Strategic Transport Forum
24th January 2020

Agenda Item 9: Oxfordshire Rail Corridor Study

Recommendation:

It is recommended that the meeting:

a) Welcome and endorse the recommendations of the Oxfordshire Rail Corridor Study Phase 1, including the recommended next steps.

b) Endorse the following as regional priorities for investment:

- Delivery of additional capacity at/through Oxford Station at the earliest possible opportunity
- Delivery of a solution to the capacity constraint between Oxford North Junction, through Oxford and onto Didcot East Junction at the earliest possible opportunity
- Re-instatement of the Cowley Branch

c) Endorse the need for rail services operating to/from and through Oxford Station to be developed in a co-ordinated way in order to support the delivery of planned growth

d) Endorse the need to deliver enhanced rail connectivity between Oxford and Swindon, and onwards to Bristol

e) Endorse the need for enhanced rail connectivity between Oxford and the Midlands, and support the work led by Midlands Connect to develop a detailed proposal

f) Support the need to promote the package of rail infrastructure investments for inclusion in the Rail Network Enhancement Pipeline, with a recommendation that Government should support a Decision to Initiate as a matter of priority

g) Support the need for additional and enhanced services in Oxfordshire (and beyond) to be available no later than 2028

1. Context

1.1. Earlier in the agenda this Forum will have considered the responses to the Outline Transport Strategy. That document highlighted the particular challenge facing the region in delivering its ambition realise its economic potential whilst at the same time achieving net environmental benefit.

1.2. This Forum has been invited to consider a revised vision and updated set of principles for the draft Transport Strategy in light of the responses received.
1.3. At the heart of the work underway to develop the draft Transport Strategy is the need to balance economic growth, with the need to effect change in our approach to our transport system – ‘business as usual’ cannot be the way.

1.4. East West Rail is a truly transformation project, not just in terms of creating new opportunities for rail travel, but as importantly serving as a catalyst for achieving a more fundamental step change in connectivity.

1.5. Given the geographical position of the Heartland within the UK the benefits of such a step change in connectivity will be felt across the UK. The rail system in Oxfordshire is a key component in the rail system supporting the region, and a key node in the national network. Unlocking the potential of the rail system within Oxfordshire is therefore as important as delivering East West Rail as a project.

2. The Oxfordshire Rail Corridor Study

2.1. It is in this context that both England’s Economic Heartland and the East West Rail Consortium agreed to become funding shareholders in the Oxfordshire Rail Corridor Study.

2.2. The first phase of the study has been completed. It provides an overview of the rail network serving central Oxfordshire, with a particular focus on identifying the capacity and connectivity improvements considered necessary to support the delivery of planned growth.

2.3. A copy of the Executive Summary of the first stage of work is attached as Annex 3.

2.4. At the same time, an additional piece of work has examined the engineering feasibility and rail infrastructure requirements associated with re-opening the Cowley branch line. This branch line is open to freight services but the restoration of passenger services would potentially support existing activity around the eastern side of Oxford, as well as supporting planned growth. A separate report on this work is available from Oxfordshire County Council if required.

2.5. The agreed objectives of the Study were to:

- Establish the priorities for rail investment in Oxfordshire,
- Demonstrate how prioritised rail investment can support the economy and development in Oxfordshire
- Ensure the opportunities and benefits of proposed national rail investment (in particular the planned phases of East West Rail) can be secured.

