figure depicts the county boundary and an overview of the strategic growth sites.



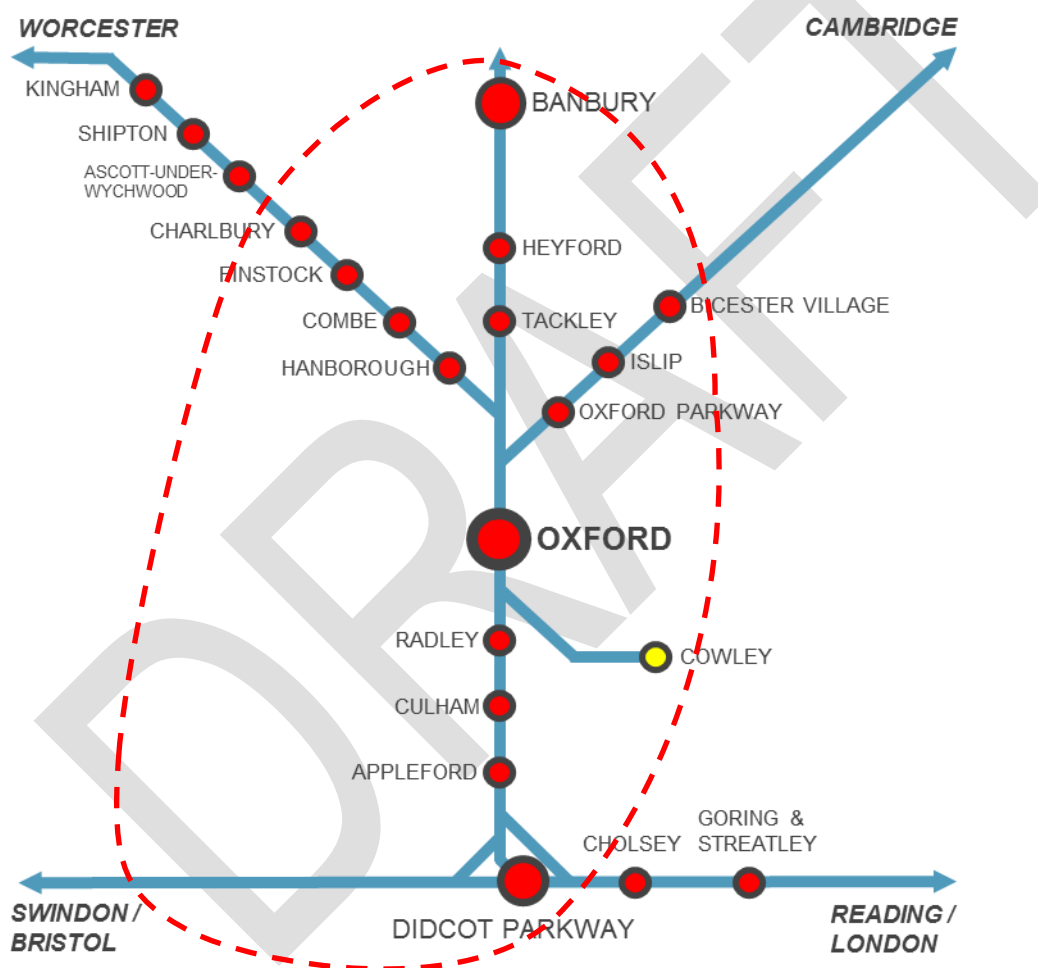
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### 5.1.2 Rail

The key rail scope of the study will be the core rail corridor through Oxfordshire, between Didcot and Banbury, and Oxford and Bicester. The North Cotswolds line will also be in scope, with the boundary of Charlbury, as will the Cowley branch line, Banbury will be considered with regards to the network south to Oxford, excluding the Chiltern main line. The study will also consider the Great Western Main Line west of Didcot towards the Oxfordshire boundary with Wiltshire, with a boundary of Bourton.

