Appendix H - Lower Earley Way Corridor Improvements

KEY

- HIGHWAY BOUNDARY
- EXISTING FOOTWAY
- EXISTING SHARED FOOTWAY / CYCLEWAY
- POTENTIAL SHARED FOOTWAY / CYCLEWAY IMPROVEMENT

TO LOWER EARLEY DISTRICT CENTRE

DODDINGTON CLOSE

CHATTERIS WAY

KELSBETH WAY

B3270 LOWER EARLEY WAY

TO BLACK BOY ROUNDABOUT

3m CYCLEWAY + 2m FOOTWAY + 3m VERGE

PROPOSED ACCESS

TO THAMES VALLEY SCIENCE PARK AND LODDON GARDEN VILLAGE

PROPOSED TOUCAN CROSSING

EXISTING 3m SHARED FOOTWAY / CYCLEWAY WIDENED TO 5m WHERE POSSIBLE

PADDOX DRIVE

NEW LINK OVER M4 AS PART OF DEVELOPMENT ACCESS WORKS

NEW SHARED PEDESTRIAN / CYCLE HOGGIN PATH TO LODDON GARDEN VILLAGE

EXISTING 3m SHARED FOOTWAY / CYCLEWAY WIDENED TO 5m WHERE POSSIBLE

EXISTING 3m SHARED FOOTWAY / CYCLEWAY WIDENED TO 5m WHERE POSSIBLE

EXISTING SIGNALISED CROSSING

RUSHET WAY

TO LOWER EARLEY DISTRICT CENTRE

EXISTING CROSSING POINT RETAINED AS PART OF ROUNDABOUT IMPROVEMENT WORKS

PROPOSED TOUCAN CROSSING

B3270 LOWER EARLEY WAY

TO WINNERSH

MILL LANE

Rev	Date	Description	Drawn	Checked
P3	10.24	MINOR AMENDMENTS	TDM	BT
P2	06.24	MINOR AMENDMENTS	TDM	PJ
P1	05.24	FIRST ISSUE	TDM	PJ

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Client
UNIVERSITY OF READING

Project
LODDON GARDEN VILLAGE

Title
ACTIVE TRAVEL IMPROVEMENTS LOWER EARLEY WAY

Status
FOR INFORMATION

Scale	Date	Drawn	Checked
1:1250 @ A0	MAY 2024	TDM	PJ

Drawing No. A392-1010
Revision P3

Appendix I - King Street Lane Corridor Improvements

KEY

- HIGHWAY BOUNDARY
- EXISTING FOOTWAY
- INTERNAL PEDESTRIAN / CYCLE PROVISION
- PUBLIC RIGHT OF WAY (FOOTPATH)
- EXISTING SHARED FOOTWAY / CYCLEWAY
- NEW FOOTWAY IMPROVEMENT
- NEW SHARED FOOTWAY / CYCLEWAY IMPROVEMENT
- NEW 20mph ZONE
- NEW TRAFFIC CALMED ZONE WITH ADVISORY CYCLE LANES
- NEW 30mph SPEED LIMIT INTRODUCED

TO WINNERSH
A329 READING ROAD
TO HURST
WINNERSH RAILWAY STATION
20
ADVISORY ON-STREET CYCLE LANES
PROMOTE 20mph ZONE ALONG ROBINHOOD LANE
B3030 ROBINHOOD LANE
20
NEW CYCLIST ADVANCE STOP LINE ROAD MARKINGS
NEW CYCLIST ADVANCE STOP LINE ROAD MARKINGS
WIDEN EXISTING FOOTWAY TO 3m SHARED FOOTWAY / CYCLEWAY
20
INTRODUCE NEW 20mph SPEED LIMIT ALONG KINGS STREET LANE
POTENTIAL TRAFFIC CALMING ISLAND
ADVISORY ON-STREET CYCLE LANES
TACTILE PAVING IMPROVEMENTS TO EXISTING CROSSING POINT
KINGS STREET LANE
POTENTIAL TRAFFIC CALMING ISLAND
EXISTING FOOTWAY WIDENED TO SHARED FOOTWAY / CYCLEWAY
A329 READING ROAD
TO BARKHAM
EXISTING FOOTWAY WIDENED TO SHARED FOOTWAY / CYCLEWAY
EXISTING SHARED FOOTWAY / CYCLEWAY (HATCH FARM WAY)
INTRODUCE NEW 20mph SPEED LIMIT ALONG KINGS STREET LANE
20
EXISTING SIGNAL CROSSINGS
TO ARBORFIELD
TO WINNERSH
NEW SHARED FOOTWAY / CYCLEWAY WITH VERGE TO LINK WITH EXISTING PROVISION ALONG HATCH FARM WAY
HATCH FARM WAY
EXISTING SHARED FOOTWAY / CYCLEWAY (HATCH FARM WAY)
EXISTING FOOTWAY WIDENED TO SHARED FOOTWAY / CYCLEWAY
TO WINNERSH RAILWAY STATION
INTRODUCE NEW 20mph SPEED LIMIT ALONG KINGS STREET LANE
20
TO READING
30
EXISTING SIGNAL CROSSINGS
REMOVE GUARD RAILINGS
EXISTING FOOTWAY RETAINED
EXISTING ZEBRA CROSSING IMPROVED TO TOUCAN CROSSING
KING STREET LANE
PROPOSED ACCESS INTO LGV
REDUCE SIZE OF EXISTING BELL MOUTH TO MINIMISE CROSSING LENGTH ON DESIRE LINE
TO LODDON GARDEN VILLAGE
TACTILE PAVING IMPROVEMENTS TO EXISTING CROSSING
NEW ZEBRA CROSSING
PROPOSED PEDESTRIAN / CYCLE ACCESS INTO LGV
MOLE ROAD
BEARWOOD ROAD
MILL LANE
NEW ZEBRA CROSSING
30
POTENTIAL CROSSING IMPROVEMENT SUCH AS TACTILE PAVING ON WESTERN ARM
NEW ROAD
PROPOSED TOUCAN CROSSING
MOLE ROAD
TO ARBORFIELD
TO ARBORFIELD

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Project
LODDON GARDEN VILLAGE

Title
POTENTIAL ACTIVE TRAVEL IMPROVEMENTS TO WINNERSH STATION

Status
FOR INFORMATION

Scale	Date	Drawn	Checked
1:1250 @ A0	MAY 2024	TDM	PJ

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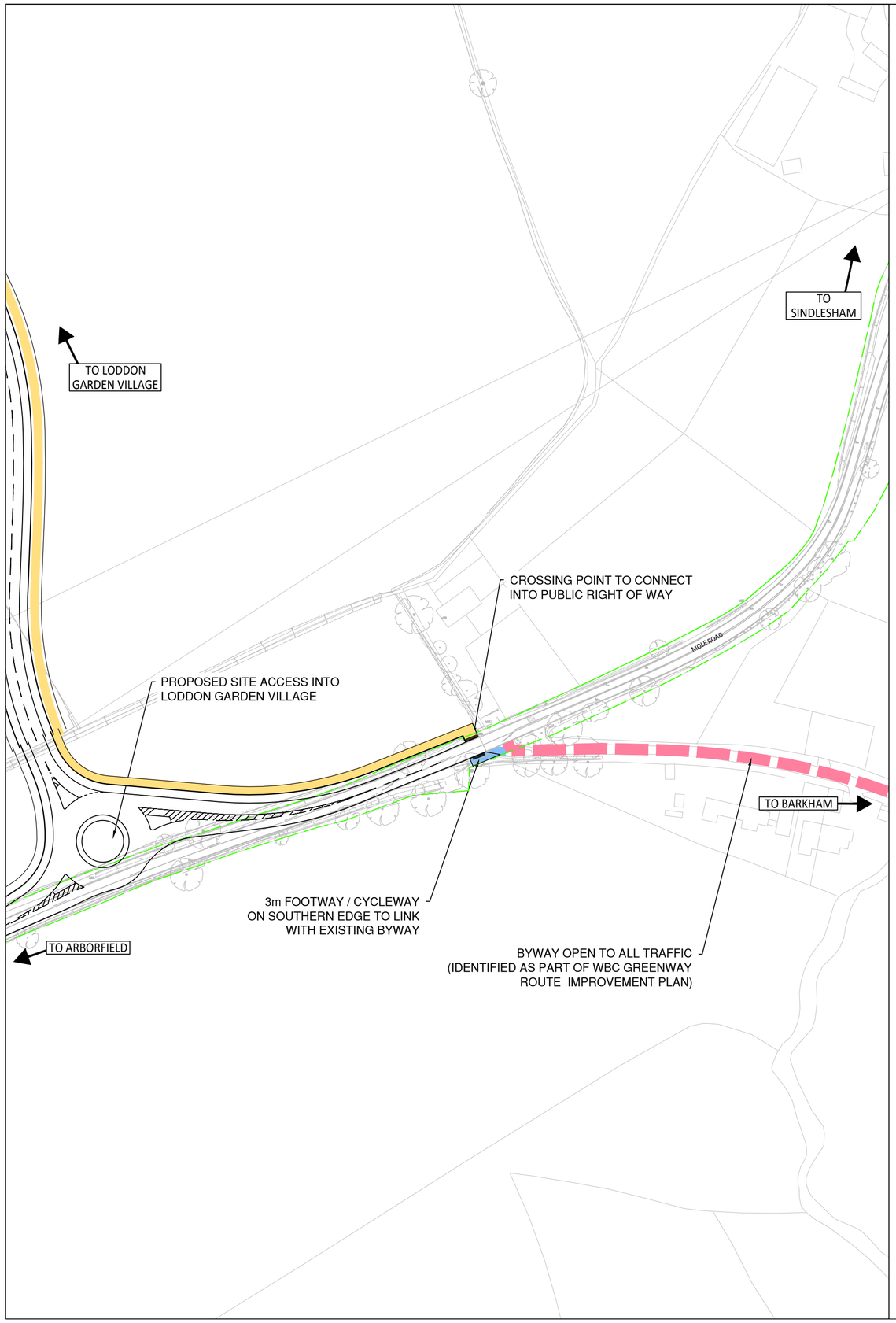
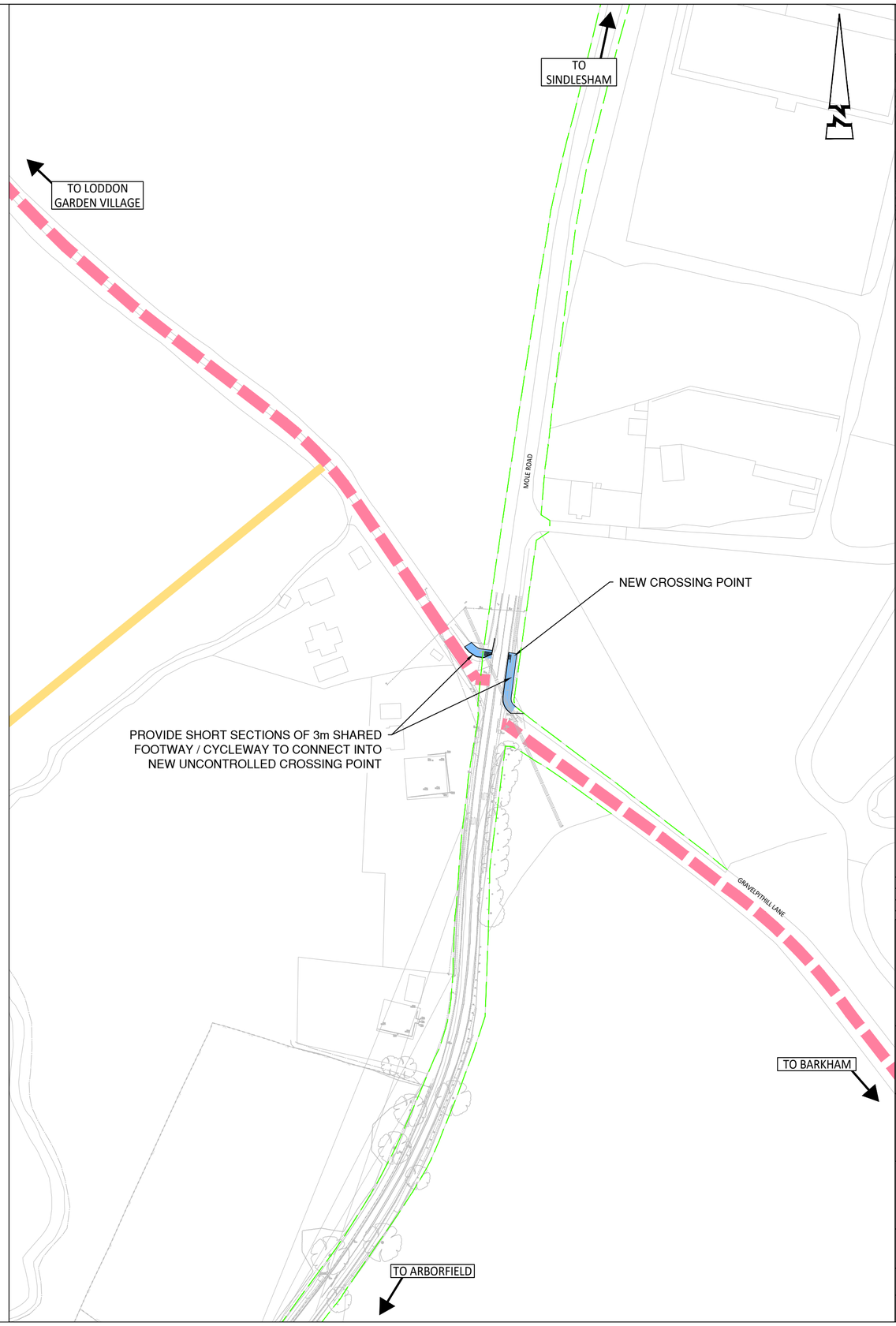
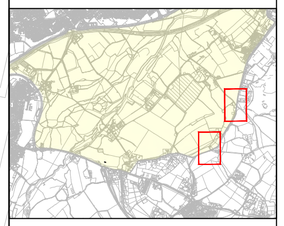
Revision P3

Appendix J - Connection to Paths East of Mole Road







KEY

- HIGHWAY BOUNDARY
- INTERNAL PEDESTRIAN / CYCLE PROVISION
- PUBLIC RIGHT OF WAY (BYWAY)
- POTENTIAL SHARED FOOTWAY / CYCLEWAY IMPROVEMENT

Rev	Date	Description	Drawn	Checked
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Project
LODDON GARDEN VILLAGE

Title
POTENTIAL ACTIVE TRAVEL IMPROVEMENTS
MOLE ROAD

Status
FOR INFORMATION

Scale	Date	Drawn	Checked
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Drawing No	Revision
A392 - 1008	P3

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LODDON GARDEN VILLAGE
REGULATION 19 CONSULTATION
VEHICULAR ACCESS TECHNICAL REPORT

UNIVERSITY OF READING
12 NOVEMBER 2024

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Contents

Appendices

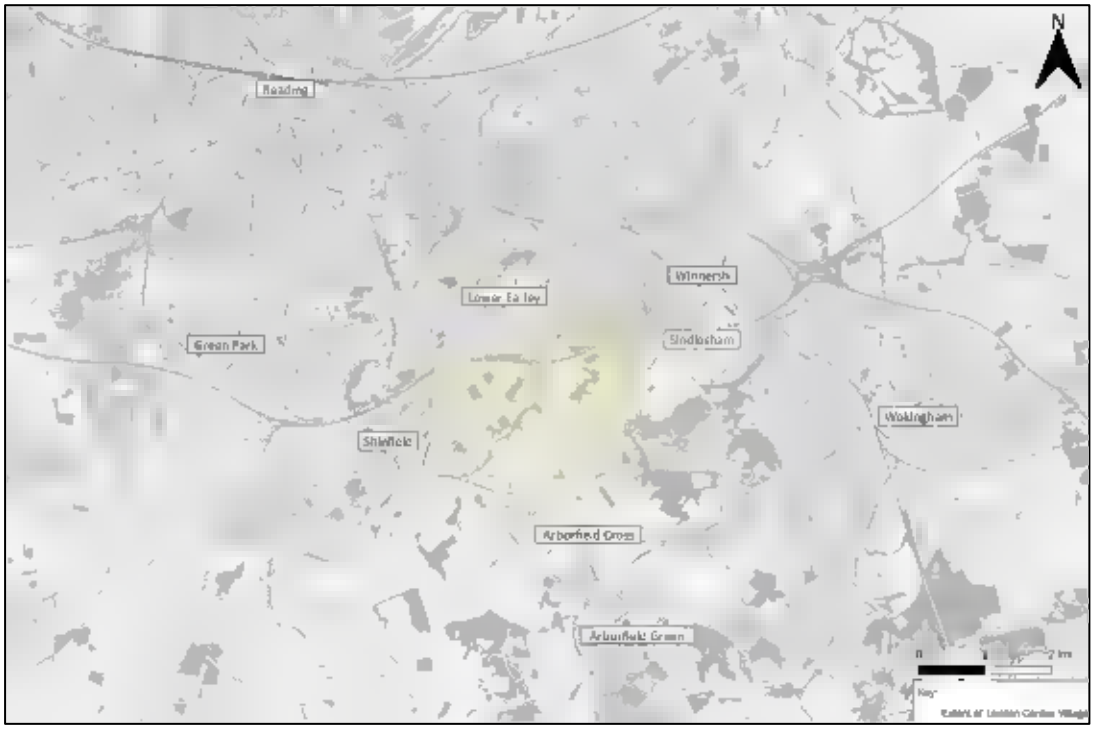
1.0 Introduction

Context

1.1. Abley Letchford Partnership Limited has been instructed by the University of Reading to provide transport advice in respect of the Land at the Loddon Garden Village (LGV) site which is proposed for allocation as a new Garden Community via Policy SS13 within Wokingham Borough Council's Local Plan Update: Proposed Submission Plan (Regulation 19) of 2024.

1.2. **Figure 1.1** identifies the extent of the proposed site allocation set out under Draft Policy SS13 which encompasses land within Thames Valley Park as well as further development to the east on either side of the River Loddon.

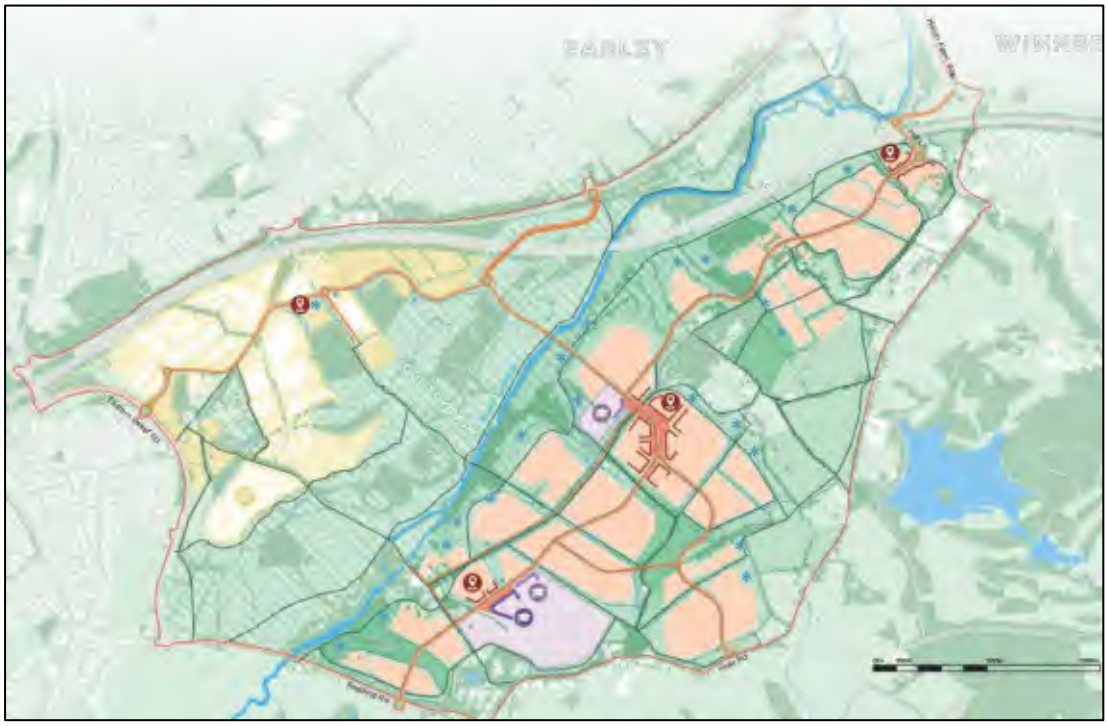
Figure 1.1: Emerging Local Plan Site Allocation Boundary (Draft Policy SS13)



1.3. Proposals for the LGV include the provision of around 3,930 dwellings, some 100,000 sqm of additional employment development at Thames Valley Science Park and other ancillary uses such as primary school, secondary school and community provision.

1.4. An extract of the LGV Framework Plan is shown in **Figure 1.2** below while a full copy is attached as **Appendix A**. Of note is that the LGV Framework Plan broadly reflects the proposals shown on the Concept Plan for the development that is presented within Policy SS13.

Figure 1.2: LGV Framework Plan



1.5. Policy SS13 sets out how the garden village is to be delivered in accordance with a number of development, place shaping, and delivery principles. With respect to vehicular access and infrastructure, the Policy advocates the following:

- The delivery of the garden village must be supported by a comprehensive package of infrastructure to support a self-sustaining, thriving and healthy community.
- The masterplan must provide a strategy for the quantum and distribution of land uses, access points, design and layout principles (including a strategic design code) which draws on a detailed understanding of the area's characteristics, opportunities and constraints.
- The masterplan should also support a strategy for the timely delivery of facilities and infrastructure necessary to support each phase of delivery and the garden village as a whole.
- Development proposals should devise and implement a comprehensive sustainable transport strategy that has been informed by a detailed Transport Assessment and:
- The layouts, street designs and associated measures should be safe, suitable and convenient for all users, that prioritise active travel, and facilitate high quality public transport services both within and to key destinations beyond the garden village.
- The design of the access arrangements and the associated highway improvements take into account all the planned development.
- The proposals should ensure that development will not have a severe adverse impact on the local and strategic highway networks, nor an unacceptable impact upon highway safety, following the inclusion of suitable measures to mitigate the impact.

1.6. Appendix C of the Local Plan Update then sets out a series of development guidelines for the Loddon Garden Village development. Again, with respect to vehicular access and infrastructure, the guidance advocates that:

- Loddon Garden Village will be supported by a strategy to ensure the timely delivery of facilities and infrastructure necessary to support each phase of delivery, and the garden village as a whole.
- A new highway connection over the M4 to the B3270 (Lower Earley Way) will be delivered. This will include a high-quality and continuous segregated links for pedestrians and cyclists and bus priority.
- Vehicular access to be provided from the A327, through a new arm off Observer Way (Arborfield Cross Relief Road) roundabout, access improvements delivered at Thames Valley Science Park, new Mill Lane access and link road to Hatch Farm Way with closure of Mill Lane to the south of Lower Earley Way; and a new residential access onto Mole Road.
- A new bridge over the River Loddon with an associated link road delivered from Loddon Garden Village.

Accommodating Travel by Car

1.7. Whilst the proposals for the LGV seek to maximise connectivity for non-car modes of travel, it is also important that a satisfactory level of highway provision is allowed for within the internal layout of the development which, in turn, affords a satisfactory access arrangement onto the surrounding highway network.

1.8. The LGV Framework Plan has been developed in order to respond positively to the objectives of Policy SS13, with a number of separate access points proposed into the site connected via Spine Streets along key routes as part of the internal infrastructure of the site.

Report Format

1.9. The purpose of this report is to identify the emerging Vehicular Access Strategy for the LGV, setting out how movements within the development will be accommodated as well as establishing the form of the access junctions which will facilitate movement onto the wider network. The likely package of off-site highway measures that will be introduced to help mitigate the impact along the wider network is also reviewed.

1.10. The vehicular access strategy has been informed from discussions and meetings with officers at Wokingham Borough Council and Stantec who are undertaking strategic transport modelling on behalf of the Council to help inform the evidence base for the Local Plan.

1.11. Accordingly, **Section 2** of this Report describes the existing highway network in the vicinity of the site before presenting the configurations of the access junctions which will facilitate travel to and from the LGV. The proposed hierarchy for the internal street network is set out in **Section 3** while the likely package of highway mitigation measures is reviewed within **Section 4**. A summary of the findings of this report is then set out in **Section 5**.

1.12. Use has been made of the findings of the strategic traffic modelling undertaken by Stantec on behalf of Wokingham Borough Council to inform the emerging access strategy. It is however important to note that further appraisal of each access junction, as well as the wider transport impact of the development, will be undertaken in due course and presented within a comprehensive Transport Assessment Report which will accompany any future planning applications for development at the site. Such an assessment would be undertaken based on a scope which is agreed with Wokingham Borough Council as the Local Highway Authority.

1.13. Notwithstanding, the analysis presented within this vehicular access report provides an informative basis at this stage of the process from which to appraise the suitability of the access and highway provision that would be delivered at LGV.

2.0 Vehicular Access

Context

2.1. The site is well located in terms of existing highway infrastructure and benefits from good connections to the local and strategic highway networks.

2.2. The Shinfield Eastern Relief Road lies to the west of the site and comprises a high standard 7.3m wide carriageway. Observer Way, which forms a relief road for Arborfield, is provided to a comparable high standard to the south. Similarly, the recently constructed Hatch Farm Way (Winnersh Relief Road) provides good road connections to the east.

2.3. The Shinfield Eastern Relief Road connects to the Black Boy signal gyratory, located to the north-west of the Thames Valley Science Park, through the provision of a bridge which caters for three lanes of traffic in each direction over the M4 motorway. Mill Lane, which routes within Sindlesham at the north-eastern frontage of the LGV site, provides a second road link to the north of the M4 motorway.

2.4. The A327 Arborfield Road corridor lies to the south and connects the Shinfield Eastern Relief Road and the Arborfield Relief Road before continuing eastwards to Wokingham. The B3270 Lower Earley Way provides a similar east-west corridor to the north of the M4 Motorway, linking the M4 Junction 11 with the Black Boy Gyratory before continuing east linking to the Winnersh Relief Road and then the A329 corridor at the Showcase Cinema roundabout.

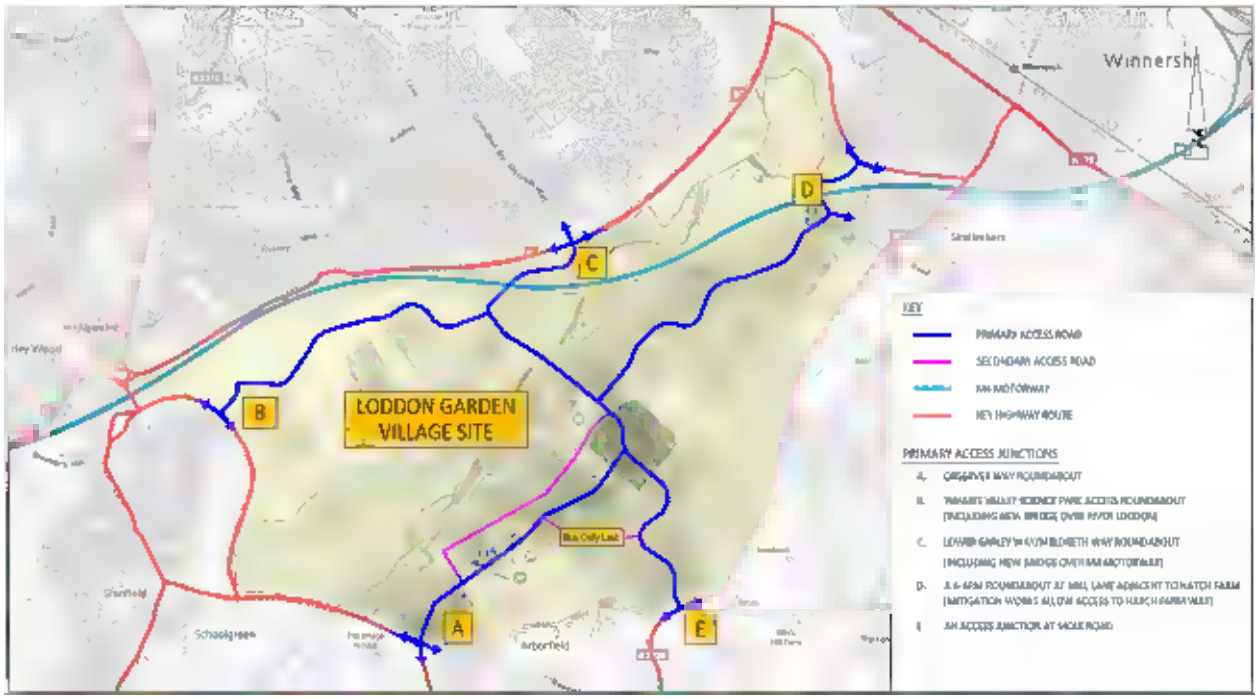
2.5. Mole Road routes along the eastern frontage of the site providing a connection between the A327 Arborfield Road corridor and Mill Lane. The Mole Road corridor then continues to the north as King Street Lane which connects to the A329 corridor in Winnersh.