2.6. The Study has a baseline of 2018, with demand forecast intervals of 2024, 2028, 2033, 2038 and 2050 and has three growth scenarios:

- Do nothing: based on a Department for Transport annual growth rate;
- Do minimum: do nothing plus planned rail schemes, in particular Oxford Station Phase 2 and East West Rail Phase 2;
- Planned growth: housing & employment growth allocated to specific sites (note includes all currently proposed Local Plan growth)

2.7. The study considered passenger and freight services. For the former, it sets out an evidence base for how planned growth will require enhanced rail provision, in two main ways - increased Capacity requirements, in the form of additional carriages and, more significantly, better Connectivity between key rail hubs, using the measure of generalised journey time, a combination of on-board journey time, waiting time and connection time spent changing trains.
2.8. These two needs have been translated into a proposed **Train Service Specification**, setting out the extra services needed to provide the extra capacity and improvements to journey time required, with analysis focusing on peak travelling hour requirements (off-peak is also considered)

2.9. At this stage, whilst the study has not identified specific solutions or projects for investment, it has identified (at a high level) likely interventions which will be required on the network, based on a proposed level of enhanced train service. Securing these interventions will ultimately depend on affordability and value for money, and will need to be deliverable and fundable.

3. **Key Messages**

3.1. These have been reported against the scenario years tested, with the 2024, 2028 and 2033 scenarios most relevant. The main headlines are:

- **Capacity:** East West Rail Phase 2 will significantly increase demand at key stations, such as Bicester Village, Oxford Parkway and Oxford, but there is sufficient capacity to meet forecast east-west demand on this corridor **assuming this service comes into operation**.

- **Connectivity.** The most significant finding of the study work, particularly the need for much better connectivity for trips through Oxford linking main growth hubs across the “Innovation Ecosystem” set out in the Oxfordshire Local Industrial Strategy, e.g. on the Didcot-Oxford-Bicester ‘Knowledge Spine’, for end-to-end journeys and between intermediate stations.

3.2. **Resulting Train Service Specification.** The tables in Annex 1 identify these by time period and show that overall a significant increase in train services is required to meet the study objectives. Of greatest relevance are:

- The proposal to extend half-hourly East West Rail Phase 2 services through Oxford down to Didcot, calling at Culham, when services begin running in 2024. This would require further consideration on how it is achieved with the DfT and key Stakeholders in the East West Rail programme. Subject to this, it would restore the EWR service pattern originally envisaged, directly connect Bicester with Didcot, facilitating a new “innovation rail corridor” connecting significant science and employment opportunities being created along this line, including development of Culham as a rail hub.

- The requirement for a major uplift in services across the network by 2028, bringing forward a number of proposals not previously considered needed until at least 2033. These include introduction of the EWR service to Cambridge, in line with the stated ambition for the opening of the Central section. In addition to this, the study proposes extending these EWR services beyond Oxford to Bristol and Southampton. This would result in a significantly enhanced “inter-regional” service offer, as depicted in Annex 2. However, this will require further consideration, as it as it goes significantly beyond the current specification of East West rail services.

- At this stage with the requirements for future growth to be agreed, the analysis of what additional services are required (over and above the 2028 provision) by 2033 simply adds further EWR services between Oxford and Cambridge.

3.3. **Other Issues to Note.** In addition to the key messages other points that the Board should note include:

- **Inter-regional Connections** - although the study is driven by the needs of Oxfordshire it takes into consideration (and supports) rail proposals being developed by others, such as Midlands Connect, which have a bearing on the solutions identified to meet output requirements. These may also increase the justification for investment by combining strategic and local benefits. For example, the Study...
supports direct services to Bristol, Swindon and Northampton (via EWR at Milton Keynes) as a means of improving connectivity

- **Freight** - the study has looked at capacity, opportunities and what some of the detailed requirement would be. There is recognition that the rail network through Oxford is critical for freight operations – and that there is an opportunity to support major infrastructure projects with rail freight. At this stage, the number of freight paths (both directions) between Didcot and Oxford is predicted to rise from 6 in 2023, to 7 by 2024 and 8 by 2043.

- **Cowley Branch Line** – the study recommendations, including the proposed extension of EWR Phase 1 services from London Marylebone through Oxford to Cowley, directly support the strategic case for this line. This is a working assumption, which may lead to other EWR connectivity opportunities.