The rail network scope of the study is depicted in the schematic map below. The dotted red line shows the extent of the rail network scope specifically for this study.



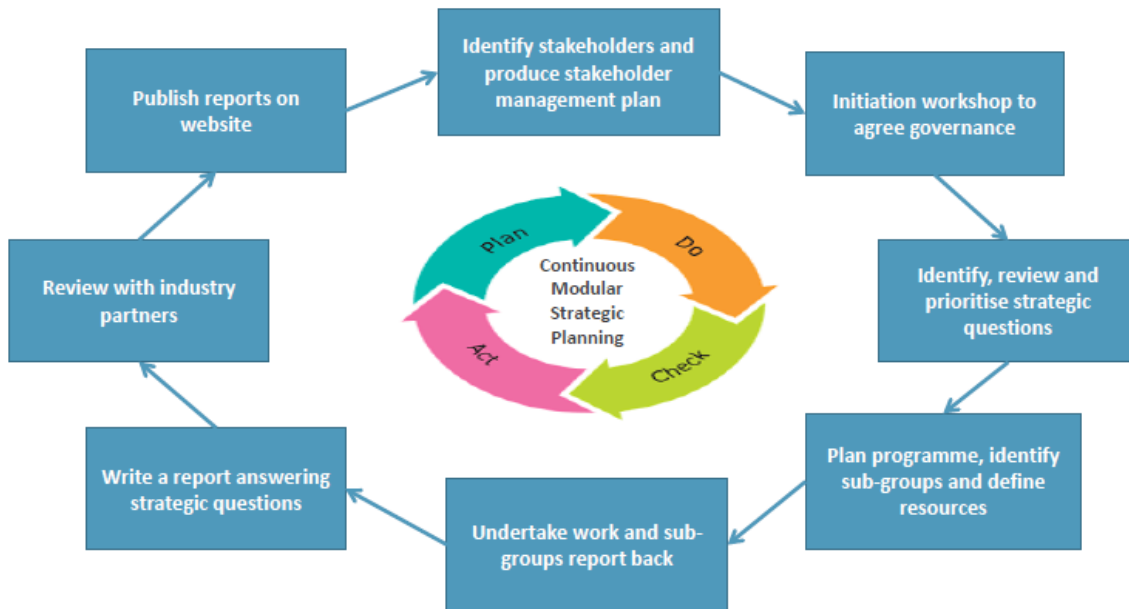
Whilst, the boundaries of the physical rail infrastructure are defined above, the study will consider services that cross through the county in the wider context of the rail network for example, aspirations for inter-regional services and airport connectivity. The study and its outputs will also be cognisant of the strategic rail freight corridors that pass through the area, as well as rail freight terminals located within it.

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## 6 Project Approach

### 6.1 Overview

It is proposed that the Oxfordshire Rail Corridors Study be structured to follow Network Rail’s Continuous Modular Strategic Planning (CMSP) process as visualised below and presented in Appendix A.



CMSP draws upon our approach to long term planning and aligns with the rail industry’s move from a fixed five-year control period funding pot of enhancements to a continuous enhancements pipeline, offering opportunities through collaboration with stakeholders, to utilise targeted, granular market insight in understanding and planning rail requirements.

The principles of the study will reflect growth, demand and option identification and appraisal.

CMSP is built around the formulation and addressing of Strategic Questions, which are produced and agreed by the governing body for the study. Strategic Questions are focused on an agreed strategic aim of **supporting and enabling housing, jobs, and economic growth in Oxfordshire**. It is anticipated that each Strategic Question will have an individual report, which is then collated into the final strategic study report.

The output of this will be a strategic report that identifies strategic goals for rail in Oxfordshire and the system interventions required to realise those goals, over a thirty year timeframe.

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The system interventions identified, will be assessed at a high level in terms of engineering feasibility and value for money and presented in the strategic report. They could then be developed into Strategic Outline Business Cases (SOBC), which will define the case for further investment and allow funders to take the decision to invest in the works identified.