2.6. Junction 11 of the M4 motorway lies approximately 4km to the west, providing strategic connections along the motorway corridor between Wales and London, including Heathrow airport. Junction 10 of the M4 motorway then lies 5km to the east.

Access Configurations

2.7. The proposed vehicle access arrangements, which reflect the Concept Plan presented within Policy SS13, seek to make good use of the recently constructed highway infrastructure in the area by promoting direct access onto a number of the corridors identified above. This is shown diagrammatically at **Figure 2.1** below. The figure also identifies the indicative routes of key primary and secondary streets and linkages within the development.

Figure 2.1: Vehicular Access Arrangements



2.8. As can be seen, five points of access for the development are being promoted as summarised below:

- A : Promotion of a 4th arm onto the A327 Arborfield Road / Observer Way roundabout.
- B : Improved Thames Valley Science Park / Shinfield Eastern Relief Road Roundabout
- C : New M4 motorway bridge crossing leading to reconfigured Lower Earley Way / Meldreth Way roundabout.
- D : New roundabout access onto Mill Lane at Sindlesham
- E : New three-arm roundabout onto Mole Road.

2.9. As is evident from **Figure 2.1**, the configuration of the access points enables a high level of dispersal of development traffic to be achieved onto the adjacent corridors. This has the advantage of acting to lessen impacts which might otherwise occur if a high intensification of trips were instead to be loaded onto concentrated areas of the network.

2.10. Similarly, the promotion of new highway infrastructure within the site itself, such as the new river crossing of the Loddon and bridge over the M4 motorway corridor, will not only act to facilitate the broad dispersal of development traffic but also help to avoid extraneous routings that would otherwise occur along the road network. Indeed, the creation of a new north-south connection between the B3270 Lower Earley Way and the Arborfield Road corridors offers the opportunity for some background traffic to re-route through the development and thereby provide some relief to adjacent areas such as within and around Sindlesham and Shinfield.

2.11. The concept layout and for each of the access junctions is presented below along with an indication of how the junction performs in capacity terms based on the strategic modelling scenarios that allow for full occupation at LGV alongside other planned development as set out in the Local Plan Update of 2024.

2.12. The layouts of each access will be refined in due course, albeit at this stage it is important to note that the arrangements can be provided in accordance highway standards and delivered within land that is either adopted highway or under the control of the University of Reading (Access Points A to C), Hatch Farm Land Ltd (Access Point D) or Gleeson Land (Access Point E).

A : Access onto A327 Arborfield Road / Observer Way roundabout

2.13. The concept layout of this access is depicted on Drawing A392-015/P3, attached as **Appendix B**.

2.14. The proposal comprises increasing the diameter of the existing roundabout to enable a northern arm to be formed to provide access into LGV. Of note is that the proposal also incorporates the promotion of pedestrian and cycle crossings along the approaches. These include a parallel crossing of the site access which accords with the DfT's LTN/120 guidance as well as a Toucan crossing of the eastern arm which provides a direct connection to the shared use footway / cycleway that runs alongside the Observer Way corridor.

2.15. The strategic modelling undertaken by Stantec to inform the evidence base for the 2024 Local Plan Update indicates that the roundabout access would operate within capacity with minimal delays along all approaches in the morning and evening peak hours. Specifically, detailed capacity analysis of the roundabout is presented within the August 2024 Transport Assessment using JUNCTIONS 10 software which calculates a useful measure of performance of a junction represented as a Ratio of Flow to Capacity (RFC). An RFC of 1.00 indicates that a junction is operating at its theoretical capacity.

2.16. The analysis for the Observer Way roundabout indicates that all approaches would operate with RFC's at or below 0.93, thereby demonstrating that the roundabout would operate within capacity when tested for future year flows that allow for the LGV and all other cumulative development.

B : Access onto Thames Valley Science Park / Shinfield Eastern Relief Road Roundabout

2.17. The concept layout of this access is depicted on Drawing No. A392-080/P2, attached as **Appendix C.**

2.18. The proposals include delivering additional capacity at the roundabout through the provision of dualling within the Thames Valley Science Park so that two lanes are provided for ingress and egress movements. In addition, an additional southbound lane is promoted along the Shinfield Eastern Relief Road corridor which leads to a segregated left turn into the Thames Valley Science Park.

2.19. The strategic modelling undertaken by Stantec to inform the evidence base for the 2024 Local Plan Update indicates that the enhanced roundabout access would operate within capacity with minimal delays along all approaches in the morning and evening peak hours. This concurs with the findings of detailed capacity analysis that has been undertaken separately using JUNCTIONS 10 software which indicates that that all approaches would operate with RFC's at or below 0.85, thereby demonstrating that the roundabout would operate within capacity when tested for future year flows that allow for the LGV and all other cumulative development.

C : Access onto Lower Earley Way / Meldreth Way roundabout via new M4 Motorway Crossing

2.20. The concept layout of this access at this location is depicted on Drawing No. A392-097/P6, attached as **Appendix D**.

2.21. The proposal comprises the promotion of a dual carriageway link over the M4 motorway which connects to Lower Earley Way via a new southern arm onto the Meldreth Way roundabout. Notably, the future year traffic flow forecasts from the strategic modelling indicate that a single lane link road across the motorway would be sufficient to accommodate the peak hour traffic arising from the LGV. Notwithstanding, a dual carriageway link has been allowed for which does afford the opportunity to provide a high degree of bus priority along the corridor.

2.22. The diameter of the existing roundabout would be increased to enable the southern arm to be delivered as well as providing additional entry capacity along the eastern and western approaches.

2.23. The strategic modelling undertaken by Stantec to inform the evidence base for the 2024 Local Plan Update indicates that traffic entering the roundabout along Lower Earley Way from the west would experience some queuing delay during the AM peak hour, with all other approaches operating within capacity. All approaches of the roundabout are forecast to operate within capacity during the PM peak

2.24. In light of the findings of the strategic traffic modelling, the design of the roundabout has been revised to deliver additional widening along the western approach in order to deliver additional capacity and hence address the queuing delay that is predicted for the AM peak hour. The design presented on Drawing No. A392-097/P6 incorporates these enhancements.

2.25. Detailed capacity analysis has then subsequently been undertaken using JUNCTIONS 10 software. This indicates that, with the enhancements along the western approach, all arms of the roundabout would operate with RFC's below 0.85. This demonstrates that the queuing constraint along the western approach can be fully alleviated and hence the future year flows that allow for the LGV and all other cumulative development can be accommodated satisfactorily.

D : Access Roundabout onto Mill Lane, Sindlesham

2.26. The concept layout of this access is depicted on Drawing No. A392-079/P3, attached as **Appendix E**. For context, the Drawing not only shows the access roundabout onto Mill Lane but also the associated works to the north-east which would deliver the proposed new Link Road to the Hatch Farm Way corridor.

2.27. The proposed roundabout would be formed onto Mill Lane to provide an access into LGV at the north-eastern gateway of the development. The fourth arm on the northern side of Mill Lane would be provided to deliver a reconfigured access to serve the existing development that is currently accessed in this location.

2.28. Traffic flows have been obtained from the strategic modelling undertaken by Stantec to inform the evidence base for the 2024 Local Plan Update. When the layout is tested using JUNCTIONS 10 software it is evident that all approaches to the roundabout would operate with RFC's below 0.85 during both the AM and PM peak hours. This demonstrates that the roundabout would operate within capacity when tested for future year flows that allow for the LGV and all other cumulative development.

E : Access Junction onto Mole Road

2.29. In addition to the key access junctions being provided, it is also proposed to promote a secondary access onto Mole Road at the south-eastern frontage of the development.

2.30. For the purposes of the strategic transport modelling exercise, this access point was modelled as a simple priority junction. Traffic flows obtained from the modelling work have however been used to check the suitability of the access. In this respect, it is evident from detailed modelling using JUNCTIONS 10 software that, whilst the through movements along Mole Road can be catered for satisfactorily, some queuing delay is predicted along the development access approach in the AM peak as traffic seeks to egress the development.

2.31. The modelled traffic flows have therefore been used to test alternative junction arrangements, namely (a) a ghost island right turn priority junction and (b) a three arm roundabout. The results indicate that a ghost island right turn junction would operate within capacity and with minimal queuing. It is however apparent that the site access approach is sensitive to traffic flows, with delays staring to occur in the morning peak hour when the arrangement is stress-tested using higher flows for sensitivity testing purposes. This is not the case with a roundabout configuration which would operate well within capacity for both peak periods.

2.32. The precise from of access at this location is a matter which can be determined through refined modelling that will be undertaken to support a future planning application for the proposed development. Meanwhile, for robustness, it is considered appropriate at this stage to allow for the promotion of a roundabout solution as depicted on Drawing No. ITB17371-GA-004, attached as **Appendix F**.

3.0 Internal Streets

Context

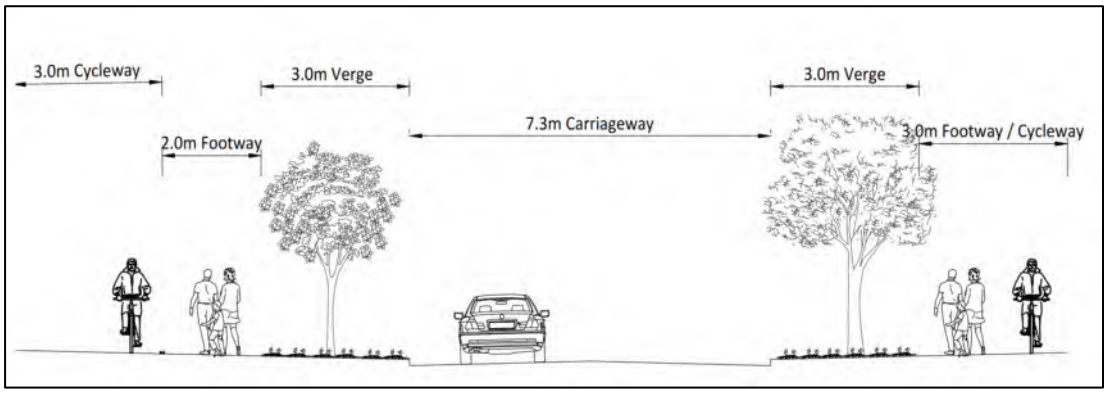
3.1. Careful consideration will be given as the site layout is progressed to ensure the internal configuration of streets within the development deliveries a high degree of connectivity for movement within and through LGV. Notably, the design of each category of internal street will accord with Wokingham Borough Council's 2019 Living Streets: Highway Design Guide in addition to reflecting the principles set out in the National Design Guide.

3.2. As well as setting out the approach this is being taken in respect of the internal streets, this Section also provides consideration of two key aspects of the highway infrastructure being promoted within LGV that provide internal linkages beyond the development parcels; namely the crossing of the River Loddon and the M4 Motorway.

Street Hierarchy

3.3. As depicted at **Figure 3.1** below, the Primary Streets through the development will consist of a 7.3m carriageway flanked with verges which can accommodate street trees. The carriageway width is sufficient to cater for the level of traffic and to provide high quality corridors for new bus services that will route within the development. The Primary Streets will then link into a network of varying internal streets which will provide a clear and legible hierarchy of movement to support ease of movement for all modes of travel.

Figure 3.1 – Primary Street Typical Cross Section



3.4. Secondary Streets will then provide access to development parcels from the Primary Streets and will also accommodate some through traffic. Such routes will be provided with a carriageway width of at least 5.5m with 2m footways at either side.

3.5. Tertiary Streets will connect into development parcels from primary and secondary streets, but are not intended as through routes. These will be formed of carriageways of at least 5m widths with 2m footways at either side.

3.6. Shared Surface Streets and Private Drives will also be promoted within development parcels which will allow pedestrians and drivers to share the carriageway due to the lower volumes and speeds of vehicles utilising these elements of the network. The Shared Surface Streets will generally be at least 4.8m wide with 2m wide planted or paved margins at each side of the carriageway where development is proposed. Private Drives will be provided at least 4.1m wide.

East-West Connection across the River Loddon

3.7. The River Loddon routes north / south through the site and a new road bridge crossing for the primary street is proposed which will provide a connection between the residential parcels to the east and the western employment uses within Thames Valley Science Park.

3.8. The Primary Street which crosses the Loddon will include segregated footway and cycleway provision on one side of the carriageway as depicted on Drawing No. A392-1003/P3 attached as **Appendix G**. Notably, the carriageway and footway / cycle provision will be constructed at a level which is above the floodplain and hence this connection will deliver a usable route all year round, even in periods of heavy and prolonged rainfall.

3.9. Of note is that Drawing No. A392-1003/P3 is informed by an initial appraisal of the vertical alignment of the corridor based on a 30mph design speed. This ensures that the effects of the associated embankments on the Loddon floodplain are fully accounted for within the hydrological assessment work that is being undertaken to ensure that the overall impacts of the LGV proposals on the Loddon flooding regime can be satisfactorily addressed to ensure that there is no detrimental increase in flooding beyond the LGV area.

North-South Connection across the M4 Motorway

3.10. The second key highway element of highway works within LGV that routes beyond the development parcels is the new crossing over the M4 motorway which will connect into the B3270 Lower Earley Way corridor at the Meldreth Roundabout. The Primary Street which forms this new highway link over the motorway will include segregated footway and cycleway provision on one side of the carriageway as depicted on Drawing No. A392-097/P6 attached as **Appendix D**.

3.11. As can be seen, this new provision will provide a high quality and continuous link over the M4 motorway for pedestrians and cyclists travelling from the residential parcels and the employment uses to destinations north of the M4 motorway.

3.12. As set out in Section 2 of this Report, whilst the future year traffic flow forecasts indicate that a single carriageway link road across the motorway would be sufficient, a dual carriageway link has been allowed for which affords the opportunity to provide a high degree of bus priority along the corridor. Again, the concept design benefits from an initial appraisal of the vertical alignment of the corridor based on a 40mph design speed. This work provides the necessary surety that appropriate longitudinal gradients can be maintained along the corridor as the carriageway rises in elevation to achieve the necessary headroom over the motorway and then returns to ground level on the northern side to achieve a connection into the Meldreth Way roundabout.

4.0 Traffic Modelling and Off-Site Highway Mitigation

Traffic Modelling

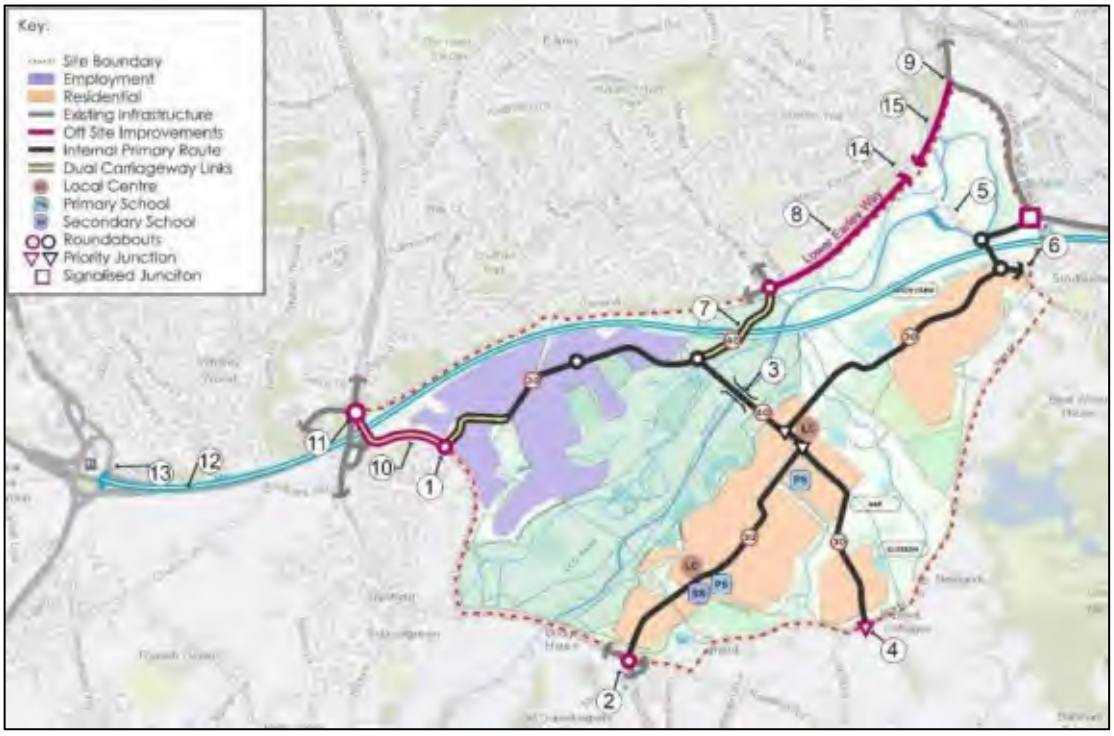
4.1. Strategic Traffic Modelling has been undertaken by Stantec on behalf of Wokingham Borough Council in order to appraise the future network conditions when planned growth, including at LGV, is fully implemented. The findings of the strategic modelling exercise, which makes use of up to date traffic data and growth forecasts, are presented in the August 2024 Transport Assessment which forms part of the evidence base for the 2024 Local Plan Update.

4.2. As well as reflecting the full quantum of future development being promoted within the Local Plan Update, the strategic traffic modelling work also allows for a significant number of highway mitigation measures that will be introduced to mitigate the impacts of the future development that would otherwise occur.

4.3. The strategic traffic modelling finds that the planned growth, including at LGV, can be accommodated on the highway network when accounting for the benefit of the proposed package of highway mitigation and sustainable transport measures. The strategic modelling also demonstrates positive findings with respect to the operation of the M4 corridor, concluding that effects on main line flows would be insignificant. Moreover, with the mitigation measures, a zero detriment position is effectively achieved at M4 Junction 11. The August 2024 Transport Report does however set out that specific impacts will need to be considered further as part of the planning application process and advocates that a “Monitor and Manage” approach should be utilised in respect to the highway interventions so that they are implemented only when unavoidable.

4.4. The package of highway mitigation measures that has been identified along the highway network in the vicinity of LGV has been reproduced from the August 2024 Transport Assessment Report prepared by Stantec within **Figure 4.1** below.

Figure 4.1 – Package of Highway Mitigation Measures in Vicinity of LGV



4.5. Items 1 to 7 relate to the access junctions and internal infrastructure within LGV which are addressed in Sections 2 and 3 of this Report. The remaining elements, which comprise off-site highway works, are summarised below:

- 8. Additional northbound lane along on Lower Earley Way.
- 9. Upgrade to Lower Earley Way / Hatch Farm Way signal junction.
- 10. Dual carriageway links in both directions on a section of Eastern Relief Road between Black Boy Gyratory and South Avenue.
- 11. Shinfield Road Gyratory – Additional circulatory lanes within gyratory.
- 12. Additional westbound lane between Whitley Wood Lane and M4 Junction 11.
- 13. M4 Junction 11 optimisation and changes to lane markings to accommodate additional lane for traffic movement into B3270.
- 14. Two-Lane north-eastbound exit along Lower Earley Way between Rushey Way roundabout and River Loddon bridge.
- 15. Additional southbound lane on Lower Earley Way.

4.6. The package of mitigation measures presented with the Stantec Transport Assessment Report generally accords with the mitigation schemes previously identified during discussions held with Stantec and Wokingham Borough Council. There is however considered to be scope for the proposals in some areas to be refined as the impacts are considered in further detail as part of a future planning application.

4.7. For example, detailed capacity appraisal of the Hatch Farm Way / Lower Earley Way signal junction in due course will help to identify optimum signal phasing / staging arrangements that will maximise the capacity benefits being accrued from the highway mitigation works identified for this location. This in turn may lead to refinement of the proposed works along Lower Earley Way between Hatch Fam Way and Rushey Way. Similarly, there is likely to be scope to create additional capacity at the signal junction at the northern end of the Shinfield Eastern Relief Road corridor to assist right turning traffic routing across the motorway. Such an intervention is likely to limit the extent of northbound carriageway widening needed along the approach to the junction and hence alleviate the need for a northbound lane along the full length of the corridor from the Thames Valley Science Park roundabout.

4.8. Mindful of the above, the University of Reading concurs with the findings of the Stantec Transport Assessment Report which recommends that specific impacts will need to be considered further as part of the planning application process as well as the employment of a monitor and manage approach to govern when such interventions are implemented.

5.0 Summary and Conclusions

Context

5.1. Abley Letchford Partnership Limited has been instructed by the University of Reading to provide transport advice in respect of the Hall Farm / Loddon Valley Strategic Development Location site which is proposed for allocation as a new Garden Community within the Wokingham Borough Council's Local Plan Update: Proposed Submission Plan (Regulation 19) of 2024.

5.2. Proposals for the LGV site include the provision of around 3,930 dwellings, some 100,000 sqm of additional employment development at Thames Valley Science Park and other ancillary uses such as primary school, secondary school and community provision. A copy of the LGV Framework Plan is attached as **Appendix A**.

5.3. Whilst the development proposals seek to maximise connectivity for non-car modes of travel, it is also important that a satisfactory level of highway provision is allowed for within the internal layout of the development which, in turn, affords a satisfactory access arrangement onto the surrounding highway network. Accordingly, the LGV Framework Plan for the proposed site has been developed in order to respond positively to the objectives of Policy SS13 which sets out the highway infrastructure requirements for the LGV.

Access Arrangements

5.4. The proposed vehicle access arrangements seek to make good use of the recently constructed highway infrastructure in the area. The configuration of the access points enables a high level of dispersal of development traffic to be achieved onto the adjacent corridors. This has the advantage of acting to lessen impacts which might otherwise occur if a high intensification of trips were instead to be loaded onto concentrated areas of the network.

5.5. Similarly, the promotion of new highway infrastructure within the site itself, such as the new river crossing of the Loddon and bridge over the M4 motorway corridor, will not only act to facilitate the broad dispersal of development traffic but also help to avoid extraneous routings that would otherwise occur along the road network. Notably, the creation of new north-south connection between the B3270 Lower Earley Way and the Arborfield Road corridors offers the opportunity for some background traffic to re-route through the development and thereby provide some relief to adjacent areas such as within and around Sindlesham and Shinfield.

5.6. Concept layouts for each of the access junctions have been prepared which would operate within capacity when tested for future year flows that allow for the LGV and all other cumulative development being promoted with the Local Plan Update. The layouts of each access will be refined in due course, albeit at this stage it is important to note that the arrangements can be provided in accordance highway standards and delivered within land that is either adopted highway or under the control of the University of Reading, Hatch Farm Land Ltd or Gleeson Land.

Internal Streets

5.7. The internal street hierarchy set out will be in full compliance with Wokingham Borough Council's Living Streets: Highway Design Guide and will reflect the principles set out in the National Design Guide.

5.8. Key linkages within the site, such as the bridge crossing of the river Loddon and new crossing of the M4 motorway can be delivered to an appropriate standard that fully accords with highway design standards.

Traffic Modelling and Off-Site Highway Mitigation

5.9. Strategic Traffic Modelling undertaken by Stantec on behalf of Wokingham Borough Council finds that the planned growth within the Local Plan Update, including at LGV, can be accommodated on the highway network when accounting for the benefit of the proposed package of highway mitigation and sustainable transport measures being promoted. The strategic modelling also demonstrates positive findings with respect to the operation of the M4 corridor. The August 2024 Transport Report does however set out that specific impacts will need to be considered further as part of the planning application process and advocates that a “Monitor and Manage” approach should be utilised in respect to the highway interventions so that they are implemented only when unavoidable.

5.10. The package of mitigation measures presented with the Stantec Transport Assessment Report generally accords with the mitigation schemes previously identified during discussions held with Stantec and Wokingham Borough Council. There is however considered to be scope for the proposals in some areas to be refined in due course as the impacts are considered in further detail as part of a future planning application.

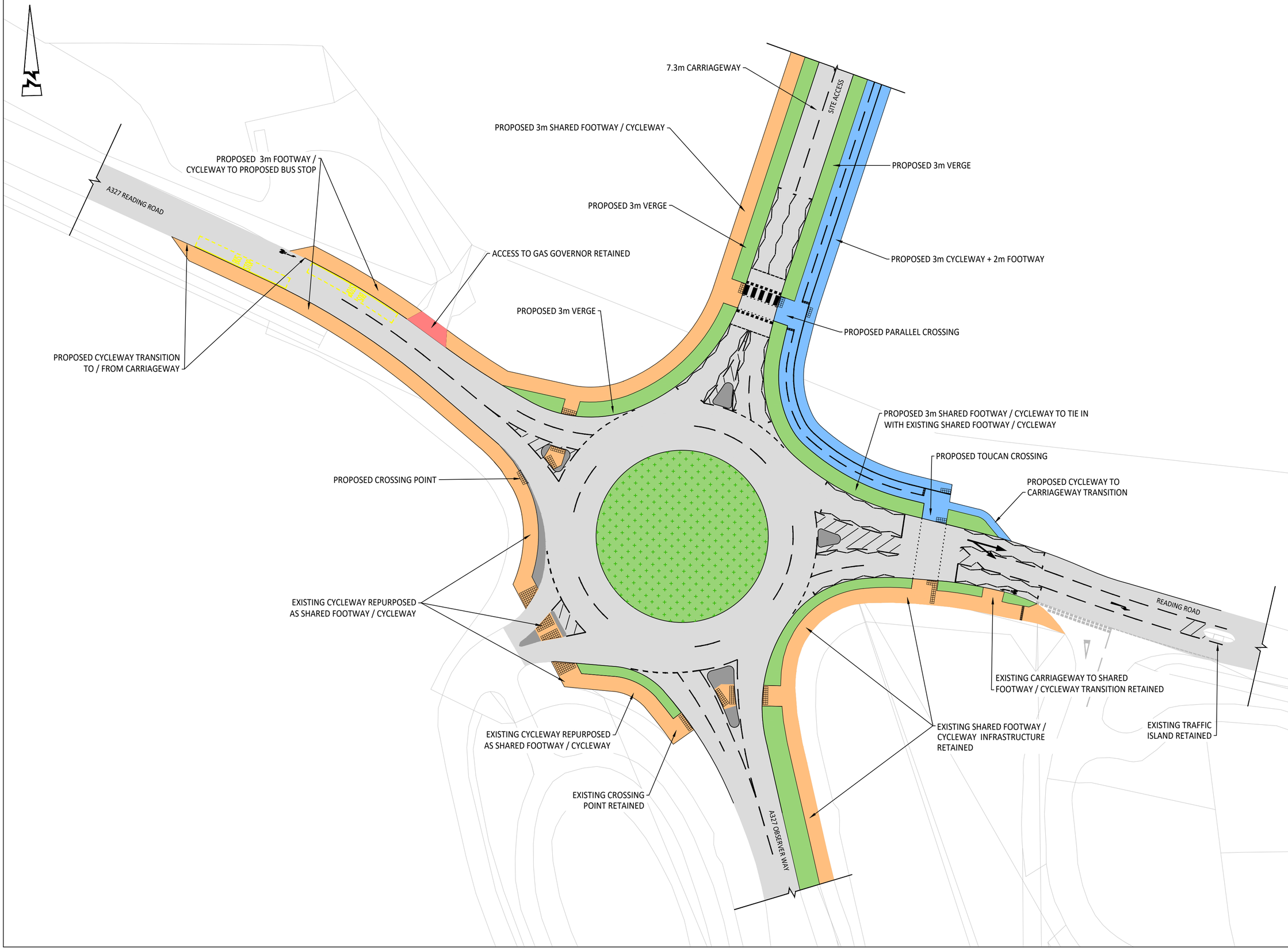
Appendices

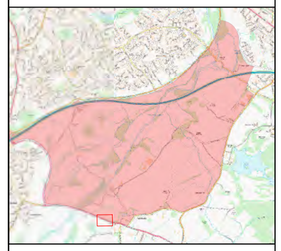
Appendix A - LGV Framework Plan

FRAMEWORK PLAN

- Residential Parcels **99.40ha**
- TVSP **91.90ha**
- Education/Sport area **19.50ha**
- District / Local Centre
- Primary School
- Secondary School
- Spine Road Infrastructure corridor
- Proposed Active Travel routes
- Indicative locations of primary SuDS features
- Secondary drainage system
- Parks & Public Gardens
- Country Park (including SANG)
- TVSP - Future employment parcels
- Solar Farm