### 4 Next Steps

4.1 The second phase of work will take forward the priorities identified in Phase 1 for a more detailed level of analysis similar to that undertaken for the Cowley study.

4.2 The Phase 1 report also sets out the proposals for the next stages of work to complete the study. A number of options have been considered, with the proposal to take forward a programme of study works – whilst the highest priority projects have been identified, recognising that within the current funding envelope not all of the study work necessary may be able to be completed. There will also be several future stages if work undertaken if the envisaged Train Service Specification and other outcomes of this stage of work are to be achieved.

4.3 Specifically, it is clear that the highest priority for more detailed consideration and analysis is the core rail corridor between Oxford North Junction through Oxford Didcot, as this is fundamental to the rest of the rail network through Oxfordshire. Indeed it is key to the future of the rail network serving the region and beyond that the UK.

4.4 Building on work previously done, there is a clear need to understand the likely scope, scale and cost of the interventions that would be required on this corridor to enable the proposed Train Service Specification, including Cowley branch line proposals. Work on this next stage, to develop four tracking options, Oxford Station requirements and capacity analysis, is proposed to commence in March and last approximately 9 months.

4.5 In addition, on the same timeframe, it is proposed to undertake a more detailed study of the Didcot to Swindon section of the network, including the junctions to the north and east of Didcot - it’s clear that the Didcot area needs to be considered as whole system in order to understand the need for and options around Didcot East junction enhancement, and the relationship with platform and track configuration in the station area. This will also enable additional services to and from the west to be considered.

4.6 The overall study programme still needs to reach a view on how additional growth expected up to 2050 (being considered in the emerging Oxfordshire Plan 2050) is taken into account. This would enable the study to identify potential interventions that provide the capacity and connectivity necessary to accommodate passenger and freight growth over a 30-year timeframe.

### 5 Linkages with Other Work

5.1 Elsewhere on this agenda the Forum will receive an update on the work being taken forward by Network Rail in partnership with the EEH Business Unit that will provide the baseline review of the Heartland’s rail network.

5.2 Working arrangements are ensuring that the Oxfordshire Rail Corridor Study and Baseline Review work are informed by and shape each other.

5.3 Similarly, the close co-operation between EEH and Midlands Connect are ensuring that the inter-regional aspects of the work on rail within each STB area are informed by and shaped by each other.
6 Conclusions

6.1 The outcomes of Phase 1 of the Oxfordshire Rail Corridor Study are very positive, and form a significant evidence base on which to build and develop the case for investment in the network and services.

6.2 The work to date clearly demonstrates that an expanded rail offer has a critical role in supporting planned housing and employment growth in Oxfordshire. The proposals identified through the study are also a reflection of Oxford’s central position as a major UK rail hub for inter-regional travel.

6.3 In terms of the East West Rail project the study provides strong evidence to reinforce the importance of completion of the Central and Eastern sections by the late 2020s.

6.4 The study highlights the importance of the additional and amended rail services across Oxfordshire being available by 2028, an acceleration of the timing of the delivery of the investment over what has previously been assumed.

6.5 The implications of this for the region, and indeed the UK, are significant. Consortium members are aware of the timescales associated with the development and implementation of major new rail infrastructure.

6.6 In identifying the need for a step change in rail connectivity it is imperative that the regional partners collectively pressed for the Government to accept the need for a package of rail investments in Oxfordshire to be taken forward into the Rail Network Enhancement Pipeline as a matter of priority.

6.7 It also highlights the strategic importance of the work being taken forward by Oxfordshire (again supported by the East West Rail Consortium) to identify a long-term solution to the question of the crossing at London Road, Bicester.

6.8 The study recommendations are entirely consistent with the vision and key principles of the draft Transport Strategy.

6.9 It is therefore that the next phase of work is taken forward at pace to ensure that the infrastructure and services are available to support economic activity and growth.