Subject to funding, there may be an opportunity to undertake specific development studies and SOBCs for key system interventions identified.

## 6.2 Process

Each stage of the CMSP process produces an output, culminating in the publication of the strategic report.

The following table presents a high-level overview of the process, stage and output of each CMSP stage for the study:

	<b>CMSP Stage</b>	<b>Output</b>
1	Endorsement – meeting with key stakeholders	Endorsement of the study remit by core stakeholders. Agree study baseline.
2	Initiation – workshop with all stakeholders	Presentation of the study process, structure and governance to all stakeholders.
3	Formulation – workshop to agree strategic questions	Produce and agree list of Strategic Questions with core stakeholders.
4	Development – working groups assessment for strategic questions	<ul style="list-style-type: none"> <li>- Market quantification – Undertake market analysis to identify Oxfordshire rail demand patterns and agree growth forecast scenarios for rail travel in and through Oxfordshire for each strategic question</li> <li>- Conditional Output definition – Define Conditional Outputs for rail services (train and non-train) in Oxfordshire that meet market needs for each strategic question</li> <li>- Creation of a Train Service Specification (TSS) that delivers the Conditional Outputs</li> <li>- Gap analysis – Identify changes required to deliver the Train Service Specification and choices for funders and service specifiers</li> </ul>
5	Collation – steering group collates answers into strategic report	Interim output: Oxfordshire Train Service Specification  Final output: strategic report final draft
6	Governance – report endorsed	Endorsement of Strategic Report by accountable

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		body
7	Publication – report published	Publication of the Strategic Report and SOBC

## 7 Shareholders and Stakeholders

Close engagement with stakeholders is fundamental to this study. The intention is for partnership working so that all parties are jointly responsible for inputs and defining the desired outputs (the Strategic Questions) and producing comprehensive, evidence-based answers in the form of strategic options.

The table below lists the proposed structure for stakeholder management – dividing the parties into shareholders and stakeholders for the Oxfordshire Rail Corridor Study. The final list of organisations included in each category would be confirmed alongside study funding.

Shareholders are those parties who are contributing funding to the study. They will jointly agree the structure and scope of the study and endorse all outputs.

Stakeholders will be split into two tiers. Tier 1 stakeholders may also be members of the steering group and optional members of each working group. Tier 2 stakeholders are to be informed of the study and progress and will have the opportunity to be members of relevant working groups (should they wish) and have the opportunity to review and advise the outputs.