Appendix B - Proposed A327 Reading Road / Observer Way Roundabout Access





KEY

- 2m FOOTWAY + 3m CYCLEWAY
- 3m SHARED FOOTWAY / CYCLEWAY
- VERGE
- CARRIAGEWAY

Rev	Date	Description	Drawn	Checked
P3	09.24	ICD RELOCATED	TDM	BT
P2	08.23	COLOUR HATCHING ADDED	TDM	PJ
P1	06.22	First Issue	TDM	PJ

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Project
LODDON GARDEN VILLAGE

Title
CONCEPT A327 ACCESS ARRANGEMENT

Status
PRELIMINARY

Scale	Date	Drawn	Checked
1:500 @ A2	JUNE 2022	TDM	PJ

Drawing No	Revision
A392-015	P3

Appendix C - Proposed Thames Valley Science Park Roundabout Access

KEY

- PROPOSED 4m FOOTWAY / CYCLEWAY
- PROPOSED 3m SHARED FOOTWAY / CYCLEWAY
- PROPOSED VERGE
- SUDS FEATURE
- CARRIAGEWAY

Rev	Date	Description	Drawn	Checked
P2	10.24	TOUCAN CROSSING ADDED	TDM	PJ
P1	08.23	FIRST ISSUE	TDM	PJ

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Project
LODDON GARDEN VILLAGE

Title
EASTERN RELIEF ROAD / SOUTH AVENUE ACCESS

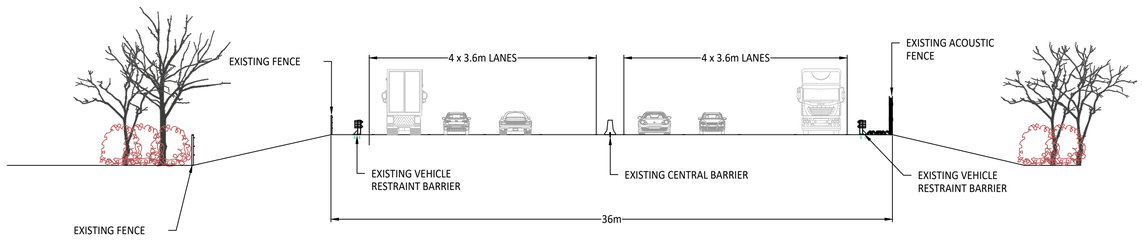
Status
PRELIMINARY

Scale	Date	Drawn	Checked
1:500 @ A0	AUG 2023	TDM	PJ

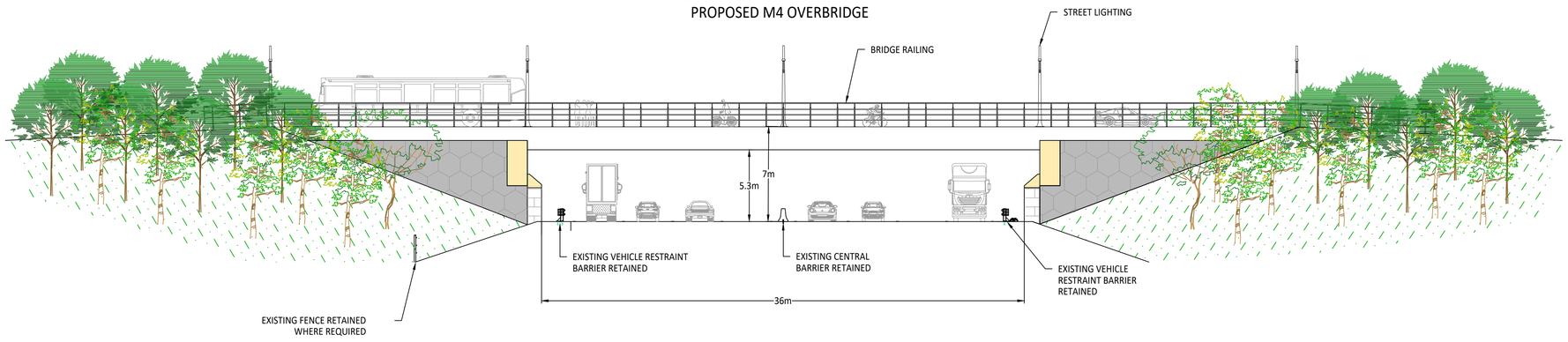
Drawing No. A392-080
Revision P2

Appendix D - Proposed M4 Motorway Bridge Crossing to Lower Earley Way / Meldreth Way Roundabout

ILLUSTRATIVE CROSS SECTION OF EXISTING M4 CORRIDOR



ILLUSTRATIVE CROSS SECTION OF PROPOSED M4 OVERBRIDGE



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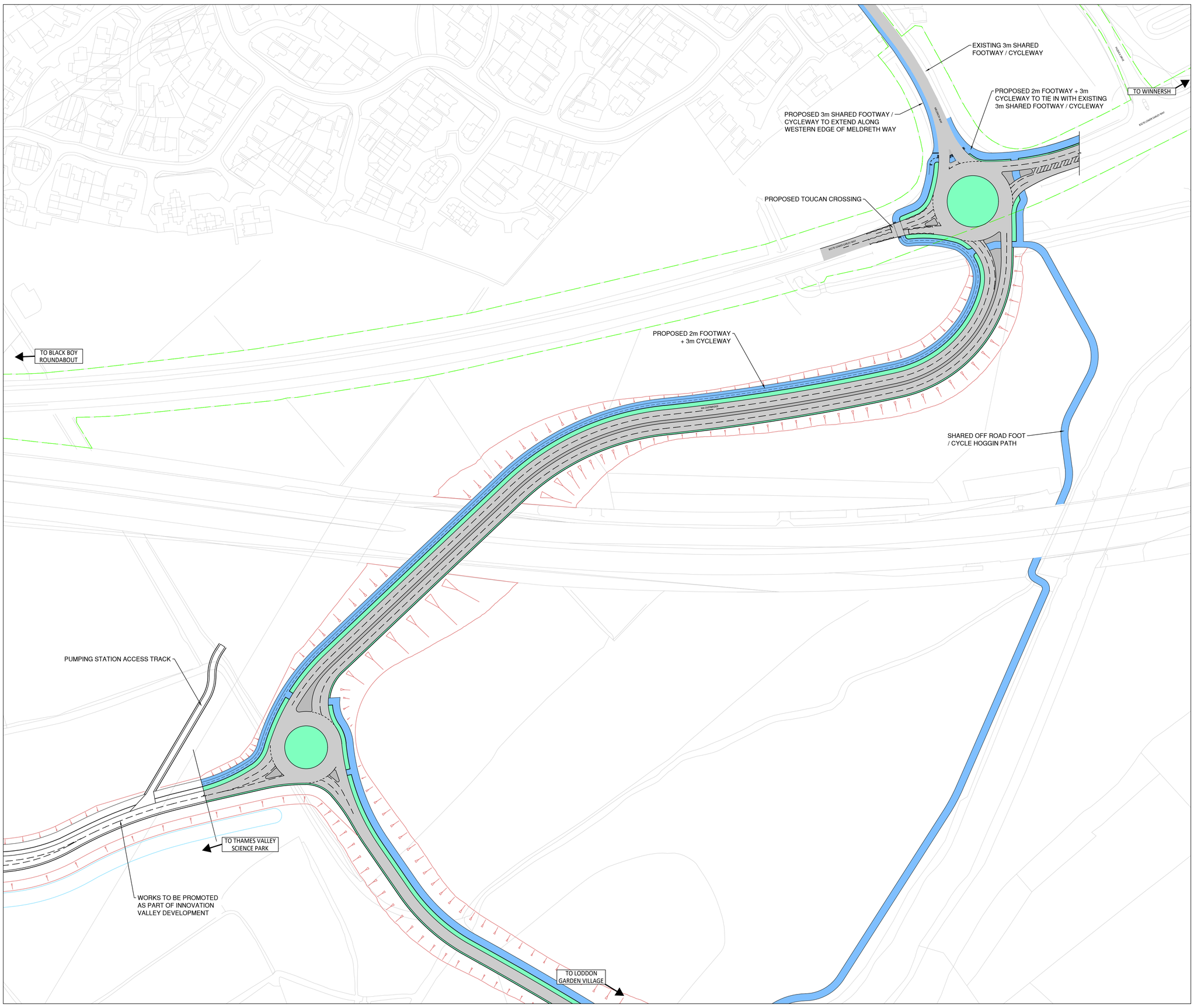
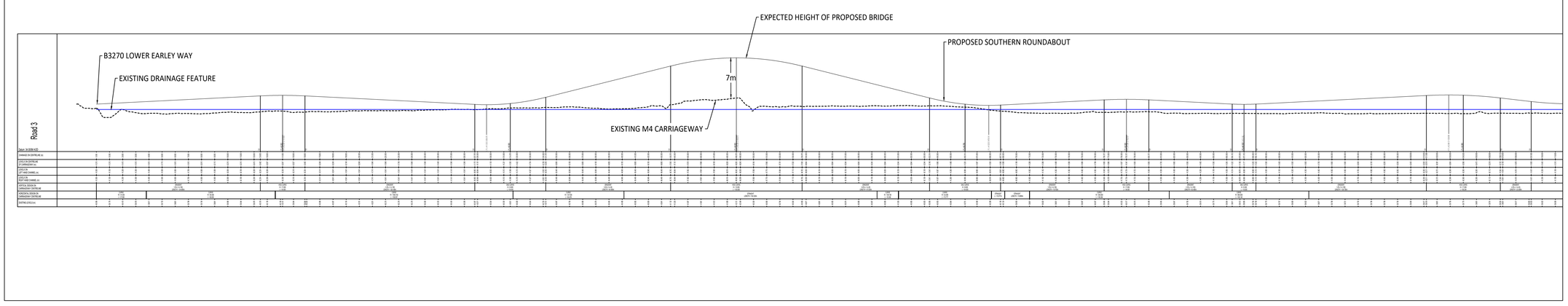


ILLUSTRATIVE LONG SECTION OF PROPOSED M4 OVERBRIDGE



KEY

- HIGHWAY BOUNDARY
- PROPOSED FOOTWAY / CYCLEWAY
- PROPOSED VERGE
- PROPOSED CARRIAGEWAY
- PROPOSED TRAFFIC ISLAND

Rev	Date	Description	Drawn	Checked
P6	10.24	ADDITIONAL CROSSING AND AMENDMENTS	TDM	BT
P5	03.24	MINOR ANNOTATION AMENDMENTS	TDM	PJ
P4	02.24	BRIDGE LOCATION REVISED FURTHER	TDM	PJ
P3	02.24	BRIDGE LOCATION REVISED TO WEST	TDM	PJ
P2	12.23	CYCLEWAY WIDENED TO 5m	TDM	PJ
P1	10.23	FIRST ISSUE	TDM	PJ

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Client: UNIVERSITY OF READING

Project: LODDON GARDEN VILLAGE

Title: M4 MOTORWAY CROSSING

Status: FOR DISCUSSIONS

Scale	Date	Drawn	Checked
1:1250 @ A0	OCT 2023	TDM	PJ

Drawing No: A392-097

Revision: P6

Appendix E - Proposed Mill Lane Access Roundabout and New Link to Hatch Farm Way

KEY

- PROPOSED SEGREGATED FOOTWAY & CYCLEWAY
- PROPOSED 3.5m FOOTWAY / CYCLEWAY LOCALISED NARROWING UNDER MOTORWAY BRIDGE
- PROPOSED SHARED FOOTWAY / CYCLEWAY
- PROPOSED FOOTWAY
- PROPOSED VERGE
- PROPOSED HARD VERGE
- PROPOSED CARRIAGEWAY

Rev	Date	Description	Drawn	Checked
P3	11.24	PROPOSAL ADJUSTMENTS	TDM	PJ
P2	10.24	PROPOSAL ADJUSTMENTS	TDM	PJ
P1	08.23	FIRST ISSUE	TDM	PJ

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Project
LODDON GARDEN VILLAGE

Title
MILL LANE
ACCESS ARRANGEMENTS

Status
PRELIMINARY

Scale	Date	Drawn	Checked
1:500 @ A0	AUG 2023	TDM	PJ

Drawing No: A392-079
Revision: P3

Appendix F - Proposed Mole Road Roundabout Access

KEY:

SITE BOUNDARY

HIGHWAY BOUNDARY
(BASED ON OS MAPPING)

NOTE: EXISTING DITCH ALONG SITE FRONTAGE BOTH TO THE NORTH AND SOUTH TO BE CHECKED AND CONFIRMED BY DRAINAGE CONSULTANT.

TREES ALONG SITE FRONTAGE WILL NEE TO BE REMOVED TO PROVIDE SITE ACCESS ARRANGEMENT - ARBORICULTURALIST TO BE CONSULTED

160m STOPPING SIGHT DISTANCE

36m ICD ROUNDABOUT DESIGNED TO CD116 FOR A DESIGN SPEED OF 85kph

160m STOPPING SIGHT DISTANCE

CHURCH LANE

JUNCTION VISIBILITY GOES OUTSIDE OF LAND MAINTAINABLE AT PUBLIC EXPENSE INTO LAND ON SOUTHERN SIDE OF MOLE ROAD

1.5 x SSD (160m STOPPING SIGHT DISTANCE)

DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

SCALE BAR @ 1:500
0 5 10 25 50

SCALE BAR @ 1:1000
0 10 25 50 100

i-Transport

The Square, Basing View,
Basingstoke, Hampshire, RG21 4EB

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REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR INFORMATION

TITLE: PROPOSED SITE ACCESS ARRANGEMENTS - GHOST ISLAND ARRANGEMENT

PROJECT: NEWLAND FARM, ARBORFIELD

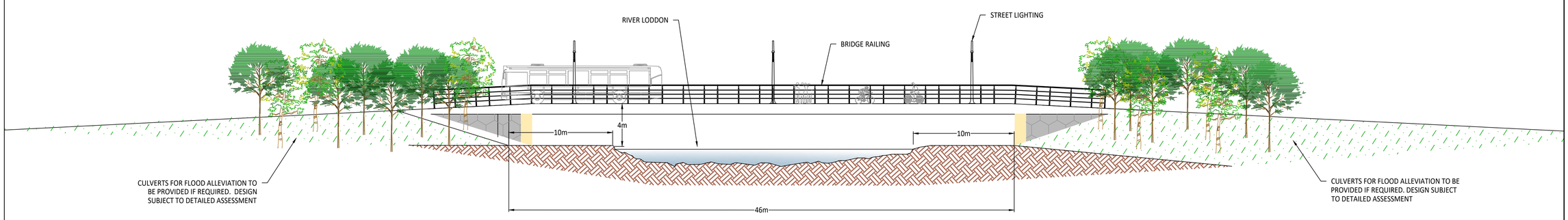
CLIENT: GLEESON STRATEGIC DEVELOPMENT

DRAWN:	CHECKED:	APPROVED:
MC	MC	TW
PROJECT No:	SCALE @ A2:	DATE:
ITB17371	AS SHOWN	05.11.21
DRAWING No:		REV:
ITB17371-GA-004		-

I:\Projects\17000 Series\17371ITB - Newland Farm, Arborfield\Tech\Acad\Transport Drawings\Working Drawings\GA\ITB17371-GA-004.dwg

Appendix G - Proposed Loddon Bridge Crossing

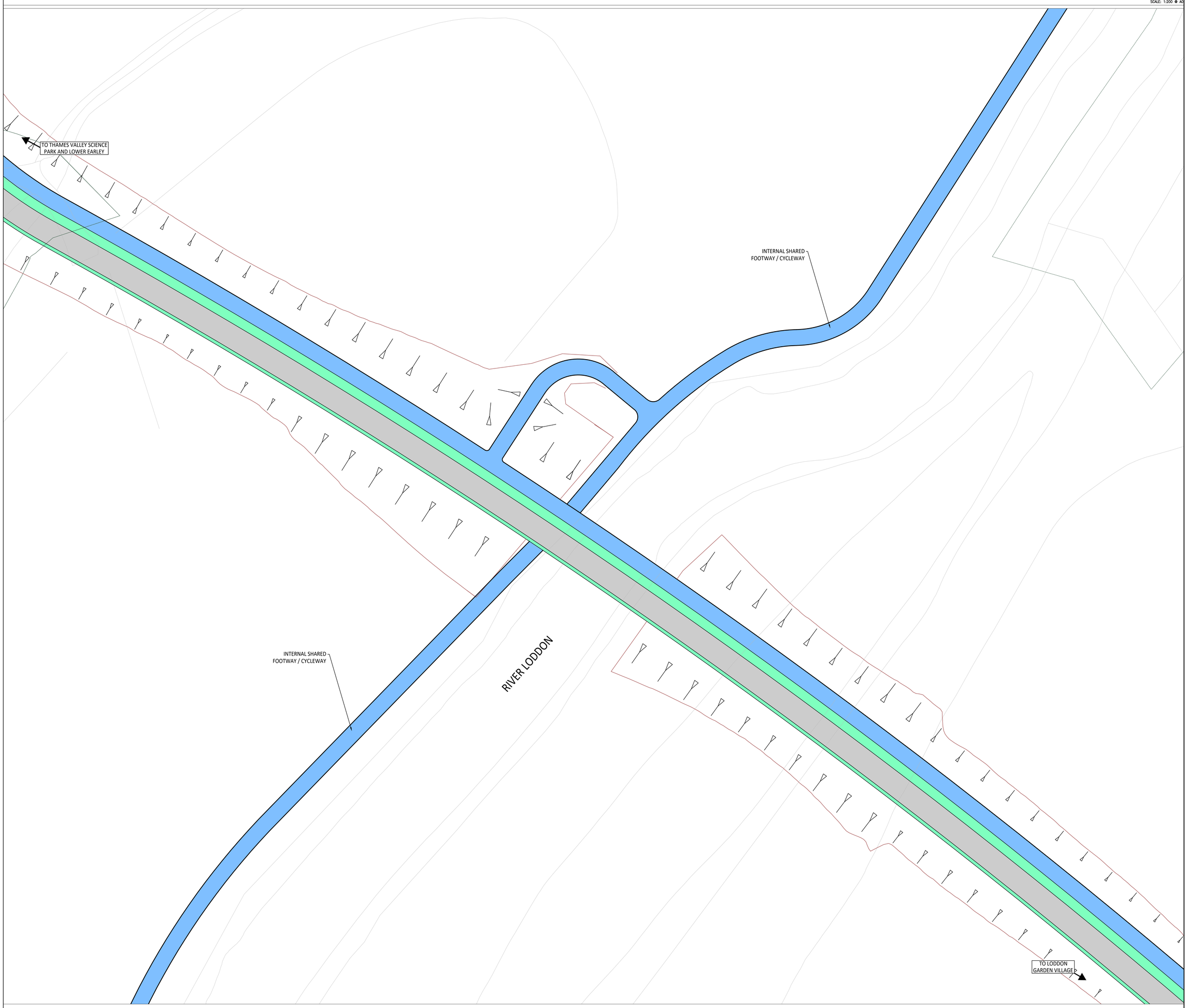
ILLUSTRATIVE CROSS SECTION OF PROPOSED BRIDGE OVER RIVER LODDON



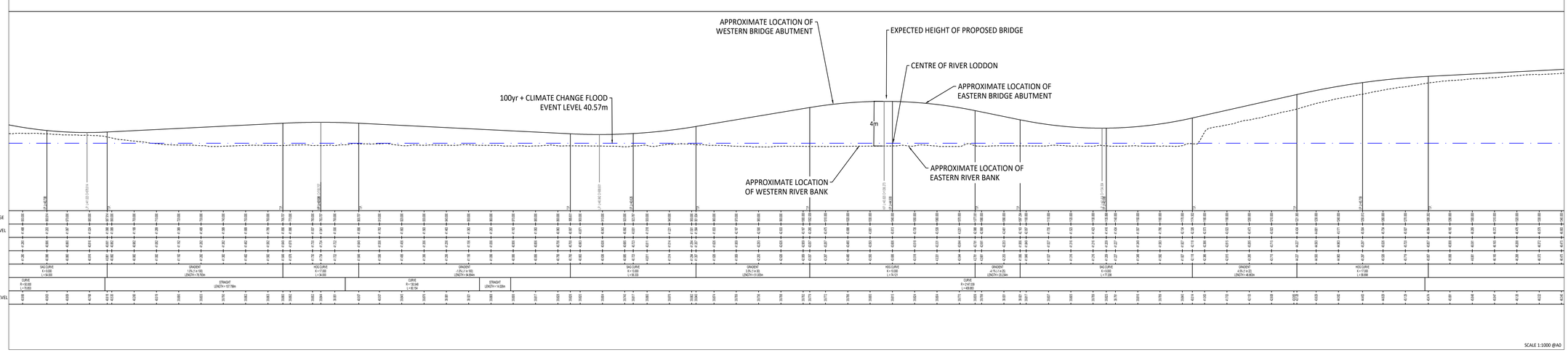
KEY

- PROPOSED FOOTWAY / CYCLEWAY
- PROPOSED VERGE
- PROPOSED CARRIAGEWAY

SCALE: 1:200 @ A0



ILLUSTRATIVE LONG SECTION OF PROPOSED RIVER LODDON BRIDGE CROSSING



Rev	Date	Description	Drawn	Checked
P3	10.24	CROSS SECTION UPDATED	TDM	BT
P2	05.24	REVISED LONGSECTION	TDM	PJ
P1	02.24	FIRST ISSUE	TDM	PJ

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Project
LODDON GARDEN VILLAGE

Title
INDICATIVE RIVER LODDON CROSSING

Status
FOR DISCUSSIONS

Scale	Date	Drawn	Checked
1:500 @ A0	FEB 2023	TDM	PJ

Drawing No
A392-1003

Revision
P3

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EPR

ECOLOGICAL EXPERTISE, EVOLVED

Loddon Garden Village

Ecology Topic Paper

Prepared on behalf of

University of Reading

Final Report

01 November 2024

23/42-2B

Loddon Garden Village

Ecology Topic Paper

Report Release Sheet

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Issue Number:	23/42-2B
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Client:	University of Reading Whiteknights Campus Reading RG6 6BW
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Report Approved for Issue by:	[redacted] …… Alison Hogan BSc (Hons) MSc MCIEEM

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Loddon Garden Village

Ecology Topic Paper

Contents

Loddon Garden Village
Ecology Topic Paper

1. INTRODUCTION

Brief

1.1 Ecological Planning & Research Ltd (EPR) was appointed by the University of Reading (UoR) in 2022 to undertake ecological surveys and provide advice in regard to the proposed Loddon Valley Garden Village (LGV) allocation site hereafter referred to as the ‘’Site’ outlined at Policy SS13 of the Wokingham Borough Council (WBC) Local Plan Update (LPU) Regulation 19 Proposed Submission Plan.

1.2 The following topic paper provides an overview of the ecological survey work undertaken to date, and outlines how this data is being used to inform the scheme design to minimise impacts on local biodiversity and ensure compliance with relevant legislation and policy. It also provides an overview of opportunities for the Site to deliver biodiversity net gain and enhancements for protected and notable species.

Legislation & Policy

1.3 The following articles of nature conservation legislation and planning policy are of relevance to, and have been considered as part of the scheme:

- The Biodiversity Net Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024;
- The Environment Act 2021;
- The Conservation of Habitats and Species Regulations 2017 (as amended)(the ‘Habitats Regulations’);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way (CROW) Act 2000;
- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Protection of Badgers Act 1992;
- The National Planning Policy Framework (NPPF) (2023); and
- Wokingham Borough Council: Local Plan Update 2023-2040, Proposed Submission Plan (2024).

1.4 Within the LPU the following policies are of relevance when considering ecology on the Site:

- Policy NE1: Biodiversity and geodiversity;
- Policy NE2: Biodiversity net gain;
- Policy NE3: Thames Basin Heaths Special Protection Area;
- Policy NE4: Trees, woodland, hedges and hedgerows;

- Policy FD3: River corridors and watercourses; and
- Policy SS13: Loddon Garden Village.

2. ECOLOGICAL CONTEXT

2.1 Baseline ecological survey data was collected across the Site between 2023, with limited update surveys being undertaken in 2024, with further updates planned for 2025.

Survey Type	Month	Year
Habitat Survey	April	2022
	May – June	2024
Botany Surveys	April – September	2022
	May – June	2024
Hazel Dormouse Habitat Assessment	April	2022
Badger Survey	April	2022
	November	2024
Breeding Bird Survey	April – July	2022
	April – July	2024
Bat Static Detector Surveys	April – October	2022
	June - October	2024
Bat Activity Surveys	April – October	2022
	June - October	2024
Great Crested Newt eDNA	April	2022
	June	2024
Emergence/re-entry Surveys for bats	June – September	2022
	April – September	2023
Invertebrate Surveys	June – October	2022
	April – June	2023
Hazel Dormouse Presence/Absence Survey	August – November	2022
	April – July	2023
	July - November	2024
River Corridor Survey	September	2022
Winter Bird Surveys	January, February, November & December	2023
Bat Building Inspections	January & February	2023
White-clawed Crayfish eDNA	July	2023
Great Crested Newt Population Assessment	April – May	2023
Veteran Tree Surveys	January – February	2024
Ground Level Tree Assessment for bats	January – February	2024
Freshwater Fish survey	June	2024

Habitats

2.2 The Site largely comprises of agricultural land, with a mix of arable and cattle grazed pasture fields. Whilst these areas may offer limited foraging resources for some protected species, they are of little to no botanical value. The more ecologically valuable habitats are largely found adjacent to the River Loddon, which bisects the Site, and within its floodplains. Within these areas are more diverse grasslands, wetlands, woodlands and scrub including Section 41 Habitats of Principle Importance such as Purple Moor Grass and Rush Pasture and Wet Woodlad.

2.3 Pockets of woodland are scattered throughout the Site, including the ancient woodlands of St Johns Copse, Loaders Copse, Newbury's Copse and Furzen Coppice. Furthermore, a number of Veteran Trees were identified across the Site.

Fauna

Bats

2.4 A total of eight bat species have been identified within the Site, comprising: Common Pipistrelle *Pipistrellus pipistrellus*; Soprano Pipistrelle *Pipistrellus pygmaeus*; Long-eared species *Plectous sp*; Noctule *Nyctalus noctula*; Serotine *Eptesicus serotinus*; Myotis species *Myotis sp*; Barbastelle *Barbastella barbastellus*; and Leisler's bat *Nyctalus leisleri*.

2.5 Bat activity has been recorded across the Site, however foraging and commuting activity has largely been concentrated around the River Loddon and flowing watercourses, in and around woodlands and along well-established treelines and hedgerows.

Breeding Birds

2.6 A total of 87 species have been recorded, of which 69 are considered to be 'breeding species'. Of the species recorded, 24 are Amber listed Species of Conservation Concern, whilst a further 15 are Red listed species. The majority of species were recorded in woodlands and mature vegetation, including hedgerows and treelines. A number of farmland birds were recorded, including Skylark *Alauda arvensis*, Yellowhammer *Emberiza citronella* and Bullfinch *Pyrrhula pyrrhula*.

Wintering Birds

2.7 A total of 65 species were recorded which included 24 are Amber listed Species of Conservation Concern, whilst a further eight are Red listed species. Large flocks of wintering waterfowl were recorded on the western floodplains of the Loddon Valley, including Widgeon *Mareca penelope*, Shoveler *Spatula clypeata* and Gadwall *Anas strepera*.

Hazel Dormice

2.8 Whilst the presence of ancient woodland and historic linear features provide optimal habitats for Hazel Dormice, no Dormice were found during the course of the surveys. They are considered to be absent from the Site.

Invertebrates

2.9 The pockets of floodplain wetlands support a diverse assemblage of invertebrates with nationally scare taxa, including Loosestrife Bee *Macropis europea* and Flea Beetle *Lythraria salicariae.* High quality habitats for invertebrates have been identified within the floodplains of the Loddon Valley, as well as select areas woodlands and established treelines and hedgerows.

Water Vole & Otter

2.10 No evidence of Water Vole *Arvicola amphibius* was found, and they are considered to be likely absent from the Site.

2.11 Signs of Otter *Lutra lutra* were found along the River Loddon, including spraint and feeding remains. No signs of a holt were observed, and it is considered likely that Otter use this stretch of the River Loddon for foraging and commuting.

White-Clawed Crayfish

2.12 White-clawed Crayfish *Austropotamobius pallipes* are considered to be absent from the stretches of the River Loddon and Barkham Brook within the Site.

Badger

2.13 The results of the Badger *Meles meles* survey are confidential but will be taken into consideration during the masterplanning process.

Great Crested Newt

2.14 Large areas of the Site provide poor suitability terrestrial habitat for Great Crested Newt *Triturus cristatus*, however the woodlands, grasslands and hedgerows provide suitable habitats which may allow Great Crested Newt to move through the local landscape.

2.15 Surveys found no populations of Great Crested Newt on-Site, although off-site ponds within the vicinity of the Site are known to support breeding populations.

