

# Supplementary Papers



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FOR THE MEETING OF

## **Oxfordshire Growth Board**

held in the Didcot Civic Hall, Britwell Road, Didcot, OX11 7JN

on Tuesday 28 January 2020 at 2.00 pm

### **10 Oxfordshire Rail Corridor Study (Pages 2 - 9)**

Revised Oxfordshire Rail Corridor Study Executive Summary and Recommendations and revised Appendix 3a – Summary of Proposed Service Enhancements.

# Oxfordshire Rail Corridor Study

## How can the rail system in Oxfordshire best support economic growth?



Department  
for Transport

**OXFORDSHIRE**  
GROWTH BOARD

**EastWestRail**  
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ENGLAND'S  
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**NetworkRail**

# Oxfordshire Rail Corridor Study

## How can the rail system in Oxfordshire best support economic growth?

### Executive summary

Oxfordshire is one of the most productive economic regions in the United Kingdom with uniquely high growth forecast over the next fifteen years as a result of the growth identified in existing and emerging Local Plans, supported by the Housing and Growth Deal agreed with government. Housing and employment growth must be supported by a transformation in transport infrastructure. Oxfordshire's rail system – which functions as a strategic hub for local and national services – has accommodated significant growth in the last ten years but has little further capacity and does not link important hubs within Oxfordshire.

The Oxfordshire Rail Corridor Study assesses the impacts of planned growth on Oxfordshire's rail system and identifies the role the system can play to support growth. It delivers four key outputs that build sequentially to describe the future role of rail in supporting Oxfordshire's growth:

- The Oxfordshire Planned Growth Scenario – short, medium, and long-term forecasts of Oxfordshire's rail markets forming an evidence-based mandate for improvements
- Conditional Outputs for Oxfordshire's Rail System – a set of objective, quantitative statements of the rail outputs required to support the OPGS
- Oxfordshire Train Service Specifications – a recommended suite of industry-aligned and endorsed proposals for train services that deliver the Conditional Outputs
- Oxfordshire Rail System Interventions – a prioritised list of the system enhancements required to deliver the Oxfordshire Train Service Specifications

The housing growth already committed in Oxfordshire is delivering population and employment increases well above the national average. The Oxfordshire Planned Growth Scenario converts this growth into locally sensitive rail demand forecasts that reflect the precise pattern and scale of growth. These show that demand for rail in Oxfordshire will increase significantly more than would otherwise have been forecast.

There are seven growth hubs in the Oxfordshire rail system: Banbury, Bicester Village, Culham, Didcot Parkway, Hanborough, Oxford, and Oxford Parkway. This study assesses how Oxfordshire's rail system can support growth at these hubs. The market for rail freight in Oxfordshire is also forecast to grow and Oxfordshire's rail system will continue to have a vital strategic role.

Conditional Outputs for Oxfordshire's Rail System define what the rail system must deliver to support growth. This indicates that capacity improvements are required on inter-regional services and two other service groups, whilst substantial connectivity improvements are required between Oxfordshire's seven growth hubs. Improved connectivity is also required between Oxford and

priority inter-regional locations, including Heathrow Airport. Analysis of potential new stations suggests that two stations on the Cowley Branch Line have a role to play in supporting growth.

Conditional outputs for freight services involve providing capacity for more services, enhancing access to the network, and accommodating changes in the rail freight industry.

Major improvements to rail services in Oxfordshire are required to deliver the conditional outputs determined by the study. The proposal is that 70 % more services are required as well as amendments to calling patterns and service coverage. Recommendations for new services are also proposed considering the programme for East West Rail and the aspirations of Midlands Engine Rail and North Cotswolds Line Task Force. How these could be reconfigured to meet the conditional outputs is also set out. Owing to the pace of growth most additional and amended services are required by 2028.

The proposed 2033 train service specification improves direct connections between Oxfordshire's growth hubs by 160 % and between Oxford and priority inter-regional connections by 106 %. This level of improvement is required to deliver the conditional outputs. All improvements, and particularly those to inter-regional connections, will have economic benefits beyond Oxfordshire.

A key proposal is that the majority of passenger services are extended through, rather than terminating at, Oxford station. Another key feature is provision of new direct services to Bristol and Swindon and strengthening of connections with Birmingham, Worcester, and the South Coast to support Oxfordshire's economic growth.