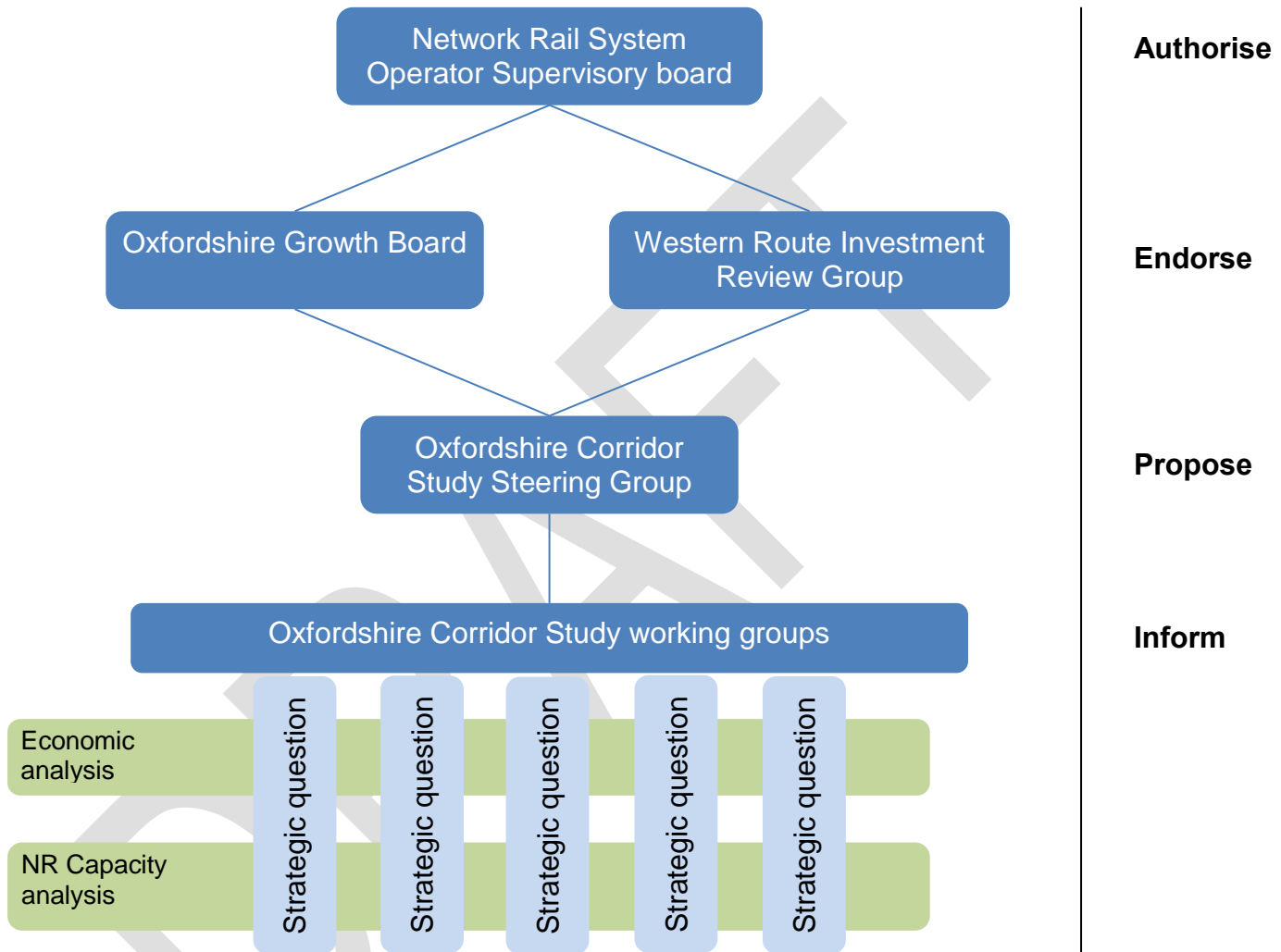
<b>Shareholders</b>	<b>Tier 1 stakeholders</b>	<b>Tier 2 stakeholders</b>
DfT Rail/High Speed & Major Project Groups Network Rail <i>Oxfordshire County Council</i> <i>Oxfordshire Growth Board</i> OxLEP <i>England’s Economic Heartland</i> (to be confirmed)	East West Rail Company Great Western Railways Chiltern Railways CrossCountry Trains Freight Operating Companies Oxfordshire’s City and District councils	Oxford Universities ORR UKAEA Ministry for Housing, Communities & Local Government Environment Agency Highways England Oxfordshire’s bus companies Homes England Rail Delivery Group North Cotswolds Line Task Force

## 8 Governance

The study will be coordinated by a Steering Group in which all shareholders will be members. The Steering Group will remit work to separate Working Groups, which will undertake the analysis and development work, structured around the strategic questions. Working Groups will be led by shareholders, and Tier 1 stakeholders will be optional members. Tier 2 stakeholders will be invited to working groups as relevant.

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The Steering Group will coordinate the work and propose findings in the form of a strategic report. The Steering Group will report to Network Rail’s Western Route Investment Review Group and to the Oxfordshire Growth Board for endorsement of all outputs. Network Rail’s System Operator Supervisory Board will authorise study outputs. This proposed model of governance is represented below.