Reptiles

2.16 The majority of the Site contains sub-optimal habitats for reptiles, with short, grazed grasslands, or arable crops with little to no field margins. A number of fields, largely concentrated around the River Loddon, may provide suitable habitats but are relatively isolated.

2.17 Given the lack of reptiles in the immediate vicinity, and the largely unsuitable habitats across the Site it is considered that reptiles, if present are likely to be in low numbers. Surveys for reptiles will be undertaken on suitable habitats at later stages of the project.

3. PROPOSALS

3.1 The results of the comprehensive ecological surveys, as outlined above, have been used to inform the initial designs of the LGV scheme to ensure compliance with relevant legislation and policy, whilst minimising impacts to local biodiversity.

3.2 Impacts on internationally and nationally designated sites arising as a result of a potential increase in recreational pressure from the proposed scheme will be mitigated through the implementation of a Suitable Alternative Natural Greenspace (SANG), the details of which are outlined in the corresponding SANG Topic Paper prepared by EPR.

3.3 In line with Policy NE1 and NE4 of the Local Plan Update, irreplaceable habitats, local wildlife sites and priority habitats are due to be retained and protected as part of the scheme, including the implementation of suitable buffer zones to development where appropriate. Amendments have already been made to the proposed spine road alignment to ensure the retention of veteran trees identified within an early iteration of the route, ensuring these habitats remain available to local biodiversity.

3.4 Green corridors are to be incorporated into the proposed development, to include semi-natural habitats which will maintain connectivity to the wider landscape, avoiding the fragmentation and isolation of retained and newly created habitats. Management of existing watercourses, including the control of invasive species (such as Himalayan Balsam *Impatiens glandulifera*), will seek to enhance their condition and provide additional opportunities for riparian and aquatic species in line with Policies NE1, NE2 and FD3.

3.5 Throughout the LGV site opportunities to provide enhancements for biodiversity will be considered and incorporated such as native planting, diverse habitat creation, new bat roosting features and wildlife boxes.

3.6 With the implementation of suitable impact avoidance, mitigation and compensation measures none of the identified ecological features present a constraint to the delivery of LGV. The scheme has been designed to incorporate ecological features and maintain permeability to the wider landscape, ensuring compliance with Policies NE1, NE4 and FD3 of the Updated Local Plan.

4. BIODIVERSITY NET GAIN

4.1 Policy SS13 of the WBC Local Plan Updates requires LGV to demonstrate a biodiversity net gain of 20%, above and beyond the 10% requirement of Policy NE2 and The Biodiversity Net Gain Regulations 2024.

4.2 LGV includes approximately 208ha of land in the Loddon Valley, that will be used to create a new Country Park as required by Policy SS13. It is anticipated that this land will provide a multitude of functions including the provision of biodiversity net gain. The overall aim of Loddon Valley is to restore the habitats along the Loddon Corridor with a view to recreate likely historic habitats in this region. Such habitats may include wet grasslands and woodlands, reedbeds and meadow. The newly created habitats will link up with existing greenspace to create a landscape scale green corridor of semi-natural habitats of value to biodiversity. The aspirations for the Country Park align with the targets of the Loddon Valley South Biodiversity Opportunity Area (BOA).

4.3 In addition, biodiversity net gain opportunities shall be sought to be incorporated into development parcels where suitable, in line with the requirements of Policy NE1. Retained habitats outside of the Loddon Valley within LGV will be enhanced and managed through appropriate conservation management as set out in Policy NE1, thereby further increasing opportunities to deliver biodiversity net gain.

4.4 Some areas of the Country Park are currently proposed to deliver SANG, therefore biodiversity net gain within these areas will only be considered where habitat creation/enhancements deliver BNG beyond that required to deliver a functional SANG.

4.5 Given the land and opportunities available within LGV, it is anticipated that at least a 20% biodiversity net gain for habitats, linear habitats and watercourses will be achievable in line with Policy SS13.

4.6 Berkshire's Local Nature Recovery Strategy is anticipated to be published in 2025. Upon its release any relevant targets and/or opportunities will be reviewed and incorporated into the Loddon Valley as appropriate.

5. SUMMARY

5.1 With the incorporation of suitable avoidance, mitigation and compensation measures as informed by the ecological surveys of the Site, the proposed development at LGV is able to demonstrate compliance with all relevant legislation and policy, including those policies included within WBC's Local Plan Update.

Loddon Garden Village

Suitable Alternative Natural Greenspace (SANG) Topic Paper

Prepared on behalf of

University of Reading

Final Report

07 November 2024

23/42-3B

Loddon Garden Village

Suitable Alternative Natural Greenspace (SANG) Topic Paper

Report Release Sheet

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Loddon Garden Village

Suitable Alternative Natural Greenspace (SANG) Topic Paper

Contents

Loddon Garden Village

Suitable Alternative Natural Greenspace (SANG) Topic Paper

1. INTRODUCTION

Brief

1.1 Ecological Planning & Research Ltd (EPR) was appointed by the University of Reading (UoR) in 2022 to provide advice in regard to the proposed Loddon Valley Garden Village (LGV) allocation site, here after referred to as the 'Site' outlined at Policy SS13 of the Wokingham Borough Council (WBC) Local Plan Update LPU Regulation 19 Proposed Submission Plan.

1.2 The following topic paper provides an overview of the proposed Suitable Alternative Natural Greenspace (SANG) strategy to prevent adverse impacts on internationally designated sites and demonstrate compliance with relevant legislation and policy.

Background

Legislation

1.3 The Conservation of Habitats and Species Regulations 2017 (as amended) (known as the "Habitats Regulations") were originally drawn up to transpose the European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive") into UK legislation. Following the UK's exit from the European Union, the Habitats Regulations – as amended by Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 – remain in force until such a time as they are superseded by new or updated domestic legislation.

1.4 The Habitats Regulations provide for the designation of both Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) in the UK, which previously formed part of the Natura 2000 network of protected areas across Europe and are now part of the UK's "National Sites Network".

1.5 Under the Habitats Regulations the 'competent authority' must determine in the first instance whether a proposed development is 'likely to have a significant effect on the International Site, either alone or in combination with other plans and projects.

The Thames Basin Heaths Special Protection Area

1.6 The Thames Basin Heaths (TBH) Special Protection Area (SPA) lies approximately 4.4km to the south of the Site (**Map 1)**. The SPA is designated as it supports populations of Dartford Warbler *Sylvia undata*, Nightjar *Caprimulgus europaeus* and Woodlark *Lullula arborea*. These species are listed under Annex I of The Birds Directive (79/409/EEC).

Requirement for Mitigation

1.7 Ground nesting birds, such as those for which TBH SPA is designated, are particularly sensitive to disturbance. An increase in recreational activities arising from an increase in residential development, in particular off-lead dog walking, has been shown to result in negative impacts on populations as a result of reduced breeding success (Underhill-Day, 2005).

1.8 Furthermore, an increase in recreational use has the potential to result in trampling and habitat fragmentation caused by the creation of desire lines, eutrophication of habitats as a result of dog fouling and littering, and increased risk of wildfire. These impacts may have an adverse effect on the supporting habitats of the birds for which the TBH is designated.

2. CONTEXT

2.1 The Habitats Regulations Assessment (HRA) of the Update Local Plan (AECOM, 2024) has identified that in the absence of mitigation, likely significant effects on the TBH SPA could not be ruled out as a result of the included strategic allocations, including Policy SS13.

2.2 Based on catchment data from visitor surveys undertaken on the TBH SPA, the HRA sets out buffer zones for the Thames Basin Heaths, within which suitable mitigation measures are laid out avoid adverse effects on the integrity of the SPA. These are as follows:

- 400m – exclusion zone, no additional development is permitted;
- 400m-5km – primary visitor catchment zone, additional residential development must be mitigated through a combination of SANG and Strategic Access Management and Monitoring (SAMM); and
- 5-7km – residential development over 50 dwellings must be mitigated as above, on a case-by-case basis.

2.3 With the implementation of suitable mitigation as based on the buffer zones above, the HRA determines that there will be no adverse effects on the integrity of the THB SPA from allocations within the Update Local Plan, either alone or in-combination. For the LGV specifically, it highlights the requirement for a bespoke on-site SANG (alongside Strategic Management and Monitoring contributions).

2.4 Policy NE3 of the proposed Update Local Plan requires that *"Development proposals that are likely to have a significant adverse effect on the integrity of the SPA must demonstrate that adequate measures will be put in place to avoid or mitigate any such effects […] Within the 400m-5km and 5km-7km zone, development proposals for a net increase in dwellings will be supported which secure the SANG and SAMM*."

3. SANG REQUIREMENT

3.1 The proposed residential development at LGV lies between the 400m-5km and 5-7km buffer zones. Parts of the Site lie beyond 7km from the TBH SPA and therefore require no mitigation measures based on the current recommendations. An estimate of dwellings and populations (based on an average occupancy of 2.4) within each buffer zone is set out in **Table 1.1** below.

Table 1.1 Thames Basin Heaths Mitigation Zones

SPA Mitigation Zone	Approximate Number of Units	Population (units x 2.4 occupancy)
Within 400m-5km Zone	1,020	2,448
Within 5-7km Zone	2,885	6,924
Beyond 7km	25	60

3.2 Policy NE2 of the Update Local Plan requires a SANG capacity of 8ha per 1000 new residents for development within the 400m-5km buffer zone. For new residential development within the 5-7km, this figure may be reduced, subject to agreement from Natural England and Wokingham Borough Council. Based on this, a total of up to 34.54ha of SANG are considered necessary to mitigate the proposed development at LGV as set out in **Table 1.2** below (subject to agreement).

Table 1.2 Loddon Garden Village SANG Requirements

SANG Requirement	WBC Standard SANG requirement	Land Required (ha)
Within 400m-5km Zone	8 ha / 1,000 pop	19.58
Within 5-7km Zone (low range)	1.73 ha / 1,000 pop	11.98
Within 5-7km Zone (high range)	2.16 ha / 1,000 pop	14.96
Total	**Low Range:**	**31.56**
	High Range:	**34.54**

4. PROPOSALS

4.1 The SANG is proposed to be created to the east of the River Loddon, which will provide a linear SANG along the River, directly adjacent to residential development allowing for immediate access to open greenspace as well as providing an attractive waterside walking route.

4.2 The location of the SANG has been selected to provide a variety of semi-natural habitats and avoid the wetter parts of the Site, ensuring access to SANG is maintained year-round.

4.3 The detailed designs of the SANG is to be confirmed but will align with the guidance provided by Natural England in their SANG criteria, as well as Policy NE3 of the Update Local Plan. Further consultation with Natural England will take place to ensure the SANG meets the requirements to provide suitable mitigation and prevent adverse impacts on the TBH SPA as a result of the proposed LGV.

4.4 In the event the proposed SANG is considered unsuitable, the UoR has more than 200ha of land available within the proposed 'Loddon Valley' Country Park which may be upgraded to provide suitable mitigation.

4.5 In addition to mitigating impacts on the SPA, the SANG proposals will benefit other designated sites within the vicinity of LGV including Sites of Special Scientific Interest (SSSI), Local Wildlife Sites (LWS) and ancient woodlands, by diverting potential recreational visits.

4.6 The proposed SANG at LGV will be linked to the wider existing SANG network located around Shinfield, providing a variety of walking routes for new and existing residents in the area.

Extended SANG Network

4.7 Within the vicinity of the proposed LGV exists a network of established SANG which have been delivered to mitigate the potential impacts of recreational pressure on the TBH SPA as a result of new development in Shinfield and the surrounding areas. These SANGs include:

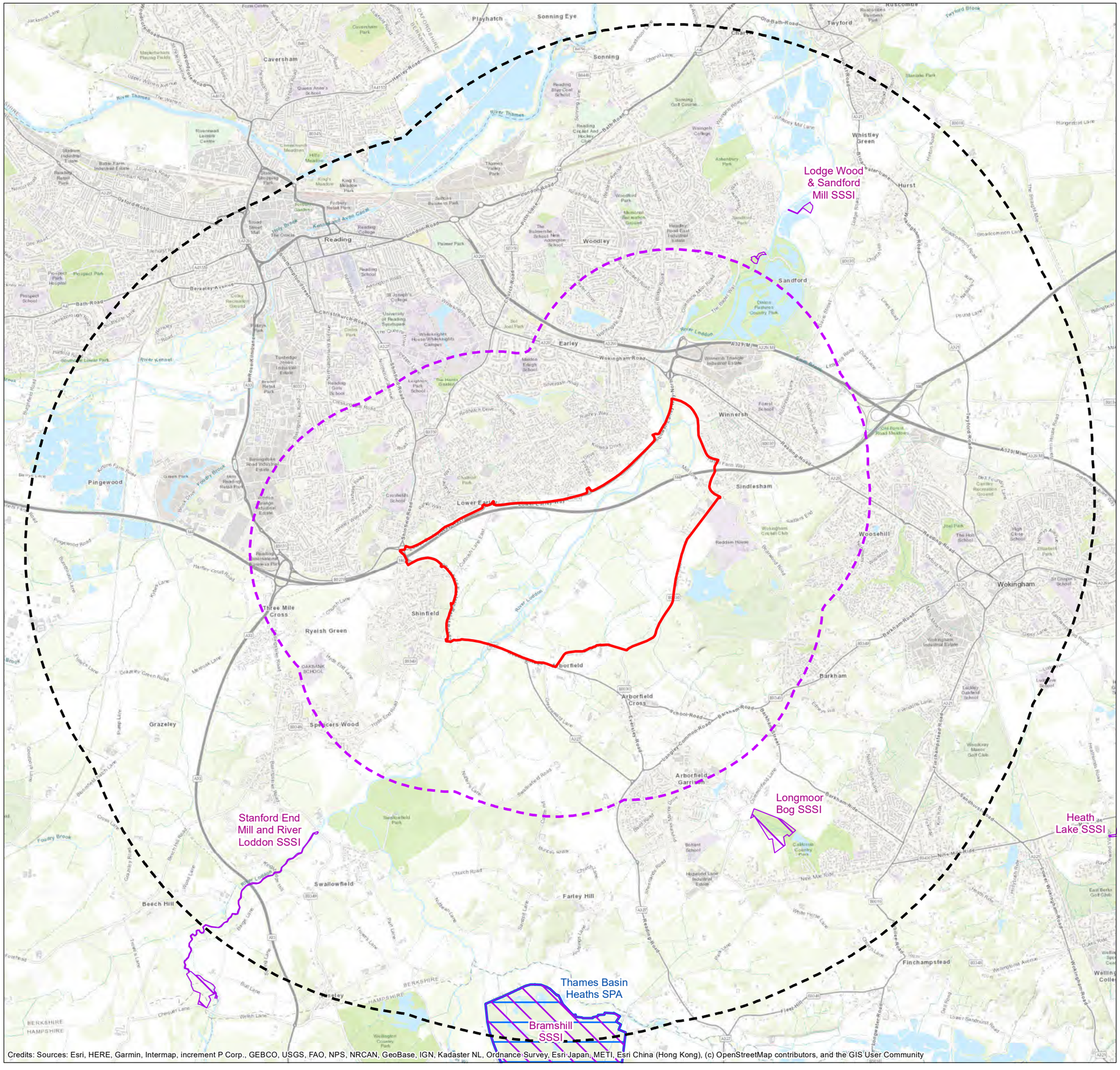
- Langley Mead SANG (18.21ha);
- Ridge SANG (23.65ha); and
- Ridge SANG Extension (6.58ha).

4.8 Furthermore, an extension to Langley Mead SANG measuring 21.66ha is proposed. These existing SANG will be linked to the proposed SANG and Loddon Valley Country Park through new and existing footpaths, creating an extensive network of open greenspace within the local area.

4.9 These SANG are well established and regularly used by local visitors. For example, visitor surveys undertaken at Langley Mead in 2022 estimated annual visitation numbers to be in the region of 60,000 visits per year. The results also indicate people visiting Langley Mead SANG are less likely to visit TBH SPA as a result, with 65% of visitors visiting the SPA less often since Langley Mead opened.

5. SUMMARY

5.1 With the delivery of the circa 34ha of new SANG as outlined above, the proposed development at LGV would not result in adverse effects on the TBH SPA from increased recreational pressure. The proposals would therefore comply with Policy NE1 and NE3 of the WBC's Update Local Plan and the Habitats Regulations.



MAP 1 Site Location & Nature Conservation Designations

KEY

- Policy SS13 Site boundary
- 2km linear distance from site boundary
- 5km linear distance from site boundary

Statutory Sites

- Special Protection Areas (SPA)
- Sites of Special Scientific Interest (SSSI)

SCALE: 1:50,000 at A3

0 500 1,000 1,500 2,000 Metres

N

EPR

CLIENT: University of Reading

PROJECT: Loddon Garden Village

DATE: 01 November 2024

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TECHNICAL PAPER

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Susana Parker	BA, MA, MSc, PIEMA, MCIfA Technical Director	[redacted]	7 November 2024

Prepared by: RPS Consulting Services Ltd **Prepared for: University of Reading**

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Figures

1 TECHNICAL PAPER - ARCHAEOLOGY

1.1 This Technical Paper has been produced by RPS Consulting Services Ltd and supports representations on behalf of the University of Reading ('the University') in response to Wokingham Borough Council (WBC's) Regulation 19 pre-submission consultation on the Local Plan Update (LPU), focusing on Policy SS13 which allocates the Loddon Valley Garden Village (LGV).

1.2 It should be read as part of a suite of documents submitted on behalf of the University in November 2024 including policy representations, Vision Document, and other technical reports. It should be read as a high-level summary of Archaeology matters at a preliminary stage, i.e. prior to the formal Environmental Impact Assessment (EIA), consultation and planning application stages.

1.3 This Technical Paper summarises the archaeological evidence base used to support the LGV proposals in the context of local and national policy and legislation.

Baseline

Previous Work

1.4 The Site was historically the subject of a number of non-intrusive investigations which formed a part of wider research programmes, including:

a. A fieldwalking survey of the Loddon Valley was undertaken in 1990-91;

b. Historic aerial photography analysis; and

c. The *East Berkshire Historic Landscape Characterisation* (HLC) project funded by Historic England and undertaken by Berkshire Archaeology (June 2019).

1.5 Discrete areas of the Site have also been the subject of archaeological investigations associated with development, and relevant results are summarised below, in sections in accordance with the four quadrants of the ownership boundary which separates the Site into south-west (SW), north-west (NW), north-east (NE), and south-east (SE) areas, as depicted in **Figure 1**.

SW Area

1.6 Magnetic susceptibility survey of four sites in 1997 revealed two discrete areas of magnetic enhancement which may be associated with human activity.

1.7 An archaeological watching brief was carried out in July 2005 during the excavation of a new gas pipe trench at Hall Farm, adjacent to the scheduled site of St Bartholomew's Church. The only finds recovered during the watching brief included fragments of late nineteenth century and early twentieth century brick and tile and these relate to construction work to the nearby farm and church.

1.8 The Berkshire Archaeological Society carried out a geophysical survey on four discrete areas at Hall Farm in 2019. The survey identified anomalies which probably represent the remains of structures relating to the Medieval village of Arborfield.

1.9 The Environment Agency commissioned a watching brief during the excavation of a new fish and wildlife channel within a loop of the River Loddon, west of Arborfield. No archaeological features were identified during the course of that watching brief.

1.10 An archaeological watching brief was also carried out during groundwork associated with the erection of a storage barn at Hall Farm. The strip only observed made-ground, but a deeper pit recorded a possible cut feature of uncertain date.

1.11 As a result of the above-mentioned fieldwalking and aerial photography surveys, archaeological potential is also identified to the south-east of Church Lane, and another to the south of Cutbush Lane East, which continues westward across the Eastern Relief Road.

NW Area

1.12 The area around Badger / Cutbush Farm is identified as having archaeological potential associated with the deposits for earlier phases of the farm, including an L-shaped feature believed to be a pond or moat.

1.13 Archaeological monitoring was undertaken during construction of the Shinfield Eastern Relief Road). A single ditch was observed during the course of the recording action, and this was of relatively modern date. The prior evaluation and geophysical survey had recorded anomalies of possible interest and the various cropmarks intercepted by the works, but they did not appear to be of archaeological origin.

1.14 A desk-based assessment was undertaken for an area around the proposed construction of a wind energy development at Rushy Mead. It identified known or potential presence of archaeological evidence dating from the Neolithic and Early bronze Age; below-ground remains of Arborfield Hall; below ground remains of structures associated with Hall Place Farmhouse and the associated settlement at Arborfield; the site of Lowerwood Farm; the site of the 'Starfish Decoy' and archaeological evidence of unknown date showing on aerial photographs. Further investigation was recommended, however, that planning application was refused.

NE Area

1.15 An archaeological evaluation was carried out at land west of Mole Road. Features recorded were interpreted as possibly relating to horticultural activity associated with the estate flower nursery dating from when the area formed part of the Bearwood Estate.

1.16 An archaeological field evaluation was carried out at the former Sindlesham Special School. No archaeological features or artefacts were observed in any of the evaluation trenches.

SE Area

1.17 Other than the above-mentioned fieldwalking surveys across all areas of the Site, the only other previous archaeological fieldwork in this area recorded in the HER is an archaeological watching brief carried out at Cedar Hall Farm, at the Centre for Dairy Research. It revealed the remains of a field boundary ditch, dated to the Early Iron Age, which had been badly truncated by modern ploughing, and the presence of a burnt root hole suggested possible land clearance of that area at some point.

Recent Work

1.18 More recently the Site has been the subject of a preliminary *Archaeological Desk-based Assessment* (RPS, May 2022), which has both informed masterplanning work to date, and recommended further work, which to date has included an *Aerial (Drone Multispectral) Survey* (Magnitude, November 2022). The Archaeological Desk-based assessment identified designated and non-designated assets.

Designated Assets

1.19 The Scheduled Monument of St Bartholomew's Church (SM1) is the only statutorily designated archaeological asset within (surrounded by) the Site. The above-ground remains of this church are

also Grade II listed (currently on the Heritage At Risk Register), and their significance and setting will be assessed separately in detail in a Built Heritage Assessment.

1.20 This parish church would have served the original village of Arborfield, which is now located to the south-east. The extent of the original settlement has been identified through aerial photography and geophysical survey, and cropmarks visible in aerial photography identify a road which linked Arborfield Hall to the Medieval village of Arborfield. The principal buildings of the Medieval settlement would have been the hall, farm (and mill), and church, forming a settlement of power combining the manorial and ecclesiastical seats.

1.21 Scheduled Monuments and their settings are protected by law and deemed of high heritage significance. The original extent of the Medieval settlement it served, although much changed from that time, forms its historic setting, together with the area of the Medieval manor, believed to have been in the location of the later Arborfield Hall, and the farm. This historic setting, although changed through time, makes a positive contribution to the significance of the Scheduled Monument.

Non-designated Assets

SW Area

1.22 There is some background potential for archaeological deposits dating to the Prehistoric period in the SW area, including that identified as an Area of High Archaeological Potential (AP1), as depicted in **Figure 1**. Elsewhere, this is mostly associated with undated finds from fieldwalking survey to the south, east and north-east of Hall Farm, and cropmarks identified through aerial photography surveys to the south of Hall Farm, also identified as Area of High Archaeological Potential in **Figure 1** (AP2 and AP3).

1.23 Evidence from a study area around the Site suggests that the area was cleared of natural woodland and the landscape was extensively farmed and settled from the late Prehistoric period. However, there is no evidence to suggest that Iron Age or Roman settlement occurs within the Site and topographic differences between the Site and known settlement sites elsewhere in the wider area suggest that the Site may always have been in agricultural use rather than a focus of settlement.

NW Area

1.24 Residual flints from the Shinfield studios site (outside the site boundary but surrounded by it) and a possible Bronze Age cremation found during an archaeological evaluation c. 200 m to the west of the NW area, indicate that there may be some background potential for archaeological deposits dating to the Prehistoric period in this area.

1.25 Two large areas of cropmarks have been identified within this area and are identified as Areas of High Archaeological Potential, as depicted in **Figure 1** (AP4 and AP5). These were interpreted as representing Late Iron Age or Early Roman settlement activity; however, subsequent geophysical survey and trial trenching over part of these areas did not identify these features. There is no evidence of Iron Age or Roman activity relating directly to this area of the Site itself.

1.26 Although the route of a possible Roman road has been suggested locally, detailed examination of the available evidence suggests that the route is highly speculative. As a result, given the topographic location of existing Iron Age and Romano-British settlement sites and the differing topography of the Site, allied to an absence of site-specific evidence, it is concluded that, on balance, deposits of the later Prehistoric/Romano-British period are unlikely to occur in this area of the Site.

1.27 Although a number of settlement foci are identified within the wider area, these lie off site and it is suggested that historic land-use within this area of the Site is dominated by agriculture. A low

potential is therefore identified for the Medieval period, although an area of ridge and furrow and an L-shaped pond of probable post-Medieval date is identified in the HER. This area is identified a an Archaeological Priority Area (AP6) as depicted in **Figure 1**.

1.28 Post-Medieval agricultural building remains may be present associated with historic farms. However, later development in this area is likely to have removed or truncated earlier post-Medieval deposits.

NE Area

1.29 There is some background potential for archaeological deposits dating to the Prehistoric period in the NE area, as attested by finds recorded during fieldwalking, close to the location of cropmarks identified as a possible late Neolithic to early Bronze Age ring ditch and other features. These are identified as Areas of High Archaeological Potential (AP9 and AP10) in **Figure 1**.

1.30 A Roman artefact scatter was discovered by fieldwalking for the Loddon Valley Survey in 1990 to the north of Parkcorner Lane, close to an area of cropmarks showing several ditched features cut by later drainage visible on aerial photographs. This is also identified as an Area of High Archaeological Potential (AP7) in **Figure 1**.

1.31 It is likely that historic land-use on this area of the Site is dominated by agriculture in the Medieval period, and a low potential is identified for archaeological deposits.

1.32 Remains of recent horticultural activity off Horrow Way, previously part of the Bearwood Estate record the location of the estate flower nursery but are not likely to extend beyond the areas already developed.

1.33 Sindlesham Mill is a former post-Medieval Mill on the River Loddon. A possible post-Medieval hollow way is recorded to the north of the mill and cropmark features are noted to the west of the mill and leet which may be associated with it.

SE Area

1.34 Extensive Prehistoric and Roman artefact scatters recorded during fieldwalking survey, and records of cropmarks visible in aerial photography are indicative of archaeological potential. These are also identified in an Area of Archaeological Potential (AP3) in **Figure 1**.

1.35 Scatters of Medieval and post-Medieval pottery were recorded during fieldwalking close to an area of ridge and furrow cropmarks recorded in aerial photography and further finds of Medieval pottery were recorded in this area of the study site. This is identified as an Area of High Archaeological Potential (AP11) in **Figure 1**. However, it is likely that historic land-use was dominated by agriculture in this period, and a low potential is therefore identified for archaeological deposits in the SE area overall.

1.36 A WWII fire-based decoy site known as a Permanent Starfish near or at Cedar Hall Farm and associated deposits may survive.

Further Work

1.37 It is anticipated that further work will take place as part of the planning process, including:

- Quantifying any receptors within (physical impacts) and beyond (setting impacts) the Site which may be impacted upon by the proposals.
- Providing an assessment of archaeology receptor value (importance) based on professional judgement, and where required, further evaluation, where receptors have no formal designation;

- Assessing development impacts and hence the significance of effects arising from proposals (both the construction and operation phases);
- Providing recommendations for further mitigation that would reduce or eliminate any adverse effects, as required;
- Providing recommendation for enhancement, where possible and appropriate; and
- Quantifying any residual effects (those that might remain after any mitigation) to assist in planning determination.

Legislation, Policy and Guidance

1.38 Work done to date takes into consideration national legislation regarding archaeology, including scheduled monuments contained in the:

- *Ancient Monuments and Archaeological Areas Act 1979*, amended by the *National Heritage Act 1983* and 2002, and updated in April 2014. The 1979 Act protects the fabric or physical form of areas designated as scheduled monuments; and
- Chapter 3 of the *Levelling Up and Regeneration Act 2023*, whereby amendments enacted to the *Town and Country Planning Act 1990* and the *Planning (Listed Buildings and Conservation Areas) Act 1990* are set out. The effect of the 2023 Act [Clause 102] in regard to the setting to scheduled monuments is that these now have the same statutory status to the setting of listed buildings. Clause 102 also enacts amendments to the two Acts such that a desirability to not only 'preserve' a designated asset (including scheduled monuments) and its setting, but now a desirability to 'preserve or enhance' such a designated asset and its setting.