Martin Tugwell
Programme Director

January 2020
## Annex 1

### Proposed Service Enhancements

<table>
<thead>
<tr>
<th>Enhancement</th>
<th>Source</th>
<th>Tph</th>
<th>Origin</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>EWR Western Section</td>
<td>EWR</td>
<td>2</td>
<td>Milton Keynes</td>
<td>(Milton Keynes), Bicester Village, Oxford Parkway, Oxford</td>
</tr>
<tr>
<td>EWR Western Section</td>
<td>EWR</td>
<td>1</td>
<td>Bedford</td>
<td>(Bedford), Bicester Village, Oxford Parkway, Oxford</td>
</tr>
<tr>
<td>Oxford Phase 2</td>
<td>Chiltern</td>
<td>0.5</td>
<td>Birmingham</td>
<td>(Birmingham Moor St), Banbury, Oxford</td>
</tr>
<tr>
<td>Hanborough</td>
<td>NCLTF</td>
<td>2</td>
<td>Hanborough</td>
<td>Oxford, Hanborough, Oxford</td>
</tr>
<tr>
<td>North Cotswolds</td>
<td>NCLTF</td>
<td>1</td>
<td>Paddington</td>
<td>Gt Malvern, Oxford, Hanborough, Oxford</td>
</tr>
<tr>
<td>EWR Central Section</td>
<td>EWR</td>
<td>2</td>
<td>Cambridge</td>
<td>Oxford, (Cambridge), (Bedford), Bicester Village, Oxford Parkway, Oxford</td>
</tr>
<tr>
<td>Coventry corridor</td>
<td>Midlands Engine Rail</td>
<td>1</td>
<td>Birmingham</td>
<td>(Birmingham Moor St), Banbury, Oxford</td>
</tr>
<tr>
<td>Solihull Corridor</td>
<td>Midlands Engine Rail</td>
<td>1</td>
<td>Birmingham</td>
<td>(Birmingham Moor St), Banbury, Oxford</td>
</tr>
<tr>
<td>Banbury shuttle</td>
<td>ORCS</td>
<td>0.5</td>
<td>Bonbury</td>
<td>Oxford, Heyford, Tockley, Oxford</td>
</tr>
<tr>
<td>2033 EWR+</td>
<td>EWR</td>
<td>2</td>
<td>Cambridge</td>
<td>Oxford, (Cambridge), (Bedford), Bicester Village, Oxford Parkway, Oxford</td>
</tr>
<tr>
<td>Grove new station</td>
<td>ORCS</td>
<td>–</td>
<td>–</td>
<td>Hourly call in EWR Central Section service</td>
</tr>
<tr>
<td>Begbroke new station</td>
<td>ORCS</td>
<td>–</td>
<td>–</td>
<td>Hourly call in Banbury shuttle</td>
</tr>
</tbody>
</table>
Regional and National Connectivity through Oxford

Passenger offering – Inter-regional direct

- Oxford
- Birmingham 4tph
- Milton Keynes 2tph
- Cambridge 4tph
- London (Chiltern) 3tph
- London (GW) 5tph
- South coast 3tph
- Worcester 4tph
- Bristol via Swindon 2tph
Oxfordshire Rail Corridor Study

How can the rail system in Oxfordshire best support economic growth?
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 and will enjoy uniquely high growth over the next fifteen years as a result of 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 fundaments 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
evisaged 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).
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).

<table>
<thead>
<tr>
<th>Case</th>
<th>Sufficient information?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic</td>
<td>Yes – can be assembled from ORCS outputs</td>
</tr>
<tr>
<td>Economic</td>
<td>No – intervention development required</td>
</tr>
<tr>
<td>Financial</td>
<td>No – programme development required</td>
</tr>
<tr>
<td>Commercial</td>
<td>No – programme development required</td>
</tr>
<tr>
<td>Management</td>
<td>No – programme definition required</td>
</tr>
</tbody>
</table>

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.