## 9 Indicative Programme and Cost

### 9.1 Programme

The estimated timescales for completing the study are to be confirmed. Once the requirements of the study are finalised and remit is agreed, a detailed programme will be produced for agreement to reflect initial outputs for March 2019.

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## 9.2 Cost

Based on the process described in this document the estimated costs for completing this study are indicatively between **to be confirmed**. Once the requirements of the study are finalised and remit is agreed, a detailed cost profile will be produced for agreement.

Once the remit is agreed, a full cost breakdown and programme will be produced for agreement.

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## Appendix A – CMSP process

Continuous Modular Strategic Planning (CMSP) has been developed in order to shift the focus in strategic planning into the needs of customers, who are passengers, freight end-users, and UK taxpayers. The voices of these customers are the train and freight operators who provide services, and the organisations responsible for planning and delivering local growth.

The stages of CMSP are described in detail, describing each stage and its output.

### Stage 1: Endorsement – meeting with key stakeholders

The study will commence with an initial meeting with tier one stakeholders to brief on the process and proposed structure of the study, primarily involving an introduction to the CMSP process. Since CMSP represents a new approach to rail strategic planning it is important that key stakeholders understand and endorse the process.

The output of this stage of the study will be endorsement of the study remit by tier one stakeholders.

### Stage 2: Initiation – workshop with all stakeholders

Once key stakeholders have endorsed the process in principle, an initiation workshop with all stakeholders will be held to brief the proposed process, structure and governance of the study in detail and to agree the constitution and membership of working groups. The output of this stage of the study will be endorsement of the study process, structure and governance by all stakeholders.

This stage of the study may be held jointly with the next stage – which is the workshop to agree the strategic questions.

*\*Note: there is also the opportunity to combine stage 1 and 2 with all stakeholders and undertake stage 1, 2 and 3 in one workshop.*

### Stage 3: Formulation – workshop to agree strategic questions

Once all stakeholders have endorsed the study process, structure and governance, a workshop will be held with all stakeholders to agree the Strategic Questions around which the study will be built. This will be an open forum in which the strategic aspirations of all stakeholders should be captured, with all stakeholders free to propose strategic questions.

Western System Operator will coordinate discussion to arrive at an agreed list of strategic questions that are: pitched at the appropriate level of high-level system outcomes; target a quantifiable need; and reflect the aspirations of, and are agreed with, stakeholders. Specific stakeholder aspirations will be refined into sub-questions that fall under the headline strategic questions, if required. This stage may be held concurrently with the previous stage.

The output of this stage of the study will be an agreed list of Strategic Questions.

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**Stage 4: Answers – working groups answer strategic questions**

Once the study Strategic Questions have been agreed, working groups will be appointed to develop answers, with one working group per question. Each working group will be led by a tier one stakeholder representative and will include representatives from other stakeholders as appropriate for answering the question at hand.

This stage involves Market quantification and Conditional Output definition from the strategic planning approach (see Appendix B). The answer will be in the form of Conditional Outputs for rail services (train and non-train) that meet the objective of the Strategic Question.

The output of this stage will be Conditional Outputs for rail services for each Strategic Question.

**Stage 5: Collation – steering group collates answers into strategic report**

Once Conditional Outputs for each Strategic Question have been agreed the steering group will coordinate the work required to develop a rail strategy for Oxfordshire. This stage involves Train Service Specification construction and Gap Analysis from the strategic planning approach (described in Appendix B).

The steering group will remit Network Rail’s Capacity and Capability Analysis team to construct an Indicative Train Service Specification (ITSS) for Oxfordshire that delivers the Conditional Outputs. In addition to an optimal Oxfordshire ITSS this work will identify the infrastructure constraints to delivering the ITSS.

The steering group will then be responsible for compiling a Strategic Report as the output of the Oxfordshire Corridor study. This report will present the answers to the Strategic Questions posed during the process, outline the optimal Oxfordshire ITSS to deliver the Conditional Outputs and identify the infrastructure constraints to delivering the ITSS.