New services do not meet capacity shortfalls for inter-regional and London Marylebone services so lengthening of these services is recommended.

A number of significant interventions are required to deliver the Oxfordshire Train Service Specifications. Delivery of Oxford Phase 2 is critical to support the 2024 specification and all subsequent specifications. A portfolio of interventions is required to deliver the 2028 specification. Some can be associated with individual service enhancements, but the majority represent a comprehensive system upgrade between Oxford North Junction and Didcot that is required to unlock the portfolio of new services necessary to support growth in Oxfordshire.

Key interventions identified at this stage include Oxford station, which should be developed following the existing masterplan principles, four tracking between Oxford station and Radley, and grade separation of Didcot East Junction. Alongside the key interventions proposed to deliver the specifications, other interventions are identified that may need to be delivered to provide a robust train service. The identified suite of interventions comprise a system that supports growth in the long term.

The outputs of ORCS have been endorsed at a cross-industry Steering Group and should be considered as the bases of strategic rail planning for Oxfordshire. The outputs provide an opportunity to inform and influence the development of major programmes including East West Rail, and of new aspirations, such as the new station proposals at Grove and Begbroke.

The next steps are to establish a portfolio of interventions that can enter the Rail Network Enhancements Pipeline and secure a decision to progress to the next stage and the development of Strategic Outline Business Cases.

Continued engagement with the many beneficiaries of this extremely ambitious programme of investment is essential. Consideration should be given to how such beneficiaries can support the case for investment, including by identifying opportunities for third party funding.

## Recommendations and next steps

The Oxfordshire Rail Corridor Study establishes a compelling rationale for significant improvements to rail services in Oxfordshire. The four principal outputs of the study form a robust analysis that can be used to establish a comprehensive strategic vision and to develop investment cases for the rail interventions recommended.

The suite of interventions identified sets out an extremely ambitious investment programme as well as an approach to how this may be aligned with other investment programmes so that growth in Oxfordshire can be fully supported. This offers significant benefits both to Oxfordshire and far beyond. Further development of the proposed interventions will require active engagement with all beneficiaries.

### Use of ORCS outputs

The four principal outputs and the strategic vision they establish should be adopted as the bases for strategic planning for the rail system in Oxfordshire.

The **Oxfordshire Planned Growth Scenario** offers a robust, evidence-based, locally sensitive demand forecasting framework that should be considered for strategic case development and as a sensitivity scenario alongside a required central case in government funding appraisals.

The housing and employment data that underpin the OPGS should be refreshed as local plans are confirmed and revised, and, in the longer term, when further plans become available.

The OPGS should be used as the basis for further detailed analysis on the role and likely demand for new stations, and for requirements for existing stations – in particular their function, size, and service provision.

The OPGS should be shared with industry planning partners and with programmes in development – in particular East West Rail, Midlands Engine Rail, and the North Cotswolds Line Task Force – to allow assessment of interdependencies, wider benefits, and strategic alignment.

The **Conditional Outputs for Oxfordshire's Rail System** should be considered as an objective statement of service requirements in Oxfordshire. Decisions involving changes to the service specifications as schemes develop should be assessed against impact on the conditional outputs. This should include exploring opportunities to meet the outputs that are not met by the Oxfordshire Train Service Specifications. The freight capability conditional outputs should inform priorities for freight strategic planning and improvement schemes.

The key principles established by the conditional outputs – that the pattern of growth in Oxfordshire creates seven growth hubs and better links are required between these hubs to support economic growth, and that Oxfordshire's growth is restricted through lack of direct connections to nearby economic hubs – should be endorsed as fundamentals within the strategic vision for the rail system Oxfordshire.

The **Oxfordshire Train Service Specifications** should be endorsed and established as the proposed strategic baseline for rail system planning and the development of services within and through Oxfordshire. The fundamental underlying principles – that the majority of services are proposed to go through rather than terminate at Oxford, and that service groups that are envisaged as independent should be connected – should be recognised.

The specifications should form the basis of development work on interventions – both individual and portfolio – and should also be used to inform and influence the development of the output specifications of major programmes proposing new services in Oxfordshire and strengthen their strategic cases.

The specifications should inform the franchising process as the basis of advice on priorities for service development and specification. Equally the capacity conditional outputs that are not met by the specifications should be pursued through consultation on franchise specification. That is lengthening of both inter-regional (CrossCountry) and London Marylebone (Chiltern) services.