1.39 The preliminary Archaeological Desk-based Assessment and Aerial (Drone Multispectral) Survey form part of a process which complies with Section 16 of the National Planning Policy Framework and corresponding National Planning Practice Guidance, as well as the:

- *Wokingham Borough - Local Development Framework Adopted Core Strategy Development Plan Document, January 2010*: Policy CP3 - General Principles for development;
- *Wokingham Borough - Development Plan Adopted Managing Development Delivery Local Plan, February 2014:* Policies TB24: Designated Heritage Assets (Listed Buildings, Historic Parks and Gardens, Scheduled Ancient Monuments and Conservation Areas); and TB25: Archaeology;
- *Wokingham Borough - Local Plan Update: Revised Growth Strategy Consultation – November 2021 to January 2022*: Policy SS3: Hall Farm / Loddon Valley Strategic Development Location;
- *Wokingham Borough - Local Plan Update 2023 – 2040 Proposed Submission Plan*, Policies DH5: The historic Environment and DH6: Archaeology; and
- *Evidence Base Topic Paper: Historic Environment*, including Appendices A, B and C.

1.40 Policies DH5: The historic Environment and DH6: Archaeology in the *Wokingham Borough - Local Plan Update 2023 – 2040 Proposed Submission Plan* are compliant with the National Planning Policy Framework and corresponding National Planning Practice Guidance.

Local Plan Update - Evidence Base

1.41 The Site has been considered in the Evidence Base for the Wokingham Borough Council's *Local Plan Update 2023-2040 – Proposed Submission Plan*. Specifically, the Evidence Base includes

the *Wokingham Borough Council, September 2024. Topic Paper – Historic Environment* (including Appendices A, B and C), which is relevant to this Technical Paper.

1.42 The Evidence Base Topic Paper identifies the same statutorily designated and non-designated archaeological assets identified in previous and recent assessments as set out above, including the Church of St Bartholomew's Scheduled Monument, and the Areas of High Archaeological Potential.

1.43 In accordance with legislation and national and local policy and guidance, the recommendations from the Evidence Base Topic Paper include further impact assessment to understand archaeological potential and inform design, proposals which recognise "*the importance of heritage assets for placemaking, to ensure that future development proposals respect the setting of (…) heritage assets that are sited close to but outside of the site boundary*", and engagement with stakeholders.

The emerging LGV masterplan

1.44 The above-mentioned preliminary *Archaeological Desk-based Assessment* (RPS, May 2022) provided a baseline which included setting out the archaeological and historic background and context for the Site, and identified statutorily designated archaeological assets (the St Bartholomew's' Church Scheduled Monument), and non-designated Areas of High Archaeological Potential as identified in the Local Plan. These studies also influenced the masterplan in identifying "Historic Hedgerows" (in accordance with the Hedgerow Regulations 1997, amended 2002), and historic place-names and historic trackways within the Site.

1.45 The *Aerial (Drone Multispectral) Survey* (Magnitude, November 2022) provided further information on Areas of High Archaeological Potential and elsewhere on site, which together with information from previous archaeological work within the Site will be used to inform further assessment, evaluation requirements to inform determination, and mitigation strategies, as part of the EIA process.

Consultation and Engagement

1.46 Berkshire Archaeology, in their role as advisors to Wokingham Borough Council in matters related to planning, have been consulted to obtain Historic Environment Records to inform the preliminary Archaeological Desk-based Assessment. Berkshire Archaeology will continue to be consulted regarding requirements to inform determination of future planning applications, and strategies for mitigation where adverse effects on non-designated assets are anticipated and cannot be avoided.

1.47 Historic England will be consulted with regards to impact from proposals on the setting of the St Bartholomew's' Church Scheduled Monument, with a view to reduce or eliminate any anticipated adverse effects, and where possible, enhance the significance of this statutorily designated heritage asset, as part of the EIA process.

Anticipated Effects of the Proposed Development

1.48 Sources of impacts on archaeological resources identified in each area of the site during the demolition and construction phases include:

- Soil stripping and terracing;
- Cutting of new roads, foundations and associated services
- General hard and soft landscaping of the site; and
- Setting impacts.

1.49 The first three bullet points represent direct, physical impacts on archaeological receptors within the site and could result in their truncation/disturbance and/or removal. The fourth bullet point relates to potential impacts caused by changes to an archaeological receptor's setting, i.e., the way in which a receptor is experienced.

1.50 During the operational phase, potential indirect impacts may arise through changes to the setting through built form, additional noise and light pollution.

Anticipated mitigation measures required for the Proposed Development

1.51 Further work is anticipated to include further desk-based assessment, non-intrusive survey, and intrusive archaeological trial trench evaluation, prior to determination.

1.52 Mitigation measures required for direct impacts from the Proposed Development will be informed by the results of this additional work as well as inform design and determination.

1.53 These may range from preservation *in situ* to full archaeological excavation and recording of areas identified as having significant archaeological potential prior to development, along with public engagement and dissemination of results to be secured by planning conditions.

1.54 Mitigation measures related to indirect setting impacts will be incorporated into the design of the Proposed Development to avoid, or if not possible, to minimise residual effects.

Summary

1.55 Although the site is large and there remain complex issues and aspects of programme to deliver as part of the planning process, there are no known technical impediments to the deliverability of proposals with regards to archaeology, and relevant provisions of the NPPF and emerging Local Plan will be met.

NB 11/07/2024

NW Area

NE Area

SW Area

SE Area

AP1

AP2

AP3

AP4

AP5

AP6

AP7

AP8

AP9

AP10

AP11

SM1

Earley

Sindlesham

Shinfield

Schoolgreen

Ryeish Green

Arborfield

Barkham

Legend

Masterplan Boundary

Designated Heritage Assets:

Scheduled Monuments

Non-designated Heritage Assets:

Areas of High Archaeological Potential

N

0 250 500m

Scale at A3: 1:18,000

MAKING COMPLEX EASY

Figure 1

Areas of High Archaeological Potential

Project Ref: N:\Gloucester Graphics\28000 - 28999\28072 - University of Reading\Figures\Mapping\GIS\Projects\Arch potential areas.mxd

TECHNICAL PAPER

Built Heritage

794-ENV-GDE-JER9842
2

07 November 2024

rpsgroup.com

Document status

Version	Revision	Authored by	Reviewed by	Approved by	Review date
1	Draft	Susana Parker	Jon Gateley	Susana Parker	9 October 2024
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Approval for issue

Susana Parker	BA, MA, MSc, PIEMA, MCIfA Technical Director	[redacted]	7 November 2024

Prepared by: RPS Consulting Services Ltd **Prepared for: University of Reading**

Contents

Figures

1 TECHNICAL PAPER – BUILT HERITAGE

1.1 This Technical Paper has been produced by RPS Consulting Services Ltd and supports representations on behalf of the University of Reading ('the University') in response to Wokingham Borough Council (WBC's) Regulation 19 pre-submission consultation on the Local Plan Update (LPU), focusing on Policy SS13 which allocates the Loddon Valley Garden Village (LGV).

1.2 It should be read as part of a suite of documents submitted on behalf of the University in November 2024 including policy representations, Vision Document, and other technical reports. It should be read as a high-level summary of Built Heritage matters at a preliminary stage, i.e. prior to the formal Environmental Impact Assessment (EIA), consultation and planning application stages.

1.3 This Technical Paper summarises the Built Heritage evidence base used to support the LGV proposals in the context of local and national policy and legislation.

Summary of Previous Work

1.4 Part of the Site was the subject of a planning application (ref. 101726) for a "*proposed erection of 25 year operation and subsequent decommissioning of a wind energy development comprising of the following elements: four wind turbines, each with a maximum overall height (to vertical blade tip) of up to 130 metres, together with new and upgraded access tracks, temporary works, hard standing areas, control and metering building, cabling, improved vehicular access from Cutbush Lane and the A327, an anemometry mast and compensatory flood storage*.". Although that application was refused consent (28 April 2011), documentation submitted with it has helped inform built heritage baseline conditions within the context of the proposals for the Site.

Recent Work

1.5 A preliminary Built Heritage Statement has been undertaken by RPS (May 2022). It included the findings from a site and surrounds walkover undertaken in April 2022. Principal baseline data was obtained from Wokingham's Historic Environment Record (HER) and from Historic England's National Heritage List for England (NHLE). This data was supplemented by review of relevant archival material, fieldwork reports, publications and grey literature, historic mapping, aerial photography and relevant online sources.

1.6 Within a 1 km search radius of the Site there are fifty-four listed buildings: all at Grade II except one Grade I listed building and one Grade II* listed building. There are also several buildings meriting consideration as non-designated heritage assets, either having been identified on Wokingham District Council List of Buildings of Traditional Local Character or on the HER, or as a result of the application of professional judgement during the site walkover in April 2022. One Grade II* registered park and garden falls within this search radius as do two conservation areas.

1.7 The site walkover survey and associated archival and cartographic research demonstrates that the bulk of these identified heritage assets share no visual, functional or historic association with the Site. As such, the proposals will have no impact on their setting, or significance, or have such a small impact as to not materially impact that significance and have been discounted from further assessment within this report. This includes all listed buildings within the settlement edges of Shinfield, Sindlesham, Arborfield Cross and within the urban edge of Reading.

1.8 It is considered, therefore, that the following twenty-three built heritage assets (either within the boundary of the Site or within 1km of the Site) have the potential to be affected by the proposals owing to their inter-visibility with the Site or through sharing a functional association with the Site. These are detailed at **Table 1** and **Figure 1**.

Area	Built Heritage Receptor	ID no. (see Fig 1)	Sensitivity
NW	Cutbush (Grade II listed) (NHL ref. 1118135)	HB1	High
NW	Barn adjoining Cutbush (Grade II listed) (NHL ref. 1136129)	HB2	High
NW	Shinfield Grange is identified on the HER and merits consideration as a non-designated heritage asset (HER ref. WK15636).	HB3	Low
SW	Oldhouse Farm (Grade II listed) (NHL ref. 1118136),	HB4	High
SW	Barn approximately 50 metres south of Oldhouse Farmhouse (Grade II listed) (NHL ref. 1136136)	HB5	High
SW	Hall Place Farmhouse (Grade II listed) (NHL ref. 1135961)	HB6	High
SW	Remains of Old Church (Grade II listed) (NHL ref. 1313014)	HB7	High
SW	Bridge House (Grade II listed) (NHL ref. 1118159)	HB8	High
SW	The Old Rectory and The Rectory Close (Grade II listed) (NHL ref. 1319096)	HB9	High
SW	The Church of St Bartholomew (Grade II listed) (NHL ref. 1135983)	HB10	High
SE	Mole Bridge Farmhouse (Grade II listed) (NHL ref. 1118121	HB11	High
SE	The Glen (Grade II listed) (NHL ref. 1118161)	HB12	High
SE	Bearwood College Registered Park and Garden (RPG) (Grade II* registered) (Register ref. 1000414)	HB13	High
SE	Park Lodge (Grade II listed) (NHL ref. 1118163)	HB14	High
SE	West Lodge (Grade II listed) (NHL ref. 1136015)	HB15	High
SE	Mole Lodge (Gas works) (HER ref. MRM17538), is identified on the HER and is deemed worthy of non-designated heritage asset status.	HB16	Low
SE	Reading Room Cottage is identified as a building meriting consideration as a non-designated heritage asset though it is not identified on the HER or the LPA List of Buildings of Traditional Local Character.	HB17	Low
SE	Arborfield Cross Conservation Area located approximately 500 metres south of the Site	HB18	Medium
NE	Carter's Hill House (Grade II listed) (NHL ref. 1319098)	HB19	High
NE	Oak Cottage (Grade II listed) (NHL ref. 1319149)	HB20	High
NE	Sindlesham Mill (Grade II listed) (NHL ref. 1136288)	HB21	High
NE	Berkshire Masonic Centre (Grade II listed) (NHL ref. 1136256),	HB22	High
NE	Sindlesham Conservation Area located adjacent to the Site.	HB23	Medium

Table 1: Built Heritage Receptors with capacity to be impacted by Proposed Development

1.9 Built heritage assets / groups of assets anticipated to be affected by proposals following the preliminary assessment are as set out below, along with anticipated impacts.

NW Area

Cutbush Farm and separately listed Barn

1.10 The proposals have the potential to give rise to a less than substantial degree of harm to the overall significance of the two separately listed built heritage receptors, through a change to their settings.

Shinfield Grange

1.11 Development in the immediate surrounds (i.e. within the private landscaped gardens) has the potential to harm the significance of the built heritage receptor through a loss of an important component of the country house – the landscaped grounds in which country houses were built to enjoy.

SW Area

Oldhouse Farm and separately listed Barn

1.12 Development in the surrounds of the farmhouse and barn has the potential to result in a level of less than substantial harm which, dependent upon the degree of visual connection with the undeveloped Loddon corridor, and sensitive use of the immediate former farm complex, may be at the lower or upper end of this spectrum of harm.

Hall Place Farmhouse and Remains of Old Church

1.13 Development within the setting of the farmhouse and church remains has the potential to result in a less than substantial degree of harm to the significance of these built heritage receptors arising from changes to their setting.

Bridge House

1.14 The setting has the potential to change as a result of the proposals and this could result in a low level of less than substantial harm, which reflects the degree of screening proposed and the relative distance from the currently proposed built development area. This harm is likely to arise from the nearby road junction and the scope for light spill which may arise from the proposed built development.

Old Rectory and the Church of St Bartholomew

1.15 Depending on the visual ties that would remain between the former parish church and the Old Rectory following any proposed development, and the degree of enclosure in which the proposals sit around the Old Rectory, there is potential for the proposals to result in a less than substantial degree of harm to the significance of this built heritage receptor, through development within its setting and the scope for visual disruption along the presently undeveloped corridor between these two assets. An equivalent degree of harm may also be seen for the current Church of St Bartholomew.

SE Area

Molebridge Farmhouse and The Glen

1.16 The proposals have the potential to give rise to a less than substantial degree of harm through development within the settings of Molebridge Farmhouse and The Glen's settings and removing the rurality in which they are enjoyed and which contributes to their understanding and significance.

Bearwood College RPG and Mole Road Lodges (three separate lodges)

1.17 The Proposed Development has the potential to give rise to a less than substantial degree of harm to the significance of the RPG and statutorily listed lodges, through a loss of rurality and the urbanising affects arising from development of this part of the Site. There is, accordingly, capacity

for a minor level of harm to the significance of the non-designated built heritage receptor Mole Lodge.

Reading Room Cottage

1.18 Dependent upon the degree of open space surrounding this non-designated heritage asset, allied to screening and potential traffic flow passing alongside this built heritage receptor into the Site, the proposed development has the capacity to, at most give rise to a negligible degree of harm.

Arborfield Conservation Area

1.19 It can be said that the development of the Site has the potential to give rise to a level of less than substantial harm, but that this could be at the lower end of the spectrum dependent upon landscaping treatments along the southern edge of the Site.

NE Area

Carter's Hill House and Oak Cottage

1.20 Development on the Site has the potential to give rise to a less than substantial degree of harm to the significance of Carter's Hill House and Oak Cottage through development within their currently predominantly rural setting.

Sindlesham Mill

1.21 The Proposed Development does not include proposals for built development areas near this asset located on the Loddon flood plain. Two proposed roads will fall within the wider setting and are likely to share some intervisibility with the built heritage receptor. Whilst this will change the wider rural surrounds, when the wider hotel development is also factored in, it is deemed that the roads infrastructure on the wider landscape is unlikely to materially impact the overall significance of the former mill.

Berkshire Masonic Centre

1.22 The proposals are unlikely to materially impact the significance of this built heritage receptor. Were the built development immediately adjacent to the receptor to be acquired and demolished this would change the setting, though changing from a position of negative impact presently.

Sindlesham Conservation Area

1.23 The planned nature of the development means that the bulk of views of the designation are from within, with the wider Bearwood College estate making a positive contribution to the significance of the conservation area. Its wider setting makes a secondary contribution to its overall significance, and the Site itself can be said to make an overall neutral contribution to the significance of the conservation area, therefore the Proposed Development is unlikely to materially impact the significance of this heritage asset.

Further Work

1.24 It is anticipated that further work will take place as part of the planning application and Environmental Impact Assessment (EIA) process, including:

- Quantifying any designated receptors within and beyond the Site which may be impacted upon by the proposals.

- Providing an assessment of heritage receptor value (importance) based on professional judgement where receptors have no formal designation;
- Assessing development impacts and hence the significance of effects arising from proposals (both the construction and operation phases);
- Providing recommendations for further mitigation that would reduce or eliminate any adverse effects, as required;
- Providing recommendation for enhancement, where possible and appropriate; and
- Quantifying any residual effects (those that might remain after any mitigation) to assist in planning determination.

Legislation, Policy and Guidance

1.25 The above-mentioned preliminary *Built Heritage Statement* by RPS (May 2022) forms part of a process which complies with Section 16 of the National Planning Policy Framework and corresponding National Planning Practice Guidance, as well as the:

- *Wokingham Borough - Local Development Framework Adopted Core Strategy Development Plan Document, January 2010*: Policy CP3 - General Principles for development;
- *Wokingham Borough - Development Plan Adopted Managing Development Delivery Local Plan, February 2014:* Policy TB24: Designated Heritage Assets (Listed Buildings, Historic Parks and Gardens, Scheduled Ancient Monuments and Conservation Areas);
- *Wokingham Borough - Local Plan Update 2023 – 2040 Proposed Submission Plan*, Policies SS13: Hall Farm / Loddon Valley Strategic Development Location; and DH5: The historic Environment; and
- *Evidence Base Topic Paper: Historic Environment*, including Appendices A, B and C.

1.26 Policy DH5: The historic Environment in the *Wokingham Borough - Local Plan Update 2023 – 2040 Proposed Submission Plan* is supported as compliant with the National Planning Policy Framework and corresponding National Planning Practice Guidance.

1.27 Work done to date also takes into consideration national legislation regarding built heritage. Where any development may affect certain designated heritage assets, there is a legislative framework to ensure proposed works are developed and considered with due regard to their impact on designated heritage assets. This extends from primary legislation under the *Planning (Listed Buildings and Conservation Areas) Act 1990*.

1.28 The relevant legislation in this case extends from section 66 of the 1990 Act which states that special regard must be given by the decision maker, in the exercise of planning functions, to the desirability of preserving or enhancing listed buildings and their setting.

1.29 Section 69(1) of the Act requires LPAs to '*determine areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance'* and to designate them as conservation areas. Section 69(2) requires LPAs to review and, where necessary, amend those areas '*from time to time'*.

1.30 For development within a conservation area section 72 of the Act requires the decision maker to pay '*special attention* […] *to the desirability of preserving or enhancing the character or appearance of that area'*. The duty to give special attention is considered commensurate with that under section 66(1) to give special regard, meaning that the decision maker must give considerable importance and weight to any such harm in the planning balance. However, unlike the parallel duty under section 66, there is no explicit protection for the setting of a conservation area.

1.31 Chapter 3 of the Levelling Up and Regeneration Act 2023, sets out amendments enacted to the Town and Country Planning Act 1990 and the Planning (Listed Buildings and Conservation Areas) Act 1990. The effect of the 2023 Act [Clause 102] in regard to the setting to designated heritage assets is that these now have the same statutory status to the setting of listed buildings, although this excludes conservation areas. Clause 102 also enacts amendments to the two Acts such that a desirability to not only 'preserve' a designated asset and its setting, but now a desirability to 'preserve or enhance' such a designated asset and its setting.

Local Plan Update - Evidence Base

1.32 The Site has been considered in the Evidence Base for the Wokingham Borough Council's *Local Plan Update 2023-2040 – Proposed Submission Plan*. Specifically, the Evidence Base includes the *Wokingham Borough Council, September 2024. Topic Paper – Historic Environment* (including Appendices A, B and C), which is relevant to this Technical Paper.

1.33 The Evidence Base Topic Paper identifies largely the same statutorily designated and non-designated heritage assets identified in previous and recent assessments as set out above, including:

- The Bridge at Sindlesham Mill (1118107) and Sindlesham Mill (1136288) itself;
- Berkshire Masonic Centre (1136256);
- Mole Bridge Farmhouse (1118121),
- The Glen (1118161),
- Church of St Bartholomew (1135983),
- The Old Rectory (1319096),
- Park Lodge (1118163) and West Lodge (1136015),
- Bearwood College (1135967),
- Carter's Hill House (1319098),
- Oak Cottage (1319149),
- Church of St Bartholomew (1135983)
- 'Remains of Old Church (1313014). The 'Site of St Bartholomew's Church' which covers almost the same land area as the Grade II Listing described above, is a Scheduled Monument which is listed on Historic England's Heritage at Risk Register. The Grade II Listed 'Simonds Family Tomb 4m north of Old Church' (1319095) is located in the same area,
- Hall Place Farmhouse (1135961),
- Oldhouse Farmhouse (1118136) and 'Barn approximately 50m south of Oldhouse Farmhouse' (1136136),
- Listed 'Cutbush' (1118135) and 'Barn Adjoining Cutbush' (1136129),
- Bridge House (1118159), and
- Shinfield Grange, an Arts and Crafts former house set within large, landscaped grounds, identified by the Council's Conservation Officer as a heritage asset and suitable candidate for Local Listing.

1.34 In accordance with legislation and national and local policy and guidance, the recommendations from the Evidence Base Topic Paper include further impact assessment to understand heritage potential and inform design, proposals which recognise "*the importance of heritage assets for placemaking, to ensure that future development proposals respect the setting of (…) heritage assets that are sited close to but outside of the site boundary*", and engagement with stakeholders.

The emerging LGV masterplan

1.35 The above-mentioned preliminary *Built Heritage Statement* by RPS (May 2022) identified statutorily designated assets and non-designated assets likely to be affected by development of the Site, thereby informing current proposals.

Consultation and Engagement

1.36 Historic England will be consulted with regards to impact from proposals on the setting of the St Bartholomew's' Church Listed Building element (currently on the "At Risk Register") associated with the Scheduled Monument during the design stage, with a view to inform options to reduce or eliminate any anticipated adverse effects, and where possible, enhance the significance of this statutorily designated heritage asset, as part of the EIA process.

1.37 Consultation with Wokingham Borough Council's Conservation Officer will be undertaken to ascertain the scope of future Built Heritage Impact Assessments and Statements.

1.38 Berkshire Archaeology, in their role as advisors to Wokingham Borough Council in matters related to planning, have been consulted to obtain Historic Environment Records.

Likely Effects of the Proposed Development

Construction Impacts and Effects

1.39 During the construction phase, groundworks, landscaping and ancillary works and structures have an effect on the setting of built heritage receptors. Accordingly, an adverse effect on heritage receptors would result without appropriate mitigation.

Occupation Impacts and Effects

1.40 During the operational phase, potential impacts may arise through changes to the setting through built form, additional noise and light pollution. Accordingly, an adverse effect on built heritage receptors would result without appropriate mitigation.

Likely Mitigation Measures required for the Proposed Development

Mitigation during construction

1.41 Mitigation during the construction phase comprises a thorough adherence to good site practice measures. These measures are likely to include site hoarding, a construction logistics plan, incorporation of a construction lighting strategy and provision of time limits on construction works to reduce the impacts of noise, dust and light pollution on the nearby built heritage receptors.

Mitigation on completed development

1.42 A number of mitigation measures relating to landscaping have been incorporated into the emerging Proposed Development scheme. These measures will be adopted into the design of the Proposed Development and, as such, appropriate mitigation will be inherent to the Proposed Development.

Summary

1.43 Although the site is large and there remain complex issues and aspects of programme to deliver as part of the process, there are no known technical impediments to the deliverability of proposals with regards to built heritage, and a range of opportunities to attain enhancement through sensitive and high-quality design.

NB 25/07/2024

1136295
SINDLESHAM FARMHOUSE

HB21 - SINDLESHAM MILL (1136288)
1118107
BRIDGE AT SINDLESHAM MILL

1319121
RUSHY MEAD

HB22 - BERKSHIRE MASONIC CENTRE (1136256)

HB20 - OAK COTTAGE (1319149)

HB23 - Sindlesham Conservation Area

HB14 - PARK LODGE (1118163)

HB19 - CARTER'S HILL HOUSE (1319098)

HB15 - WEST LODGE (1136015)

HB 1 - CUTBUSH (1118135)

HB2 - BARN ADJOINING CUTBUSH (1136129)

HB 3 - Shinfield Grange (WK15636)

1136186
LANE END FARMHOUSE

HB4 - OLDHOUSE FARMHOUSE (1118136)

HB 5 - BARN APPROXIMATELY 50 METRES SOUTH OF OLDHOUSE FARMHOUSE (1136136)

HB16 - Mole Lodge (MRM17538)

HB13 - Bearwood College (1000414)

HB12 - THE GLEN (1118161)

HB6 - HALL PLACE FARMHOUSE AT NGR SU 7499 6819 (1135961)

1319095
SIMONDS FAMILY TOMB 4 METRES NORTH OF OLD CHURCH

HB 7 - REMAINS OF OLD CHURCH AT NGR SU 7495 6802 (1313014)

1006975
Site of St Bartholomew's Church

HB11 - MOLE BRIDGE FARMHOUSE (1118121)

HB8 - BRIDGE HOUSE (1118159)

HB9 - THE OLD RECTORY THE OLD RECTORY CLOSE (1319096)

HB17 - Reading Room Cottage

HB10 - Church of St Bartholomew (1135983)

HB18 - Arborfield Cross Conservation Area

Legend

- Masterplan Boundary
- 200m Site Buffer

Designated Heritage Assets:

- Scheduled Monuments
- Listed buildings (Grade II)
- Registered Parks or Gardens
- Conservation Areas

Non-designated Heritage Assets:

- Non-designated heritage assets

N

0 250 500m

Scale at A3: 1:18,000

MAKING COMPLEX EASY

Figure 1

Built Heritage Receptor Plan

Project Ref: N:\Gloucester Graphics\28000 - 28999\28072 - University of Reading\Figures\Mapping\GIS\Projects\HB plot.mxd

Loddon Valley Garden Village

The Case for Employment Uses

savills.co.uk

Contents

Executive Summary

Savills has been instructed by the University of Reading to assess the approach to the provision of employment land in Wokingham Borough Council's (WBC) Local Plan Update (LPU) 2023-2040 Proposed Submission Plan and especially how it pertains to the Thames Valley Science Park (TVSP). The primary focus of the report is to consider if there is likely to be sufficient need for employment floorspace at the TVSP to justify its expansion of up to an additional 100,000 square metres of research and development (R&D) floorspace across a range of uses in accordance with LPU Policy SS13.

The overriding conclusion of the assessment is that the expansion of the TVSP is critical to the local and sub-regional economy. The council's own evidence demonstrates that even with an expanded TVSP, not enough employment land is available to fully meet its full requirements and address historic supply constraints. The full range of potential economic opportunities that could be accommodated at the TVSP are not fully mapped out in the council's evidence. To ensure that future opportunities can be accommodated, the TVSP extension represents the sub-region's best opportunity. As the council's evidence demonstrates, there are no satisfactory alternatives to the provision of new employment land at an expanded TVSP.

This report's introductory Context and Key Questions section (chapters 1 to 3), summarises the evolution of the TVSP and its planning context. Phase 1 of the TVSP comprised the Gateway Building and Rutherford Centre which were granted permission in 2010. Phase 2 was granted outline permission in 2018 but was unimplemented. The vision for the TVSP was then re-oriented towards research and development, laboratories and other high-tech uses. In 2021, full planning permission was granted for film and TV studios on the Phase 2 land. Other recent developments include premises to accommodate activities for the British Museum and the Natural History Museum. In addition, discussions with the Royal Botanic Garden are underway for new premises. The TVSP's location, scale, development momentum, institutional support, and integration within a proposed garden village (with about 4,000 new homes) are testament to its ongoing commercial potential.

Whilst Policy SS13 provides a framework for the delivery of the TVSP's expansion, a key question that is addressed in this report is how the TVSP fits within the context and findings of the council's principal evidence base document for employment land, the 2023 Employment Land Needs Review. The document concludes that no new land is needed for offices but that there is strong demand for industrial uses for primarily traditional activities such as storage and logistics. Yet the policy aspirations for the TVSP envision a scheme that is oriented towards R&D activities. Whilst this suggests an inconsistency between the evidence base and policy framework, our assessment presents analysis which finds that there is considerable opportunity to accommodate a variety of different economic activities at the TVSP. The success in securing Shinfield Studios, the British Museum's Archaeological Research Collection, and the Natural History Museum's Collections Science and Digitisation Centre demonstrates the need to ensure that commercially attractive, shovel ready employment land at the TVSP continues to provide opportunities to tap in to wider markets and demand drivers.

The need for the TVSP is further supported by the council's Topic Paper: Employment. The paper acknowledges that the LPU allocates sufficient employment land to meet the minimum 18 ha of new land for employment identified in the 2023 Employment Land Needs Review. However, even with the proposed expansion of the TVSP, the LPU does not provide for the need for 53 ha of new employment land. The Topic Paper: Employment document cites two reasons for the LPU falling short. There is insufficient land being promoted by landowners in the borough and other

planning authorities in the county lack the capacity to meet WBC's need. The lack of sufficient additional employment land capacity highlights the critical need for the expansion of the TVSP.