The interim output of this stage of the study will be an Oxfordshire ITSS. The final output of this stage will be the full Strategic Report, which amalgamates all the individual study reports and is presented in a final report for Oxfordshire rail corridor, ready for endorsement and publishing

**Stage 6: Governance – reports endorsed**

Once the Strategic Report has been drafted it will go through the agreed governance process for endorsement, with revision as required. The output of this stage of the study will be endorsement of the Strategic Report.

**Stage 7: Publication – report published**

Once the Strategic Report has been endorsed it will be published in draft form for consultation. At the closure of the consultation required amendments will be made and the Strategic Report will be published in final format. The output of this stage of the study will be publication of the Strategic Report on Oxfordshire rail corridor.

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## Appendix B – Strategic planning activity within CMSP process

Strategic planning follows a four part structure, described in the following list.

### Stage 1 – Market quantification

The study will undertake market analyses using data from rail industry and stakeholder sources, specific to each strategic question. This will output an updated baseline and short, medium, and long term growth forecasts for the market covered by the strategic question. The forecast horizons will align with local planning timeframes.

Market forecasts will be constructed with reference to the DfT’s National Modelling Framework. The study will utilise existing growth figures and forecasting models wherever possible, for example the East West Rail demand model developed to assess the Western and Central sections, and models developed for local authority strategic planning.

In order to achieve the desired sensitivity in understanding Oxfordshire’s rail markets data for the study will need to be provided by local authorities. The opportunity to utilise local authority data is a key benefit of CMSP.

### Stage 2 – Conditional Output definition

The *Western Route Study* details Conditional Outputs for the wider rail network of which Oxfordshire is part, based on the *Market Studies*. This study is required to define Conditional Outputs for rail services in Oxfordshire using a bottom-up approach – that is, Conditional Outputs specific and tailored to Oxfordshire’s needs, as presented in the strategic questions.

The Conditional Outputs for each strategic question will be defined in response to the market quantification activity, such that the Conditional Outputs represent what is required to meet the market need over the short, medium, and long term.

### Stage 3 – Train Service Specification construction

Once Conditional Outputs have been defined an Indicative Train Service Specification (ITSS) can be developed that delivers the Conditional Outputs. Network Rail System Operator will lead on the construction of the TSS.

The Conditional Outputs will be consolidated into an ITSS for a typical peak and off-peak hour at each of the study planning horizons. The ITSS will be constructed as unconstrained by network capacity, but will need to accommodate all service groups and consider market and operational factors in proposing the optimal plan for meeting the identified Conditional Outputs.

The ITSS will then be overlaid on the baseline infrastructure in order to identify constraints where the baseline infrastructure cannot accommodate the Conditional Outputs.