The **Oxfordshire Rail System Interventions** should inform industry enhancement priorities and funding requirements as the investments required in order to deliver the strategic vision for Oxfordshire.

It should be recognised that system constraints in Oxfordshire mean that most new services depend on a portfolio of interventions comprising a systemwide upgrade and that therefore individual services cannot be solely associated with single interventions. Interventions identified should therefore form the basis of a programme for rail investment in Oxfordshire.

Further development should be undertaken to strengthen the link between interventions and benefits and to support the development of an investment case for a programme of rail interventions in Oxfordshire.

The interventions and the case established for them should directly inform programme development for existing major programmes and into business case development for new programmes.

The strategic vision for developing Oxfordshire's rail system should be used to inform local planning processes. ORCS outputs should inform updates to both the Oxfordshire Infrastructure Strategy and the Oxfordshire Rail Strategy, and through them the Oxfordshire Plan 2050 (the Joint Statutory Spatial Plan for Oxfordshire). The Oxfordshire Plan 2050 will set out where growth beyond that identified in Local Plans may be located. Whilst this report focuses on how rail can support planned growth the outputs will also inform how rail investment can influence the location of growth up to 2050.

## Development of interventions

Analysis of interventions required to deliver the Oxfordshire Train Service Specifications shows that it is not possible to isolate interventions to deliver single outcomes, either new services or new stations. For example whilst it appears that interventions at Hanborough unlock NCLTF services in fact these would be stymied by a lack of capacity at Oxford North Junction and Oxford station. This case is repeated for every new service, so whilst it is possible to link some specific interventions to specific services – for example those Hanborough interventions are

driven only by NCLTF services – it does not mean that delivering those interventions alone secures those services. In fact, significant systemwide upgrade is required.

The existing utilisation of available capacity means that a series of isolated interventions targeted at outcomes is not feasible. Similarly, the scale of systemwide interventions required means that no single outcome would be likely to represent sufficient value. The rail system between Oxford North Junction and Didcot, which all new services impact, should be recognised as in need of significant upgrade.

Therefore the highest priority for development work through ORCS should be a feasibility study considering the system infrastructure between Oxford North Junction and Didcot East Junction. This should be assumed to involve enhancements to Oxford North Junction, Oxford station, Oxford to Radley track capacity, Didcot East Junction, and Didcot Parkway. Development work should adopt the Oxfordshire Train Service Specification as the required output for development of intervention options. Amongst the other new services this should include a Cowley Branch Line passenger service formed by extension of services between London Marylebone and Oxford.

The priority for further developing the Cowley Branch Line stations should be to understand the intervention required on the mainline between Kennington Junction and Oxford station and support development of this intervention.

The next priority should be to consider the interventions required to deliver the North Cotswolds Line services. However, this should be through an integrated approach with the North Cotswolds Line Task Force programme. Oxfordshire County Council, as the lead organisation in both programmes, should take responsibility for this integration.

Any further development of the new stations at Begbroke and Grove should be based on the interventions identified as necessary in this study. It should be recognised that each involves significant infrastructure beyond the building of the station in order to fit with the Oxfordshire Train Service Specifications. For Grove the likelihood that interaction with fast GWML services will drive more significant interventions should be recognised.

Identification of interventions establishes those that are essential to accommodate the specification and those that are not essential but would yield a more robust level of service. It should be recognised that as cases develop the latter may be deemed essential to meet rail industry priorities and therefore revise the categorisation as non-essential at this stage of analysis.