This reports second section, Sub-Region and its Property Markets (chapters 4 to 7) presents an assessment of the sub-region's economy and property markets. The sub-region has a relatively high proportion of R&D jobs compared to the national level. Reading and Wokingham are leaders in this regard, compared to the other local authorities. The sub-region also attracts a significant amount of national and international inward investment. This indicates that an expanded TVSP would be well-positioned to accommodate further growth in the R&D sector and attract inward investment.

The Sub-Region and its Property Markets section also reviews property market metrics to understand the supply-demand dynamics and consider the implications for the TSVP. The findings of the property market analysis are broadly consistent with the council's evidence. Both analyses conclude that demand for office floorspace is relatively muted and that the vacancy rate has increased. The office market is still recovering from changing work practices and the migration to higher quality premises. Over time Savills expect the office market's recovery to be more salient. In spite of the concurrence between Savills analysis and the council's evidence, the council does not take into account specific economic and sector dynamics that could take place within the office sector and provide future impetus to the sub-regional economy. Nor does it consider that only 4% of total office stock is considered high quality and that there is a need for new high quality offices. Consideration of these factors suggest that there is a case for the expanded TVSP to incorporate an element of offices.

Like offices, Savills assessment of the industrial market draws similar conclusions to the council. Demand for industrial & logistics (I&L) premises is strong and has been a key driver in the sub-region for well over a decade. The I&L markets have been and continue to be characterised by a shortage of suitable premises. However there are a range of other industrial activities in the area, including those which are R&D-related, that are not fully reflected in the council's high level assessment. This includes the recent activity at the TVSP such as the film studios and premises for museum storage and research which are housed in industrial premises. It is likely that more of these activities could be accommodated at the TVSP.

To further consider the economic case for an expanded TVSP, this report's Growth Sectors and Prospects section (chapters 8 to 14) investigates key growth sectors that are currently generating economic value internationally, domestically and even within the wider sub-region. These activities could have a role in the new development at an expanded TVSP, given the park's scale, accessibility and location. We expect these sectors to continue to grow if land is made available:

- ***Industrial and Logistics (I&L):*** This sector has an extensive range of R&D applications from logistics solutions; mid-tech facilities housing hybrid lab and office configurations; and advanced/light manufacturing to develop a variety of research-based applications.
- ***Film and Media:*** The growth in film/ high-end television (HETV) production, streaming and content from the expanding creative economy is generating further demand for production space.
- ***Life Sciences:*** The surrounding science parks and the wider 'golden triangle' (Oxford, Cambridge and London) lacks enough suitable lab space.
- ***Innovation and Technology:*** Reading has a high density of technology businesses, including Microsoft, Three, Oracle, Symantec and Huawei. This foundation, combined with the exponential growth of investment and product development in the technology sector, will add to demand for more suitable spaces. This can range from offices with a strong amenity offering to dry labs.

- ***Culture and Heritage:*** The newly built British Museum Archaeological Research Collection and upcoming Natural History Museum Collections Science and Digitisation Centre, with strong ties to the University of Reading's academic body, illustrate the University's strength and attractiveness as an anchor to other research and educational institutes.
- ***Climate Change and Sustainability:*** There is a need to embed sustainable solutions that are aligned to the Climate Emergency Action Plan goals of Wokingham Borough Council and the University's and the UK's overall net-zero plans. There is a large gap in the generation and utilisation of renewable sources.

The overriding conclusion of the sub-regional analysis and sectoral review is that future demand for employment premises will come from a combination sources, including new, innovative activities and sectors, some of which would represent new inward investment for the sub-region. The considerable breadth of economic demand drivers is not fully captured by the council's evidence. To ensure that new requirements can be accommodated in the sub-region, the council's own evidence points to the TVSP is the most appropriate site. No sites have the scale, location and shovel-readiness as the proposed expansion of the TVSP. Given the lack of alternatives, it is imperative that an expanded TSVP be brought forward.

A. CONTEXT AND KEY QUESTIONS

1. Introduction

1.1. Purpose of Report

1.1.1. Savills has been instructed by the University of Reading to assess the approach to the provision of employment land in Wokingham Borough Council's (WBC) Local Plan Update (LPU) 2023-2040 Proposed Submission Plan and in particular the Thames Valley Science Park (TVSP). The primary focus of the report is to consider if there is likely to be sufficient need for employment floorspace at the park to justify its expansion of up to an additional 100,000 square metres of research and development (R&D) floorspace across a range of uses in accordance with LPU Policy SS13.

1.2. Key Conclusions

1.2.1. The analysis confirms that there is sufficient demand for employment floorspace in the Property Market Area (PMA) to justify the allocation as set out in the LPU. The TVSP would play a critical role in meeting the need for well-located employment land within a recognised and growing cluster of research and development-related activity.

1.2.2. WBC have proposed to allocate additional land for the expansion of the TVSP. The council prepared evidence to support of the allocation and this report provides supplementary evidence. It also elaborates on the economic demand drivers that have the potential to grow further at the TVSP.

1.2.3. The report emphasises the need for a flexible approach towards the type of employment activities accommodated at an expanded TVSP. This could be a mix of industrial, R&D, lab and office space. The WBC evidence base is cautious about office demand and focuses on demand for industry and logistics activity. This report emphasises the unique opportunity at the TVSP and the wide range of uses and drivers which could be accommodated. This report builds on the locally-focussed market context covered in the council's evidence base by identifying and describing the wider opportunity for economic growth and inward investment. Emphasising this wider context strengthens the case put forward by the council.

1.3. Approach and Report Structure

1.3.1. This report is in three parts. It begins with (A) a presentation of the site its broad context; moves to (B) an analysis the economic and property market dynamics within the broader sub-region; and finishes with (C) a discussion of the different sectoral growth drivers that we expect to help support the TVSP's commercial success.

1.3.2. The approach and structure of this report is oriented towards assessing the evidence and policy and providing support and evidence which fully illuminates how the TVSP is positioned to accommodate economic growth over the plan period of the emerging LPU. It provides additional linkages, not explicit in the council's evidence base, between the growth aspirations for the TVSP (as set out in LPU policies) and the sub-regional, national and international economic dynamics that will help it be realised.

1.3.3. Section A sets out the context for the site and the key questions that this work addresses which is about the extent to which the different growth drivers validate the proposed expansion at the TVSP. The section begins by covering the TVSP's historic context, recent growth, and the proposed expansion. It also reviews and summarises the planning policy context.

1.3.4. Section B reviews the sub-regional economy and property market dynamics. It sets out the opportunity for the TVSP within its sub-regional context, whilst also pointing towards national and international economic drivers that could also play a role in its success.

1.3.5. Section C identifies the key sectoral national and international key growth drivers and considers their economic potential. The section provides evidence that further demonstrates the TVSP's potential and justifies the relevant emerging policy context.

2. The Site and Proposed Development

2.1. Introduction and Summary of Findings

2.1.1. This section presents the existing and proposed employment land and premises within the Loddon Valley Garden Village ('LGV'). The LGV's employment element comprises the successful initial Gateway Buildings within the Thames Valley Science Park; the more recently developed premises; and the land proposed for the expansion of employment through emerging policy. The broad employment area is referred to as the Thames Valley Science (& Innovation) Park ('TVSP') in the LPU.

2.2. TVSP's Recent History

2.2.1. The first phase of the TVSP comprised the Gateway Building and Rutherford Centre which were granted permission in 2010. Phase 2 was granted outline permission in 2018 but was unimplemented.

2.2.2. Building upon the success of the initial TVSP development, the University of Reading produced a vision for the TVSP's expansion in 2020. The TVSP was re-oriented towards research and development, laboratories and other high-tech uses. That vision anticipated the area's economy being driven by growth sectors which reflected the Government's Industrial Strategy at the time:

- Film & media
- Health & life sciences
- Innovation & technology
- Arts & heritage

2.2.3. Commercial interest in the TVSP continued to grow and subsequent planning permissions were secured for major employers and institutions. In 2021, full planning permission was granted for Shinfield Studios, a film and TV studio complex that was built on the Phase 2 land. It included about 700,000 sq ft of workshops, offices, and backlot premises. The permission is now fully implemented.

2.2.4. Other recent developments include new premises for the British Museum. A new premises for the Natural History Museum is expected to be completed in 2027 and discussions are underway with the Royal Botanic Garden for a new premises as well. **Figure 2.1** presents a plan identifying the schemes which have been completed to date.

Figure 2.1 The TVSP's Completed Projects

Source: Savills Urban Design Studio, 2024

Loddon Valley Masterplan Work

2.2.5. The development of the masterplan for Loddon Garden Village (including the TVSP) is ongoing. **Figure 2.2** shows the University of Reading's indicative masterplan consistent with the LPU.

Figure 2.2 Indicative Masterplan for Key Employment Sites in London Garden Village

Source: Savills Urban Design Studio, 2024

2.3. LPU Proposed Allocation

2.3.1. **Figure 2.3** shows the LGV concept plan that accompanies LPU Policy SS13. The large areas in the north-western part of the LGV comprise both existing and proposed employment premises. This broad employment area comprises both the existing TVSP and its expansion area in the eastern parts.

2.3.2. In addition to the TVSP, the LGV also proposes 3,930 new homes. The scale of new housing in proximity to new employment floorspace will help create a balanced community and enhance the commercial attractiveness of the TVSP by providing a local workforce that could commute by means of active transport.

Figure 2.1 The LGV Concept Plan

Source: Local Plan Update 2023-2040 Proposed Submission Plan. NB: Image is low resolution.

3. Planning Policy, Evidence Base and Key Questions

3.1. Introduction and Summary

3.1.1. This section presents an overview of the planning policies and evidence base relating to the Thames Valley Science & Innovation Park (TVSP). The proposed extension of the TVSP plays a key role in Wokingham's LPU and the delivery of the LGV. Its extension would deliver 100,000 sq m in R&D floorspace across a range of employment use classes, making it the largest employment allocation in the LPU.

3.1.2. One of the key questions arising from the LPU policies is how the TVSP fits within the conclusions of the key evidence base document. The council's principal evidence base document is the 2023 Employment Land Needs Review which concludes that no new employment allocations are needed for offices and that there is strong demand for industrial uses, albeit for traditional uses such as storage and logistics. Yet the aspirations for the TVSP is a scheme oriented towards R&D activities. Whilst this could represent an inconsistency, this chapter considers the question and then in the third section part of this report (chapters 8 to 14) we present research that demonstrates the considerable growth opportunities that could be supported through the new employment land at the TVSP.

3.1.3. The argument in the evidence base for the expansion of the TVSP from the employment land supply and spatial planning perspective is clearer. The Employment Topic Paper cites the limited amount of employment land being promoted by landowners in Wokingham and the limited land available for new employment premises at the other local authorities in the sub-region. Whilst the LPU allocates sufficient new employment land to meet its minimum need of 18 ha identified in the 2023 Employment Land Needs Review, it does not provide enough to meet its aspirational figure of 53 ha that addresses the current low availability and the historic supply constraints.

3.1.4. The need for the expansion of TVSP is corroborated by the Sustainability Appraisal (SA) which identifies its spatial relationship with the proposed residential community within the LGV. This linkage would enhance TVSP's commercial attractiveness to businesses. Amongst the four potential employment land allocations in Wokingham considered by the SA, the TVSP performs the strongest.

3.2. National Planning Policy

National Planning Policy Framework (NPPF)

3.2.1. The NPPF sets out the government's planning policies for England and how such policies are expected to be applied.

3.2.2. One of the main aims of the NPPF is to ensure sustainable development. The NPPF's economic objective of achieving sustainable development is set out in Section 2 Achieving Sustainable Development. Paragraph 8a advocates for the planning system to 'help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure'.

3.2.3. Section 3 Plan-Making states in paragraph 20 that strategic policies should outline an overall strategy for the pattern, scale and quality of development, and make sufficient provision for employment and commercial development.

3.2.4. Finally, in Section 6 Building A Strong, Competitive Economy, paragraph 80 states that, '…planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. ... This is particularly important where Britain can be a global leader in driving innovation, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential.' Paragraph 82 stresses the importance of identifying the specific local requirements of different sectors. The provision for clusters or networks of knowledge and data-driven, creative or high technology industries, is recognised as a key factor for growth.

Local Planning Policy

Wokingham Adopted Local Plan

3.2.5. WBC's adopted Development Plan includes the Core Strategy (adopted in 2010), the Managing Development Delivery Development Plan Document (DPD) (adopted in 2014) and the Shinfield Neighbourhood Plan (adopted in 2017).

3.2.6. The development of a cluster of knowledge based businesses, has been identified in Policy CP16 of the Core Strategy (2010). It has been assessed that a Science Park within the borough would enhance the borough's employment base, which is associated with a centre of technology such as a university or research institute, in this case the University of Reading. It recognises the potential for an important innovation cluster in the Thames Valley. It sees the University of Reading as acting as a promoter of research and development via the development of a research-based science park within this area.

3.2.7. The University's land between the Eastern Relief Road (A327) and Pearmans Lane is allocated as a site for employment development in the Core Strategy. The remainder of the land proposed for the expansion of the TVSP by the LPU is not allocated for employment use at this point in time.

3.2.8. Chapter 3 of the DPD provides topic-based policies and has a section on the potential economic growth for the borough. Policy TB13 within this section relates to the University of Reading Science Park, which is allocated for development by Policy SAL07 of the DPD.

Local Plan Update 2023-2040 Proposed Submission Plan (LPU)

3.2.9. WBC is consulting on its LPU. It provides detail on the development expectations for the LGV, including the development of employment premises at TVSP. .

3.2.10. To meet its employment land and premises needs, the Council's spatial strategy seeks to optimise the use of its existing employment land in its Core Employment Areas and town centres (paragraph 4.37). The LPU also identifies the LGV for the facilitation of the majority of new employment floorspace through the extension of the TVSP.

3.2.11. Below are the key policies covering the LGV and employment land.

Policy SS8: Meeting Employment Needs

3.2.12. The policy sets out how the council plans to meet its employment needs. It supports the redevelopment of existing employment sites where appropriate. To provide new employment floorspace, the TVSP is identified for 100,000 sq m of R&D floorspace across E(g), B2 and B8 use classes. The only other site that it is identified for new development is Hogwood Farm Industrial Estate which has capacity for approximately 6,000 sq m of floorspace for B2 uses.

3.2.13. Whilst the LPU does not explicitly link the quantity of need for employment land and premises that are identified in the Employment Land Needs Review (2023), it cites some of the key findings. This includes the conclusion that there is no need to allocate new land for offices and that a minimum of 18 ha of new employment land is required for industrial premises. The LPU positions the TVSP for accommodating a significant proportion of that future demand.

3.2.14. Whilst the LPU provides sufficient land to meet its minimum requirement, the full aspiration is 53 ha which is identified in the Employment Land Needs Review (2023). (The higher figure for employment land need is to compensate for what is perceived to be a historically constrained industrial market.) The LPU does not provide sufficient land to meet this higher figure. The LPU also does not address the need to provide no further employment land to attract inward investment including foreign direct investment (FDI).

Policy SS13: Loddon Valley Garden Village

3.2.15. The LGV is proposed to be allocated to deliver around 3,930 homes and around 100,000 sq m of R&D floorspace within use classes E(g), B2 B8, as well as complementary uses through an extension of the TVSP.

3.2.16. With regard to employment and jobs, the policy states that development proposals should contribute towards a wide range of employment opportunities across different sectors within different scales of premises. This includes both the expansion of the TVSP and in the LGV's new district and local centres.

Policy ER1: Core Employment Areas

3.2.17. The policy identifies the TVSP as a Core Employment Area. More generally, it seeks to protect Core Employment Areas for their continued use. Development proposals should provide a range of different employment premises that accommodate a range of different types of tenants. Start-ups and premises for grow on space should be accommodated.

Policy ER4: Employment and Skills Plan

3.2.18. In light of the council's focus on providing employment and training opportunities the policy expects development proposals to publish a plan setting out how such opportunities will be provided.

3.3. Evidence Base Documents

Employment Land Needs Review (March 2023)

3.3.1. The Employment Land Needs Review (2023) report is an evidence base document that supports the LPU.

3.3.2. The report defines offices as comprised of Use Classes Eg(i-ii). Industrial is an aggregation of light (Eg(iii)), general industrial (B2) and logistics/distribution (B8).

Office Market Performance

3.3.3. The report begins by setting out the prospects for the key employment sectors. It says that the prospects for the office market is very uncertain (page 1). This is due to changing work practices. Wokingham's location in the Thames Valley makes it a commercially attractive location for offices and provides an opportunity to attract inward investment. However some land used for offices is being converted to industrial use due to weaker demand for the former and strong demand for the latter.

3.3.4. Demand for office space in the Thames Valley and Wokingham in particular is driven by the Technology, Media, and Telecom (TMT) sector, professional services, finance, insurance and pharmaceuticals (page 38). The borough attracts both small businesses and large internationals (page 44). At the time of the report, market requirements were characterised as 'thin'.

3.3.5. The office market had a high rate of availability at the time of the report. Regarding development opportunities, the report identified land at Green Park as one of the few locations that can viably provide new space in an area that occupiers want to locate (page 60).

Industrial Market Performance

3.3.6. The prospects for the industrial market are stronger than offices (page 3). Demand for industrial premises is led by logistics activity, growth in the TV and film sector, and other activities. There is demand across different premises sizes.

3.3.7. The wider industrial market is experiencing a shortage of premises and therefore Wokingham is increasingly viewed as a credible location for logistics and for servicing London (page 61).

3.3.8. Demand in Wokingham is from a range of size requirements and sectors with no single sector driving demand (page 65). There is a lack of supply which is suppressing demand. This is confirmed by the data and by stakeholders (page 66).

3.3.9. The report states that the council's current strategy of intensifying existing industrial floorspace is working but it is still insufficient to meet the significant pent-up demand. Whilst intensification can meet the demand for smaller units, the demand for larger units is not being met and there are very few sites available for development (page 77).

Future Employment Need

3.3.10. The report provides three methods for estimating future need: past trends, demand for labour, and labour supply across offices and industrial.

3.3.11. The key conclusions for the office sector are:

- There is no need to allocate more land for offices,
- Some selective release is acceptable for other uses.

3.3.12. For the industrial sector the conclusions are:

- There is a need for at least 18 ha for land but there should be an aspiration to provide 53 ha to address the historically constrained market and low level of availability.
- A component of the 18 ha is generated by indirect jobs created by Shinfield Studios. There could be up to 600 local indirect jobs created by Shinfield Studios which generate a need for about 6 ha of employment land.
- The report advocates for an positive approach towards the provision of industrial floorspace provision and that delivery should be 'front loaded' (page 101).
- The report says that the council should consider the need for strategic logistics. The report does not quantify a figure in this respect.

3.3.13. The report emphasises the need to allocate large development sites to attract foreign direct investment (FDI). The report does not quantify a figure for the need that could be generated by FDI. However considering that the sites should accommodate multinational corporates and provide flexibility and high-quality premises, the amount of employment land would be expected to be significant. These should be sites that are '*ready to go'* and that they be provide a high quality specification (page 102).

Housing & Employment Land Availability Assessment (September 2024)

3.3.14. This Housing and Economic Land Availability Assessment (HELAA) assesses the availability of land for development including employment land to support the LPU.

3.3.15. The report identifies three sites that are potentially developable for employment in addition to the proposed extension to the TVSP. However, the report states that there is insufficient information about those sites in terms of development capacity or the intentions of the promoters to draw conclusions as to whether they can contribute towards the council's employment needs.

Topic Paper: Employment (September 2024)

3.3.16. The purpose of the paper is to provide background to the council's economic strategy and policies. It summarises and updates the preceding evidence base documents relevant to employment matters. It also changes some of the conclusions from earlier evidence base documents.

3.3.17. For office use the document concludes that no new land is required to meet its needs. However it is also noted that this may need to be altered in light of more recent information.

3.3.18. The document states that demand for new industrial land remains strong (paragraph 3.19). It also cites the importance of Shinfield Studios in respect of the impact on the market, the demand for floorspace, and its role in the extension of the TVSP.

3.3.19. The document reviews the assessment of need for industrial land and premises but states that in light of updated data the need is less than that which was estimated in the Employment Land Needs Review (2023).

3.3.20. Whilst the council relies on new development and/or redevelopment of employment premises within its Core Employment Areas to meet its future needs, it recognises that it is unlikely to be sufficient for industrial uses (paragraph 4.4). To address this the council proposes the expansion of the TVSP to deliver 100,000

sq m of research and development floorspace. The council expects that 95% will be for industrial use and 5% for office use (paragraph 4.5).

3.3.21. The document highlights the considerable development interest in the TVSP including the new Gateway Building and major commitments by the Natural History Museum and the Royal Botanical Gardens Kew (paragraph 4.7).

3.3.22. The document updates the demand-supply balance for employment floorspace which it set out in the Employment Land Needs Review (2023). It concludes that the LPU is exceeding the identified need for 18 ha of employment land (paragraph 4.17). However, in spite of the proposed expansion of the TVSP, it notes that it still does not meet the further aspirational need of 53 ha also identified in the Employment Land Needs Review (2023) but that the figure is no longer appropriate (paragraph 4.19). The document cites two reasons. The first is that neither the borough nor the other planning authorities in Berkshire can help meet this need (paragraph 4.20). Secondly, there is not sufficient land being promoted in the borough for employment uses (paragraph 4.22). The conclusion that the council cannot meet its aspirational need of 53 ha is new and was not included in the Employment Land Needs Review (2023).

3.3.23. Appendix A of the document sets out the proposed boundary change to the TVSP to incorporate development associated with Shinfield Studios, the British Museum, and additional economic development.

Sustainability Appraisal (September 2024)

3.3.24. The purpose of the Sustainability Appraisal is to report on the evolution of the LPU and in particular, how the different alternative approaches to growth are considered in light of the plan's overall objectives.

3.3.25. The report states that there is a clear case for expanding the TVSP to its natural full extent in light of the boundaries of the M4 motorway to the north and the River Loddon floodplain to the south. One of the key reasons to support the TVSP is that there are '…*very few realistic opportunities for industrial land allocations'* (paragraph 5.2.35).

3.3.26. The report presents the conclusions of an earlier version of the report where it is stated:

'… there is the potential… to support the aspirations to deliver a major new employment and enterprise hub south of the M4/east of Shinfield, including and closely associated with Thames Valley Science Park. However, it is important to recognise that much of the employment land is already committed, so attention must focus on that which would be 'unlocked' or otherwise facilitated by strategic housing growth.'

3.3.27. The report explores the dynamic between the proposed business park and proposed garden community. The report states:

'A large garden village linked to the TVSP via a new country park would make for an attractive proposition for businesses, e.g. in terms of supporting a 'live work play' community.'

3.3.28. The report considers three other potential employment sites in the district. The report concludes that Loddon Valley performs strongest. This is because a garden community linked to a major science park presents *'a clear opportunity'.* The report acknowledges that whilst the other sites would bring forward new homes in locations from which strategic employment hubs can be accessed, the opportunity for commuting by active modes (e.g., walking, cycling) is less.

3.4. Conclusion and Key Questions

3.4.1. This chapter raises a key question about how the TVSP, which is proposed through the LPU fits within the conclusions of the evidence base. In particular, the council's principal evidence base document concludes that no new land is needed to be allocated for offices and that there is strong demand for traditional industrial uses. One of the challenges of reconciling the potential inconsistency between the evidence base and LPU Policy SS13 is that the Employment Land Needs Review (2023) takes a traditional approach to estimating need. It does not assess the potential for R&D activities or other economic growth drivers. From a geographic perspective the document focusses on the local and sub-regional geography and does not assess the potential for national and international economic growth opportunities.

3.4.2. To demonstrate that there are sufficient linkages between the council's economic evidence and planning policy, chapters 8 to 14 in this report present research that demonstrates there are considerable growth opportunities that could be accommodated through the provision of new employment land at the TVSP.

B. THE SUB-REGION AND ITS PROPERTY MARKETS

4. The Sub-Region

4.1. Defining the Sub-Region

4.1.1. The purpose of this section of the report (chapters 4 to 7) is to highlight some of the economic dynamics of the sub-region. (In later chapters we consider economic dynamics which extend beyond the sub-region but which could be accommodated at the TVSP.) The analysis in this chapter provides a baseline upon which we provide further analysis on economic growth drivers beyond the sub-region.

4.1.2. One way to consider the scale of demand in the sub-region is to analyse business activity and investment levels in the area and consider the implications for the TVSP. The sub-region is shown in **Figure 4.1.** Its geography was is defined through reviewing different recent studies, including the Central Berkshire Functional Economic Market Area (FEMA) Economic Development Needs Assessment (2016), the Berkshire Functional Economic Market Area Study (2016) and consulting with Savills local agents.

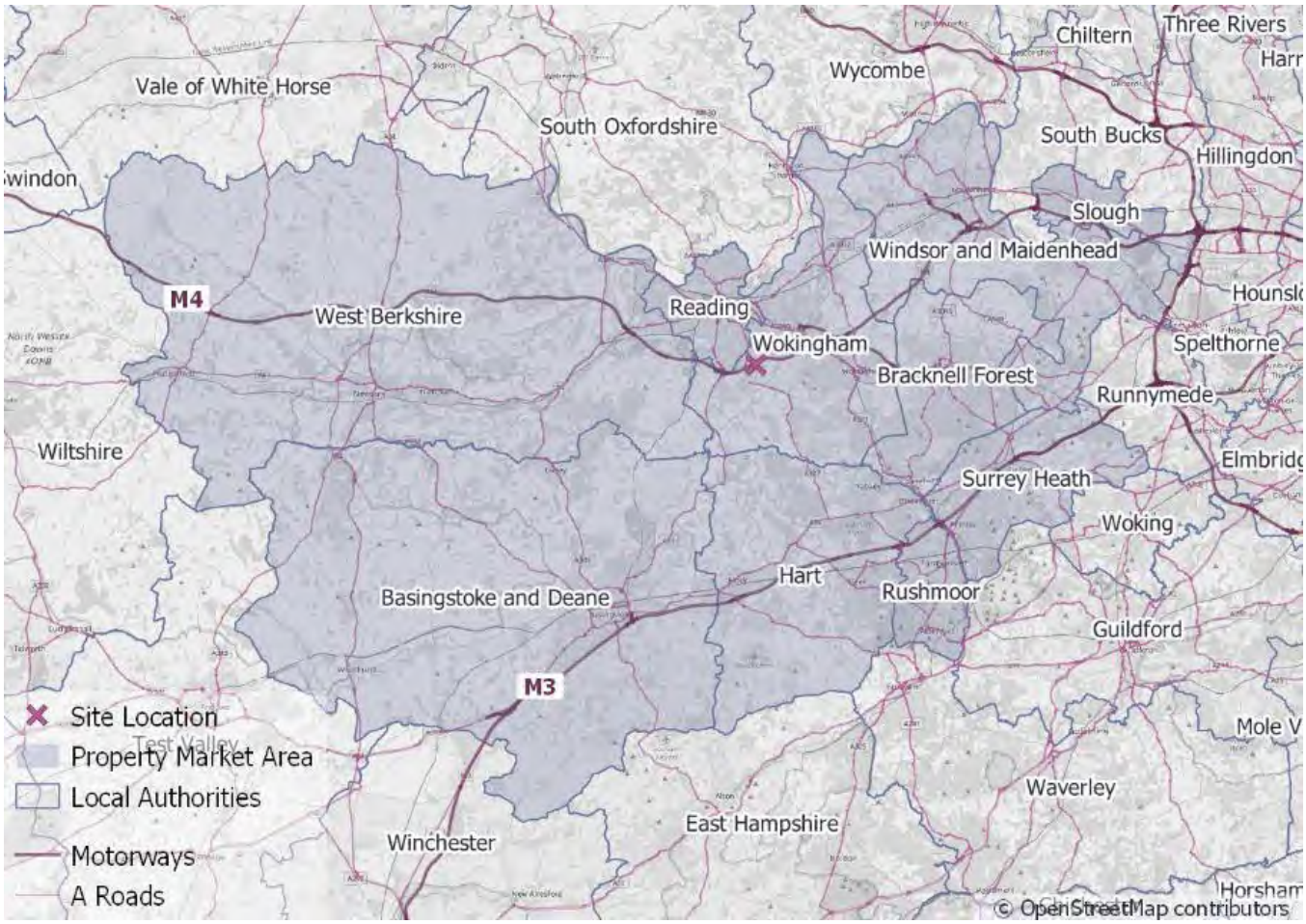
4.1.3. We consider the sub-region to roughly follow the M4 and M3 corridors. It covers an area that includes: the six local authorities constituting the Thames Valley Local Enterprise Partnership (West Berkshire, Reading, Wokingham, Windsor & Maidenhead, Slough, and Bracknell Forest) and also includes Basingstoke & Deane, Hart, Rushmoor and Surrey Heath.