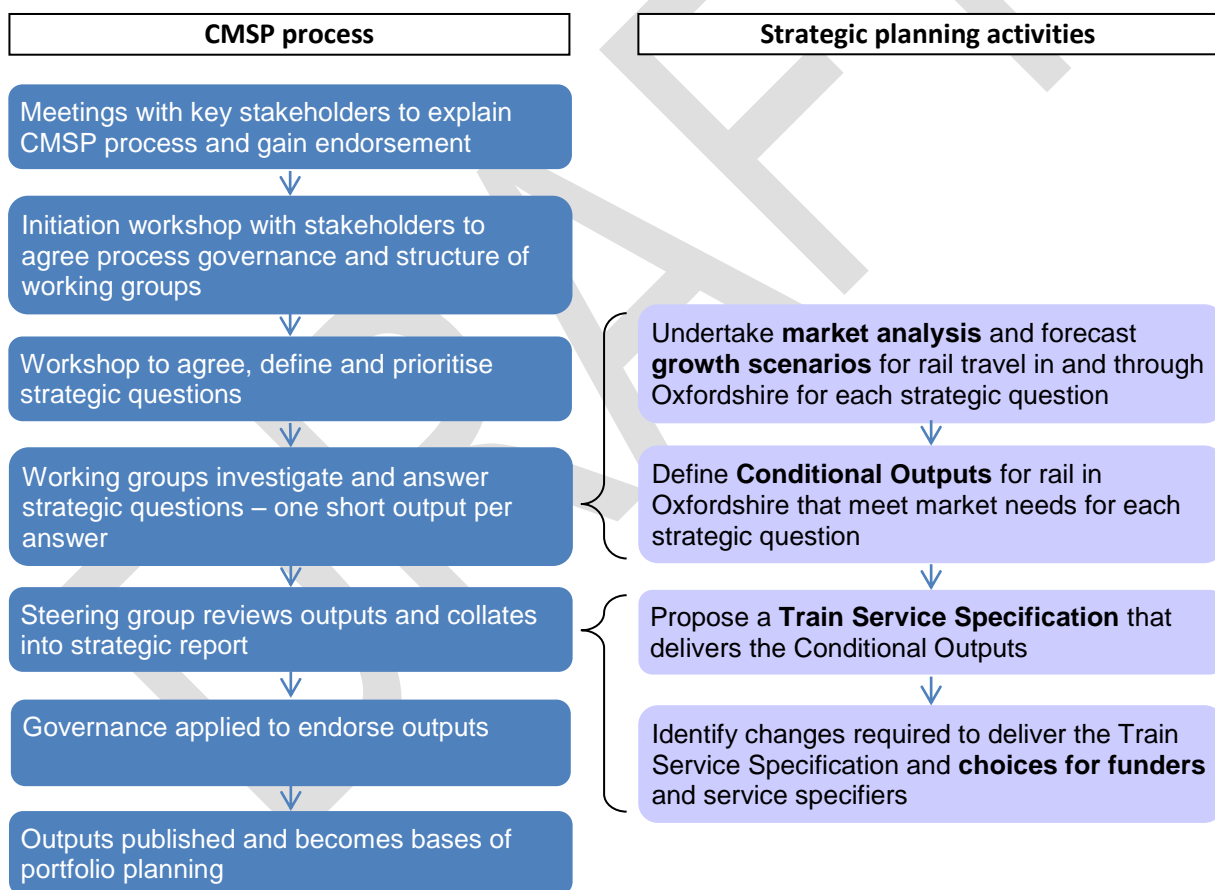
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### Stage 4 – Gap analysis

The constraints identified in delivering the ITSS will be subject to analysis to understand the options and choices required to address them, which include trade-offs between capacity, connectivity, journey times, performance and access requirements. Options may include making best use of existing infrastructure, or considering enhanced and new infrastructure.

The analysis of constraints constitutes development work, which the study will undertake on an agreed number of options to achieve a level of development suitable for inclusion in the Oxfordshire Corridors SOBC.

The strategic work of the study will follow the four part structure. The following diagram demonstrates the relationship between the strategic planning work of the study and the CMSP process.



**Appendix C – Source References:**

- The Oxfordshire Local Transport Plan 2011-2030, including the Oxfordshire Rail strategy (updated 2016)
- Spatial Planning in Oxfordshire, including the emerging Joint Strategic Spatial Plan
- The Oxfordshire Infrastructure Strategy, which includes some specific proposals for Rail Investment required to support growth (Stage 2 Final Report, 2017)
- The Oxfordshire Growth Board and its role in overseeing strategic development and infrastructure planning, including this study
- The Oxfordshire Local Enterprise Partnership’s work (Strategic Economic Plan and emerging Oxfordshire Industrial Strategy) and how development of rail can support this
- The commitment made to deliver housing and economic growth through the Oxfordshire Housing and Growth Deal.
- Oxfordshire Rail Passenger Demand Forecasting Report (2013)

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