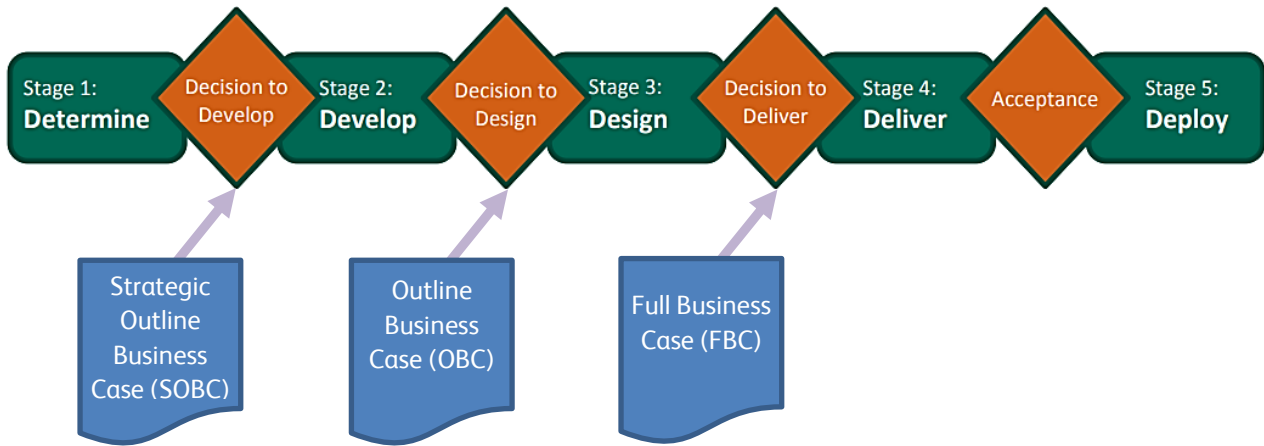
## **Development of business cases**

Delivering the strategic vision for Oxfordshire's rail system depends upon a portfolio of interventions which will deliver a transformational change. This systemwide upgrade should be further developed into a programme for strategic rail investment for Oxfordshire.

The case for investment should consider other separate but related work underway such as Network Rail's decarbonisation and accessibility workstreams.

This Oxfordshire rail investment programme should be considered for entry into the Rail Network Enhancements Pipeline and a Decision to Initiate should be submitted to secure funding from central government to commence the work (Figure 1).





**Figure 1 – The Rail Network Enhancements Pipeline process, with business case development stages**

The large majority of information required for the programme strategic case is contained within the ORCS outputs and development work should focus on assembling this evidence base. The other four cases should be developed as the programme is established (Figure 2).

Case	Sufficient information?
Strategic	Yes – can be assembled from ORCS outputs
Economic	No – intervention development required
Financial	No – programme development required
Commercial	No – programme development required
Management	No – programme definition required

**Figure 2 – Status of five cases that should comprise the Oxfordshire rail investment programme SOBC**

The programme strategic case should consider the programme benefits and how interventions identified can be separated and identified as priorities for progression within RNEP. Integration with other programmes and schemes should also be considered to ensure that benefits can be apportioned appropriately.

Since the premise of ORCS is supporting Oxfordshire’s economic growth close engagement with partner organisations outside the rail industry who have interests in supporting that growth should continue. The Oxfordshire rail improvement programme should function as an investment portfolio for all beneficiaries of the rail system taking on an explicit role in supporting housing and employment growth. The programme should engage with potential funders and make the study information available to facilitate the development of business cases outside the RNEP process.



Revised Appendix 3a – Summary of Proposed Service Enhancements

	Enhancement	Source	Tph	Origin	Destination	Refinement
2024	EWR Western Section	EWR	2	Milton Keynes	<i>Didcot Parkway</i>	Extend to Didcot in path of GW shuttle; Culham call in each service
	EWR Western Section	EWR	1	Bedford	Oxford	
	Oxford Phase 2	Chiltern	0.5	Birmingham	Oxford	
2028	Cowley Branch	ORCS	2	Cowley	<i>London Marylebone</i>	Formed by extension of 2 Marylebone trains
	Hanborough	NCLTF	2	Hanborough	<i>Didcot Parkway / London Pad</i>	Extend 1 to Didcot & 1 to London; Culham call in each service
	North Cotswolds	NCLTF	1	Paddington	Gt Malvern	
	EWR Central Section	EWR	2	Cambridge	<i>Bristol / Southampton</i>	Extend 1 to Bristol and 1 to Southampton
	Coventry corridor	Midlands Engine Rail	1	Birmingham	<i>Bristol</i>	Extend to Bristol
	Solihull Corridor	Midlands Engine Rail	1	Birmingham	Oxford	
	Banbury shuttle	ORCS	0.5	Banbury	Oxford	
	Grove new station	ORCS	~	<i>Hourly call in EWR CS service</i>		
	Begbroke new station	ORCS	~	<i>Hourly call in Banbury shuttle</i>		
2033	EWR+	EWR	2	Cambridge	Oxford	