4.1.4. The connectivity between local authorities within the sub-region was enhanced by the full opening of the Elizabeth Line in 2022. The Elizabeth Line connects with National Rail services at Reading, Twyford, Maidenhead, and Slough and it has improved connectivity between the wider area and key business districts in London, such as the West End, the City and Canary Wharf.

4.1.5. Later in this section in chapters 5 and 6 we review the property market performance across the key employment sectors within the sub-region. We split this into two key employment premises sectors:

1. Use Class E(g)(i) Office space, typically used to carry out any operational or administrative functions, and E(g)(ii) space for research and development (R&D)
2. Use Class E(g)(iii) light Industrial, Use Class B2 general industry and Use Class B8 storage and distribution.

Figure 4.1 Sub-Regional Area



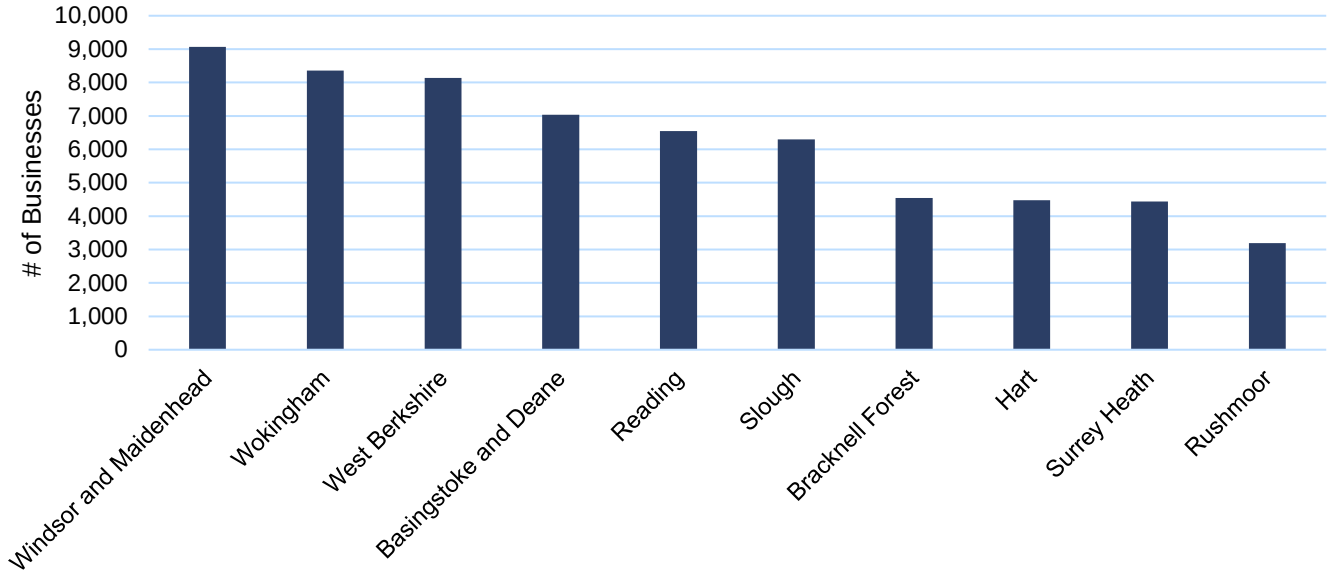
Source: Savills 2024

4.2. Business Activity in the Sub-Region

Business Count

4.2.1. There is a range of businesses within the sub-region operating within a diversity of sectors. Windsor & Maidenhead leads with a total of 9,070 enterprises, indicating a strong business environment. This is followed by Wokingham (8,360), West Berkshire (8,135) and Basingstoke and Deane (7,040). Reading, with 6,550 enterprises, is a vital economic centre, as is Slough with 6,300 enterprises. Bracknell Forest (4,540), Hart (4,475), and Surrey Heath (4,440) have fewer enterprises but still contribute to the sub-region's overall economic diversity.

Figure 4.2 Enterprise Business Count



Source: Business Register and Employment Survey, ONS

4.2.2. Employment growth in the sub-region is projected to follow a positive trajectory. According to EY's *Regional Economic Forecast* (2024), Reading and Windsor & Maidenhead are expected to exceed the national average, forecast to grow at an annual rate of 1.8% and 1.5% respectively between 2024 and 2027. The South East region as a whole is forecast to grow at an annual rate of 1.3%, surpassing the UK average of 1.1% and ranking second behind London (1.5%).

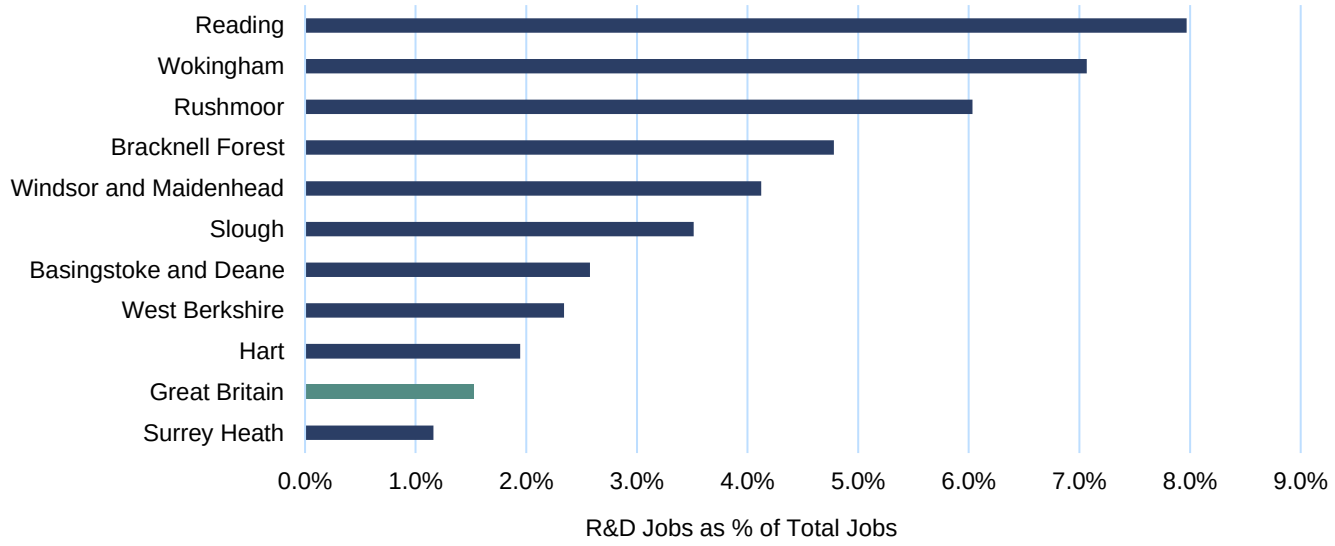
R&D Activity

4.2.3. The sub-region is home to a diverse range of major employers across various sectors, contributing significantly to the local economy and employment landscape. Many of these businesses have an R&D component.

4.2.4. The R&D job density across the authorities within the sub-region has significant disparities, albeit all except Surrey Heath are above the national average of 1.5% of total jobs. Reading leads with the highest density of 8.0%, indicating a robust concentration of R&D roles. Wokingham follows closely behind with an R&D job density of 7.1%, followed by Rushmoor (6.0%).

4.2.5. In contrast Bracknell Forest and Windsor & Maidenhead record a lower job density for R&D, recorded at 4.8% and just over 4.1%, respectively. The density of R&D jobs is lower within Slough (3.5%), Basingstoke and Deane (2.6%), West Berkshire (2.3%), Hart (1.9%) and Surrey Heath (1.2%).

Figure 4.3 Sub-Region R&D Job Density, 2023



Source: Business Register and Employment Survey, ONS

4.2.6. The diverse nature of the knowledge-based sectors in the area is set to support future economic growth. According to EY's *Regional Economic Forecast* (2024), Reading is forecasted to achieve the highest annual growth in gross value added (GVA) of all UK towns/cities at 2.5% between 2024 and 2027, exceeding the national forecast of 1.9%. The South East overall is projected to see GVA growth of 2% per year over the same period, surpassing all other UK regions except London. Reading is anticipated to be the UK's fastest-growing local economy, with the South East as a whole outpacing the national average growth rate over the next three years.

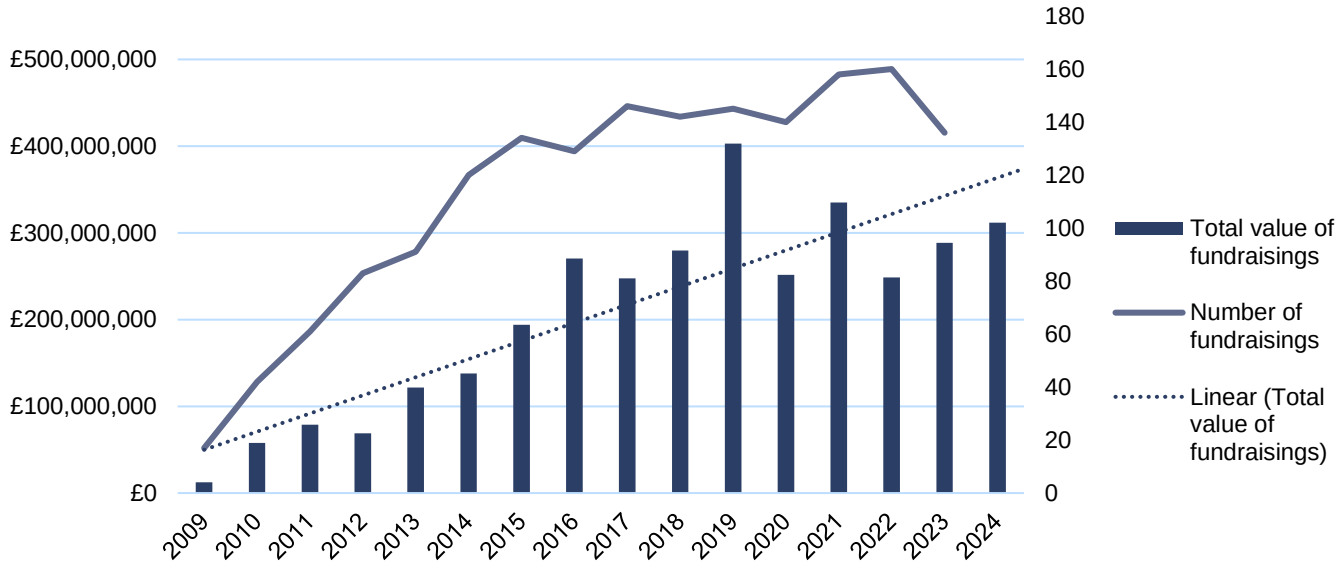
4.2.7. R&D activity in the sub-region is underpinned by the activities of the University of Reading, a leading institution in higher education and research. The University of Reading ranks in the top 35 institutions in the UK, according to the Complete University Guide Rankings 2025. The rankings place the university within the top 10 in the UK in six fields including Land and Property Management (1), Building (3), and Speech and Language Therapy (4). The University of Reading is a key employer in the region, attracting students and professionals from around the world. Its academic and administrative roles, alongside its research initiatives, play a major role in supporting the local economy.

4.2.8. The sub-region is also home to Thames Valley University now part of the University of West London. Thames Valley University has a strong presence in the area, offering a variety of academic programmes and research initiatives including the Berkshire Institute for Health which features high tech simulators for teaching clinical skills. It remains a significant employer within the education sector, with roles spanning teaching, research, and administrative functions.

Investment into Businesses

4.2.9. According to data from Beauhurst, fundraising by companies in the sub-region has risen considerably, reflecting 9% CAGR over the last 10 years. The range in capital activity illustrates the interest in sub-region occupiers from both domestic and international investors.

Figure 4.4 Fundraising Activity in the Sub-Region



Source: Beauhurst, 2024

4.2.10. The majority of recorded investment has been into companies based in Reading, followed by Maidenhead and Basingstoke (see **Figure 4.5**). Notable deals within the sub-region include:

- **Dialog Semiconductor:** Acquisition of Reading-based Dialog Semiconductor for over £4 billion in 2021 by Japanese electronics company Renesas Electronics Corporation. Dialog Semiconductor is based in Green Park and develops semiconductor components for use in home appliances, networking, smart home, smart lighting and smart meter applications.

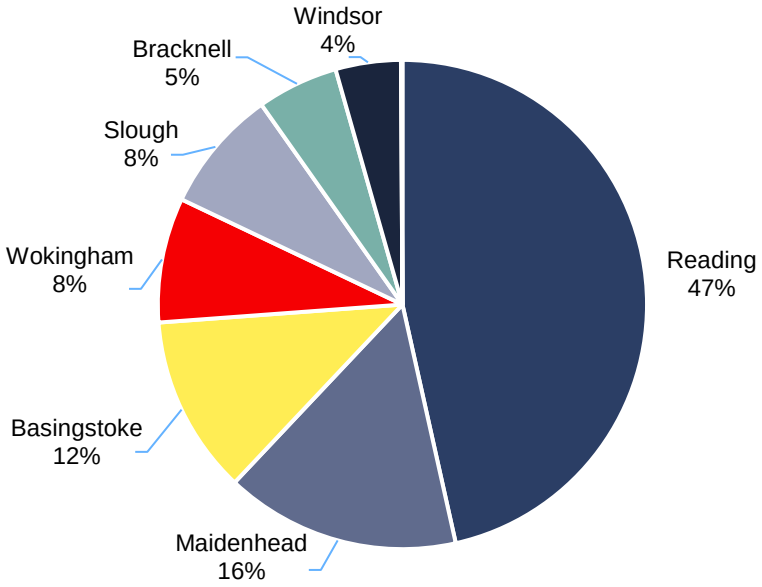
- **IRIS Software Group:** £1.62bn of debt refinancing in 2024 for IRIS Software Group who offer a broad range of software solutions ranging from accountancy, financial and human resources to education, payroll and bookkeeping solutions for small and medium-sized businesses. Their headquarters are located in Slough.

    - **ATCORE Technology:** Inflexion Private Equity's acquisition of ATCORE Technology, a Slough-based developer of travel reservation software, for £120m in 2022.

    - **ALL.SPACE:** A later stage venture capital deal for £32.77m in Oct 2024, for ALL.SPACE who are based in Reading and improve enterprise mobility and support connectivity to remote or inhospitable environments.

    - **Sensay:** Start-ups which are being supported within incubators include Sensay, a developer of a digital cloning software designed to create digital AI replicas (based in Maidenhead).

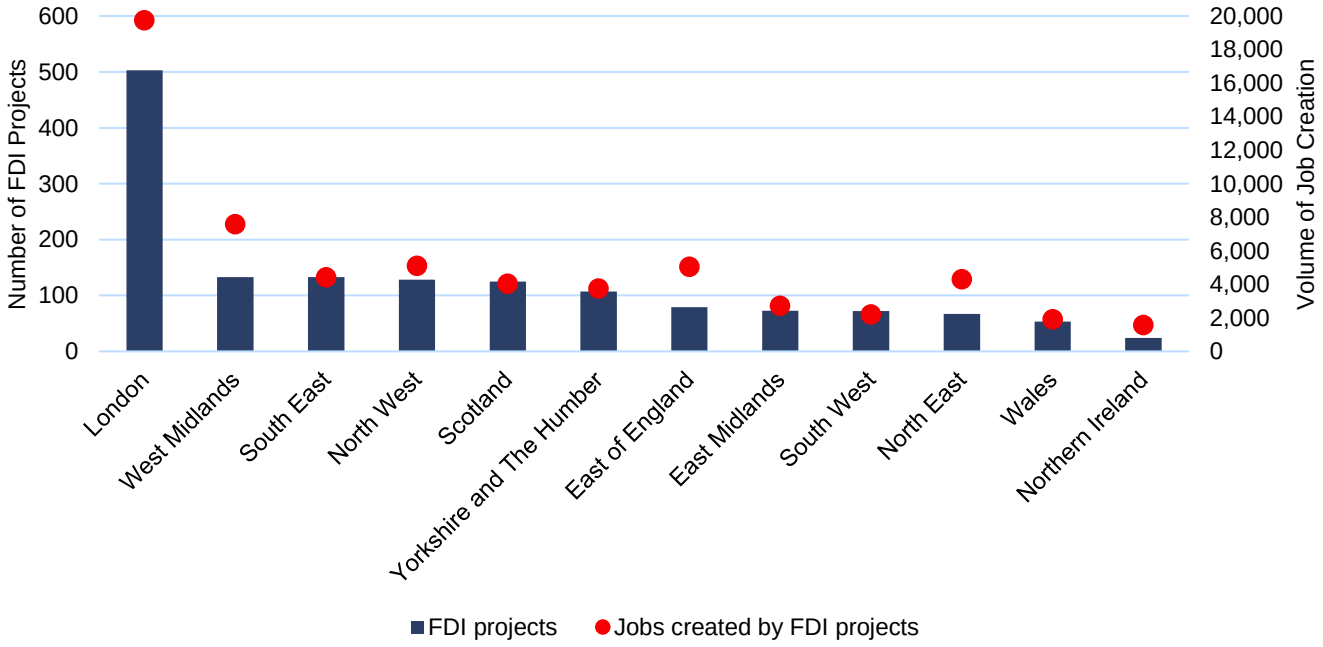
Figure 4.5 Split of Investment (Domestic and International) by Local Authority (2018 - 2024 YTD*)



*Source: Pitchbook (*YTD – September 2024)*

4.2.11. The latest statistics from the Department for Business & Trade confirm that during the 2023/24 financial year, 1,555 Foreign Direct Investment (FDI) projects landed in the UK which led to the creation of 71,478 new jobs. The majority of these projects were based in the Software and Computer Services sector, followed by Financial Services and Environment, infrastructure and transportation The South East (excluding London) was the recipient of 9% of these FDI projects.

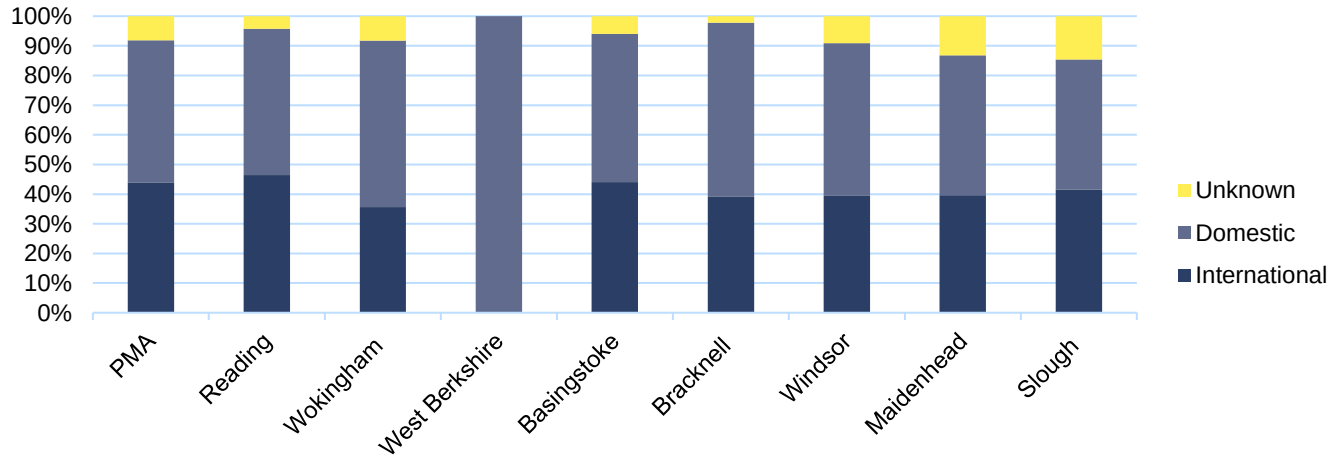
Figure 4.6 Foreign Direct Investment and Related Job Creation (2023/24)



Source: Gov.uk, Department of Business and Trade, 2024

4.2.12. Inward investment continues to form a key component of the capital committed to the sub-region. A review of deals executed with companies based in the sub-region since 2018 demonstrates that at least 43% of investors are international (almost half of this capital was from US investors).

Figure 4.7 Origin of Investors in the Sub-Region



*Source: Pitchbook. *Majority of Unknown category is due to private individual angel investors (Deals assessed from 2018 to Q3 2024).*

4.2.13. There are also several programmes that nurture developing businesses in the sub-region such as the Start-up Programme and Berkshire High Growth Programme provided by the Berkshire Growth Hub. The Berkshire Local Enterprise Partnership also runs the Thames Valley Berkshire Funding Escalator with debt funds ranging from £50,000 up to £500,000.

4.3. Conclusion

4.3.1. To understand the context for the TVSP, we assessed business activity and investment in the sub-region. This was to understand its high-level strengths and ability to attract inward investment. The sub-region has a relatively high proportion of R&D jobs compared to the national level. Reading and Wokingham are leaders in this regard, compared to the other local authorities. The sub-region also attracts inward investment, both domestic and international.

4.3.2. The next two chapters review the property market characteristics in the sub-region. This is to understand the supply-demand characteristics and consider its implications. This approach does not take into account the specific sector drivers and their wider geographies. These are explored in chapters 8 to 14.

5. Property Market Analysis: Use Class E(g)(i) & E(g)(ii)

5.1. Introduction and Summary of Findings

5.1.1. This section presents the existing market dynamics for offices and related space. Key findings are:

- The sub-region has office stock of approximately 50 million sq ft (4.6 million sq m)
- Vacancy rates have trended upwards but this varies by the quality of space
- Vacancy across the market is 12.2%, with vacant space concentrated in larger properties
- Since 2014 average rental levels have increased and are just over £20 per sq ft
- Prime rents are significantly higher than the average rental levels which reflect the high proportion of lesser quality stock
- Completion rates have been low in recent years
- Demand for office space dropped sharply in 2020 and 2021 and net take-up rates were negative.

5.1.2. Overall demand for office floorspace is relatively muted and the vacancy rate has increased. These office market dynamics are similar to those identified in the council's evidence base. However, that this does not take account of specific activities and sector dynamics that could take place at the TVSP. Nor does it reflect that only 4% of total office stock is considered high quality. Later in the report, we review the growth sectors, some of which require new, high-quality office premises.

5.2. Demand

5.2.1. The lead indicators of demand considered within this report are changes in rental levels, vacancy rates and gross/net absorption rates.

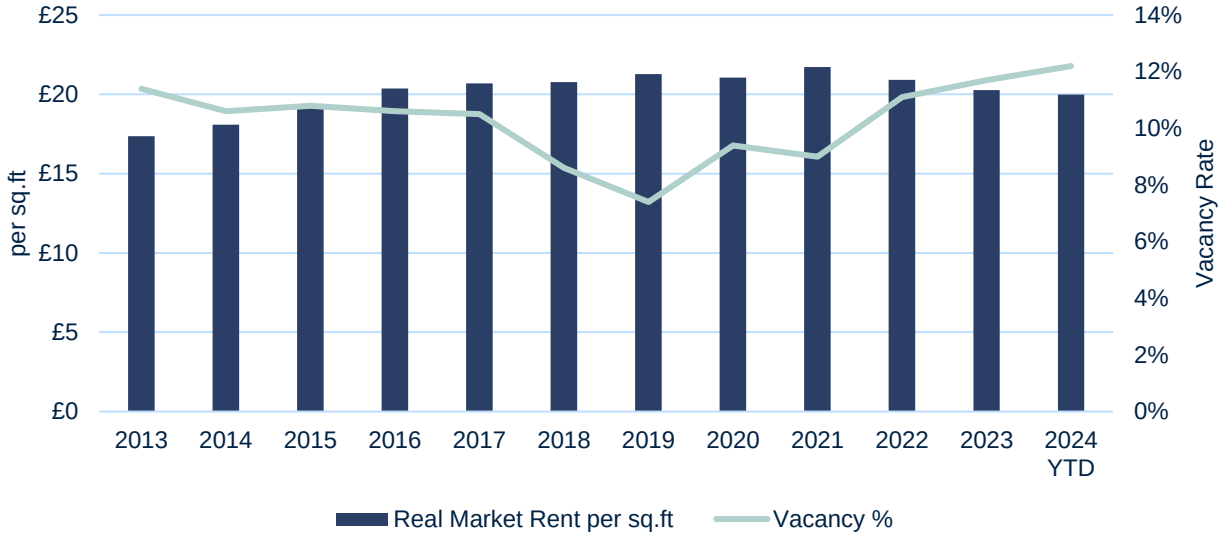
5.2.2. The office market is currently experiencing a recalibration in demand levels as corporate occupiers are predominantly rightsizing their portfolios, with hybrid working models being more frequently adopted. The long-term impact of this trend on take-up levels is difficult to assess given the economic headwinds the market has faced. What is clear is that major corporate businesses are demanding premises with the highest quality specification that respond to the ever-growing need for occupier amenity and sustainability credentials.

5.2.3. This flight to quality has resulted in an increased polarisation in demand for prime and secondary buildings, which accelerated in the wake of the Covid-19 pandemic. The wider South East region saw the highest proportion of Grade A take-up ever recorded in 2023 at 80%. In the sub-region demand has been focused towards higher quality space.

5.2.4. Rental changes since 2009 are displayed in **Figure 5.1** against vacancy levels. Real rents have slightly decreased from around £25.20 per sq ft in 2019 to £20.30 per sq ft in 2023. Current average market rents are about at £20.00 per sq ft.

5.2.5. Vacancy levels across the market have risen since 2019 to the current level of 12.2%. There is a bifurcation in the market with lower vacancy rates in prime stock.

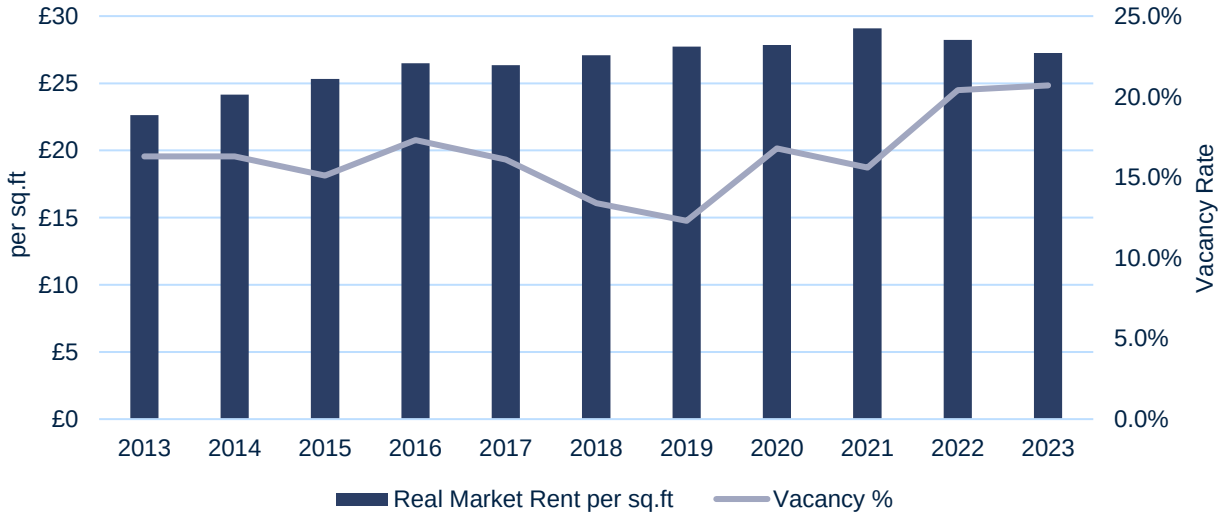
Figure 5.1 Average Office Market Rents and Vacancy Rates in the Sub-Region Since 2013



Source: CoStar 2024, Savills 2024

5.2.6. The rental tone for prime stock in the sub-region is significantly higher than the average rents. In Q2 2024 Reading set a new rental tone of £56 per sq ft at One Station Hill, which was the highest rent ever achieved in the sub-region. This increase reflects a rise of 37% on the previous headline rent, reflecting the willingness of occupiers to pay premium rents to secure the highest quality spaces. A key driver of the rental uplift is the lack of best-in-class space available.

Figure 5.2 Average Office Grade A Market Rents and Vacancy Rates



Source: CoStar 2024, Savills 2024

5.2.7. According to Savills Research the rental polarisation between best-in-class stock and secondary properties is more prevalent than ever, with approximately a 59% difference between average Grade A rents and average secondary rents across the wider South East region.

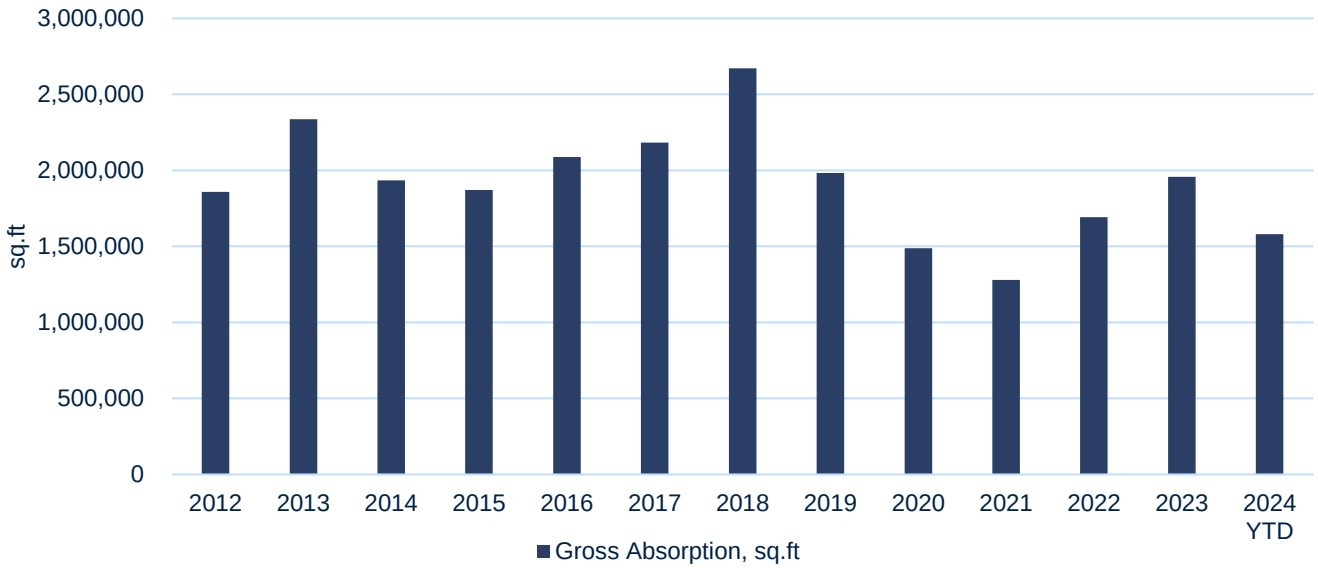
5.2.8. There are several reasons for the movement of office occupiers towards Grade A premises. Occupiers are prepared to pay premium rents for offices in locations that cater for the needs of their staff and the specification that makes for a productive workplace. Looking at the Greater London and South East office markets, occupiers' migration from Grade B to Grade A buildings was evident in 2023, with 72% of office take-up being in buildings of Grade A quality. Office agents suggest that the main components required for Grade A offices include:

- Adherence to British Council for Offices (BCO) recommendations
- High floor to ceiling heights
- Disabled access
- Natural light
- Moderate visibility of columns
- EPC bands of B or above, and
- Large, flexible floorplates.

5.2.9. Although the value of both prime and secondary office space dropped during the pandemic, prime office space has since recovered whilst lower-quality office spaces has continued to decline.

5.2.10. The lower take-up rate for low quality office space and its continued decline in value indicate that they are likely to struggle to attract demand over the longer-term. Savills expects that the flight to quality will continue and go hand-in-hand with occupier requirements for additional amenities.

Figure 5.3 Sub-Region Office Gross Absorption since 2012



Source: CoStar 2024, Savills 2024

5.2.11. **Figure 5.3** presents historic gross absorption since 2012 in the sub-region, indicating that an average of 1.94 million sq ft (180,000 sq m) in new leases are signed each year. For the period 2020 to 2023 this figure was lower at an average of 1.60 million sq ft (149,000 sq m).

5.2.12. Demand for office space dropped sharply in 2020 and 2021. This was mainly due to the uncertainty surrounding Covid-19 and its long-term impact on office working patterns. Demand has since recovered to levels comparable to 2019. Gross absorption in YTD 2024 has been just over 1,580,000 sq ft (149,000 sq m) in the sub-region. Based on current demand it is anticipated that gross absorption in 2024 will be broadly in line with the full year 2023 figure.

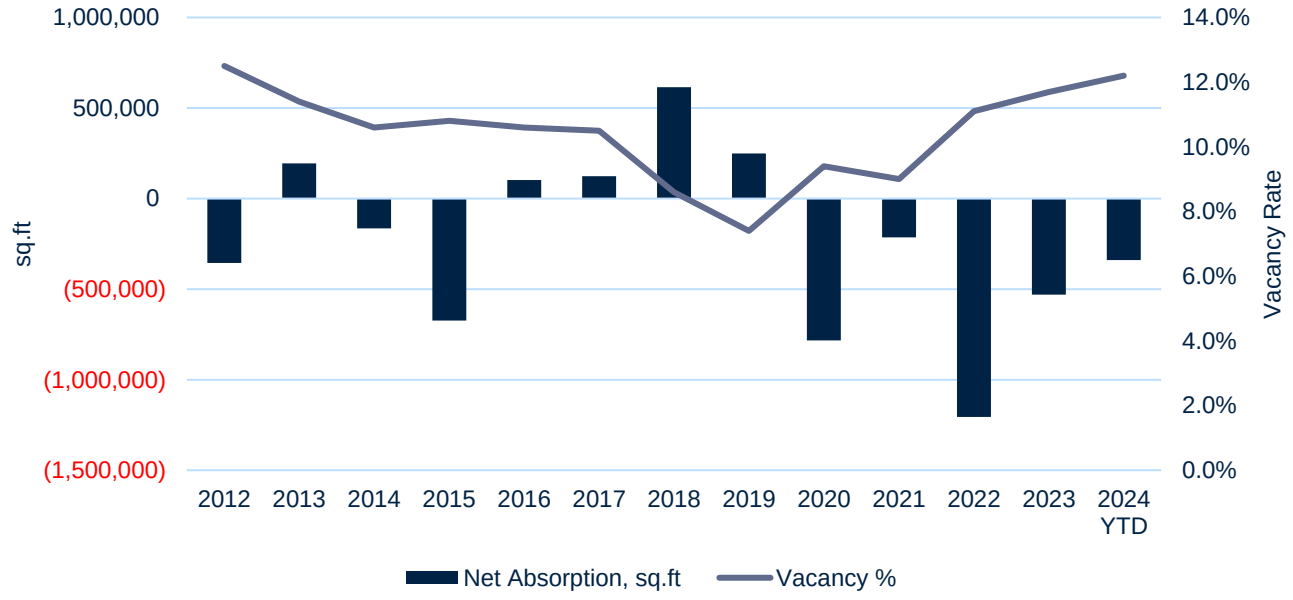
5.2.13. Following the Covid-19 pandemic competition to attract elite talent emerged as recruitment efforts stalled for several years. Office sectors such as professional services firms were driven by the need to create a more attractive work environment that would be a competitive advantage for recruiting and retaining workers. Office developments were required to go above and beyond the typical Grade A BCO requirements.

5.2.14. High specification, sustainable offices with in-house amenities and easy access to transport hubs and lunch spots are now critical for recruitment and retention of staff. Savills Research recently summarised the types of amenities that modern occupiers tend to look for:

- End-of-trip services (e.g., showers, lockers and bike-stores)
- Communal space (e.g., coffee shops, modern gyms, co-working spaces)
- High-quality outdoor space (e.g., rooftop terraces, landscaped greenspaces)
- Large double height reception area
- Large lifts, and
- And high quality concierge service.

5.2.15. Demand has been skewed towards prime office space. According to Savills Research prime and Grade A spaces accounted for 81% of the take-up in the wider South East region this year, marking the highest H1 proportion ever recorded.

Figure 5.4 Office Net Absorption in the South East

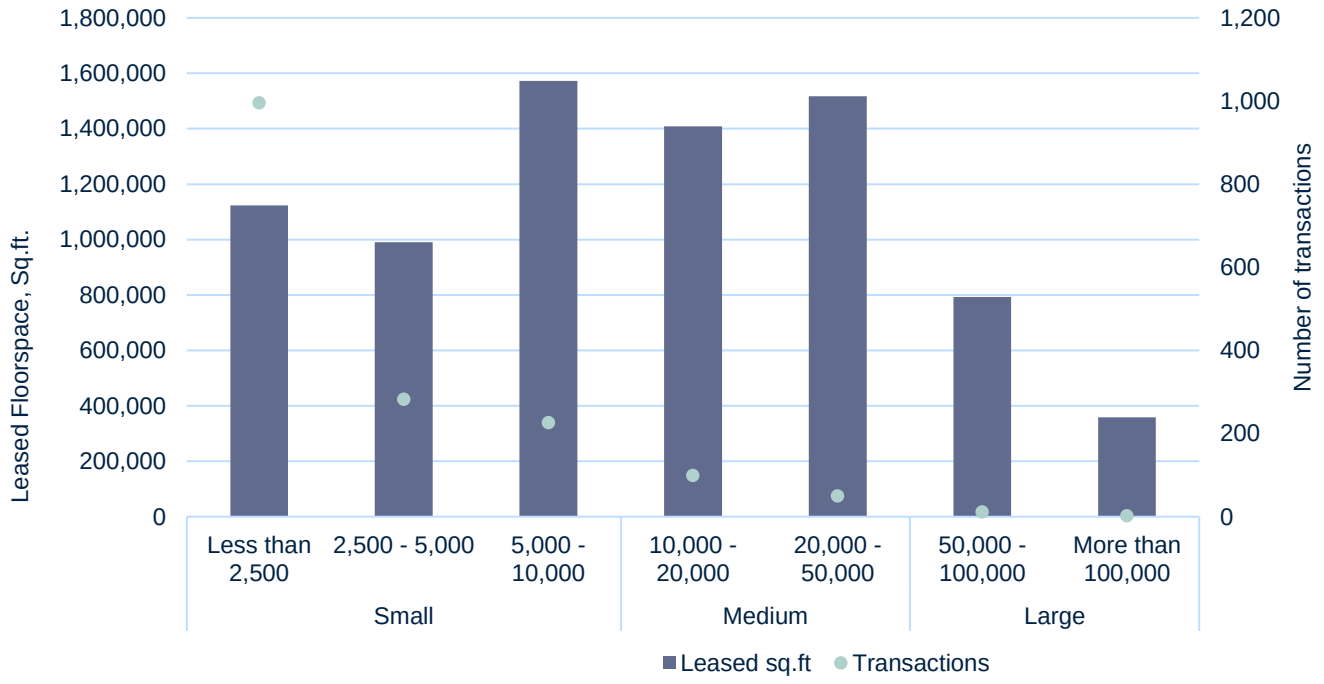


Source: CoStar 2024, Savills 2024

5.2.16. Take-up rates measured by net absorption (total space occupied each year minus space vacated) are reported in **Figure 5.4**. This shows that from 2012 on the net absorption rates were low or negative but started to recover in 2017. Strong performance was evidenced in 2018 and 2019, but since 2020, net absorption has turned negative, with vacated spaces typically being of lower quality.

5.2.17. Net absorption in 2022 was notable at minus 1,205,380 sq ft (111,983 sq m) and during the YTD the recorded figure is minus 340,206 sq ft (31,606 sq m).

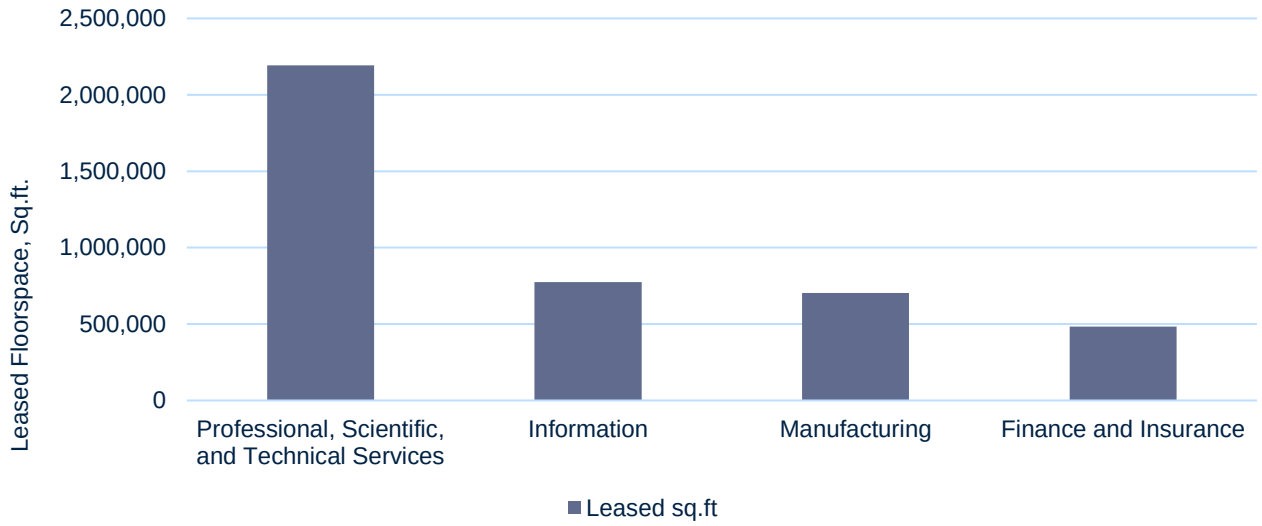
Figure 5.5 Sub-Regional Office Lease Transactions (sq ft.) 2019-2024 YTD, with Number of Transactions



Source: CoStar 2024, Savills 2024

5.2.18. Data on lease transactions over the period 2019 to YTD 2024 for the sub-region are shown in **Figure 12.5**. Demand has been driven by small and medium sized premises, with a total of approximately 6.6 million sq ft. (613,000 sq m) in transactions accounting for 85% of total transacted floorspace.

Figure 5.6 Sub-Region Office Transactions by Sector and Leased Floorspace (sq ft.), 2019-2024 (YTD)

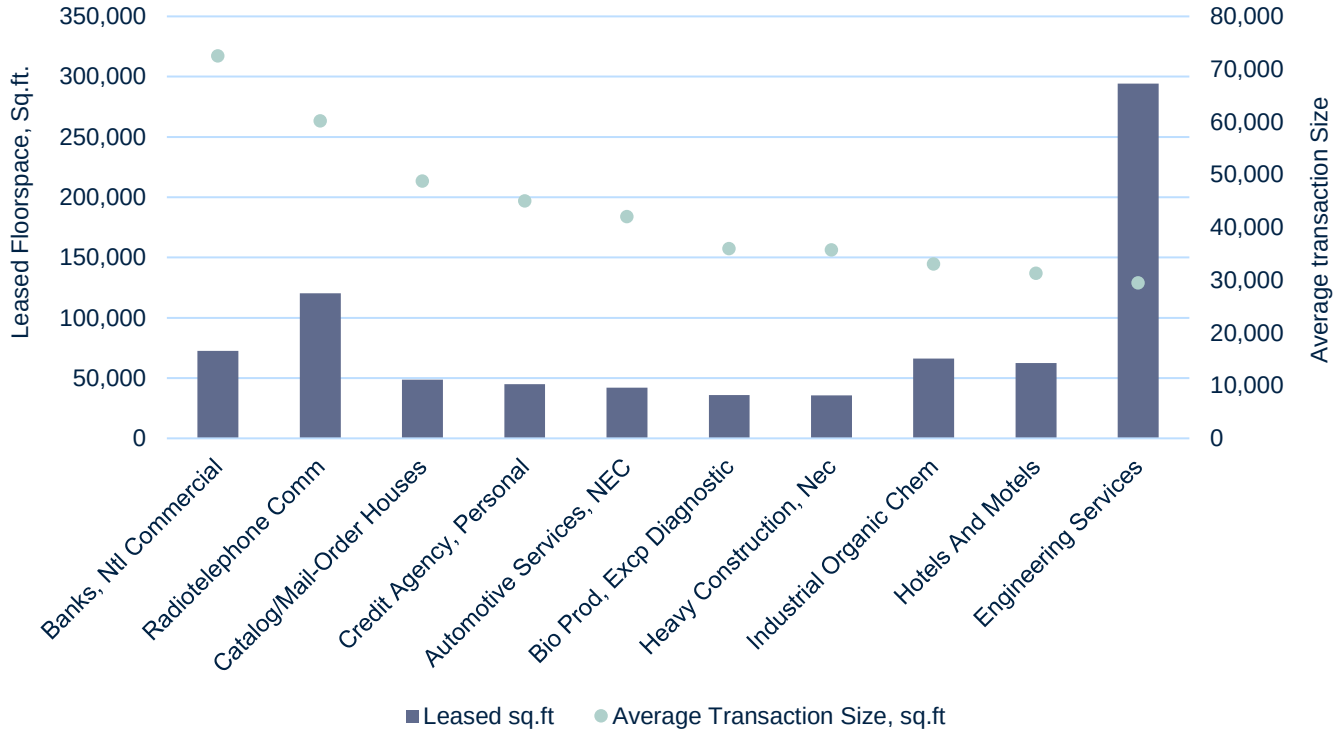


Source: CoStar 2024, Savills 2024

5.2.19. Data on transactions by sector and the average transaction size are shown in **Figure 5.6**. In terms of economic sectors, a significant share of demand has been driven by Professional, Scientific and Technical Services, which reflects the strong element of R&D and innovation undertaken by firms within the sub-region.

5.2.20. As illustrated in **Figure 5.7,** demand has been underpinned by several notably large transactions. In particular, Mapletree leased 400 Longwater Avenue at Green Park in August 2024 to global consulting and engineering company Wood plc. 400 Longwater Avenue is a prime, modern building within an out-of-town business park. The building design has a focus on health and wellbeing, having been awarded a Platinum WELL certification from the International Well Building Institute. Wood moved from nearby Shinfield Park.

Figure 5.7 Sub-Region Office Transactions by Industry (sq ft.) (2019-2024 YTD)



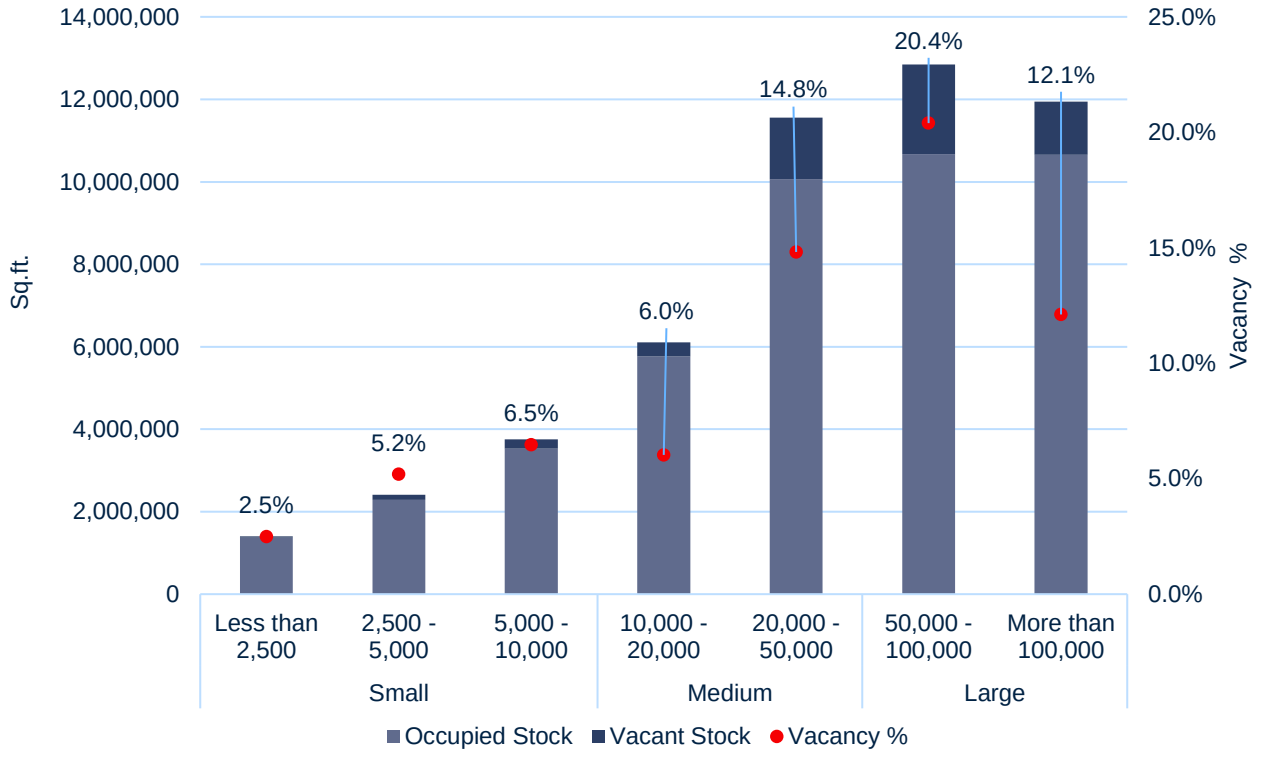
Source: CoStar 2024, Savills 2024

5.2.21. Demand within the area is more heavily skewed towards out-of-town space when compared to the UK average. According to data from PROMIS 61% of space leased within the 'Reading and surrounds' office market since 2008 has been out of town space against 39% town centre, compared to a national average of 68% town centre to 32% out of town.

5.3. Supply

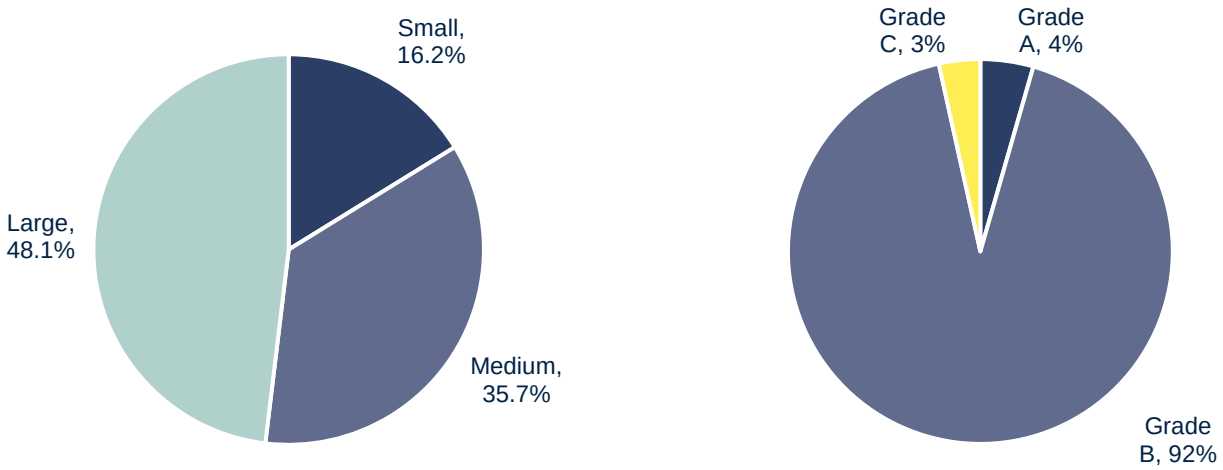
5.3.1. The market for office space in the sub-region has a total stock of approximately 50 million sq ft (4.6 million sq m) of floor space. As shown in **Figure 5.8,** supply is oriented towards large-occupier requirements, with almost half of stock being over 50,000 sq ft (4,645 sq m). A total of almost three-quarters of office stock is over 20,000 sq ft (1,850 sq m). Large properties are also those with higher shares of vacant floorspace.

Figure 5.8 Sub-Region Office Stock by Size, with Share of Vacant Stock



Source: CoStar 2024, Savills 2024

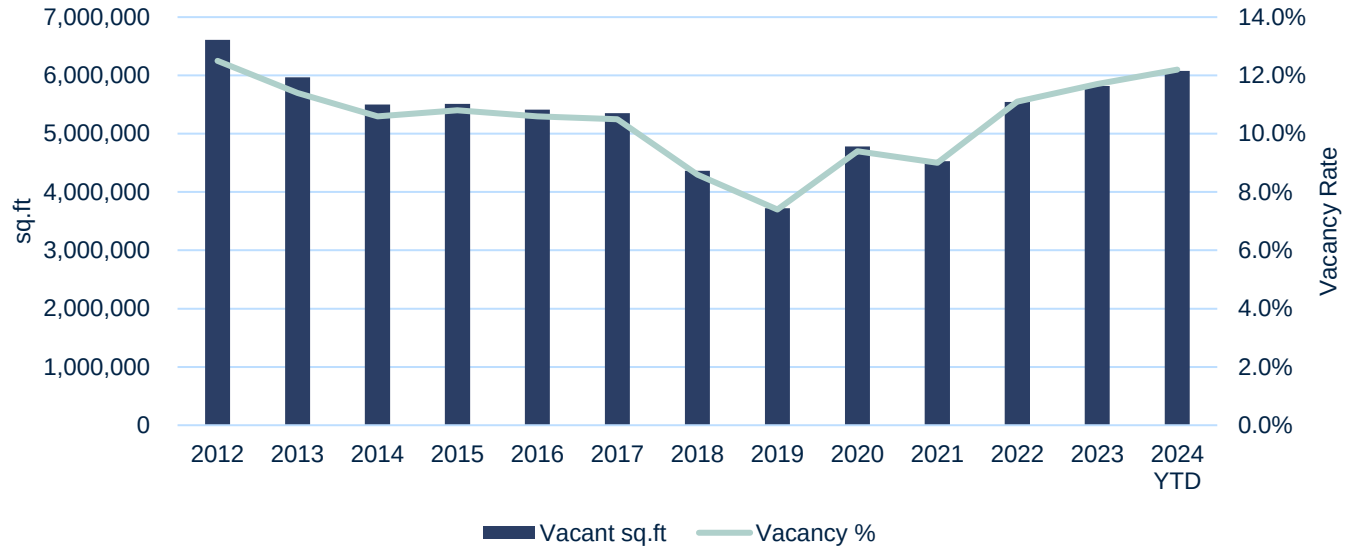
Figure 5.9 Sub-Region Breakdown of Total Office Stock by Unit Size Category and by Quality (displayed by Grade)



Source: CoStar 2024, Savills 2024. NB: Grade A are the highest quality offices, followed by Grade B then Grade C.

5.3.2. **Figure 5.10** illustrates changes in total vacant floor space and vacancy rates since 2012. Total vacant floor space as a proportion of total stock peaked in 2012 and then has progressively declined before reaching a peak again at the current level. The current vacant stock is approximately 5.7 million sq ft (529,000 sq m).

Figure 5.10 Sub-Region Vacant Office Floorspace Since 2012

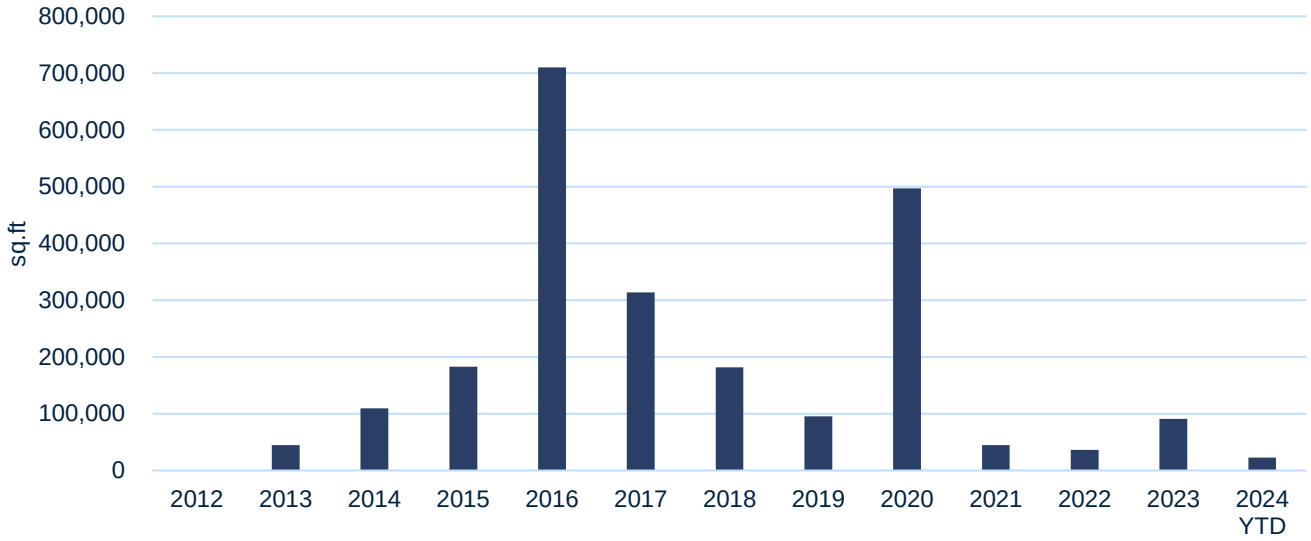


Source: CoStar 2024, Savills 2024

5.3.3. Historic completions of office floor space are illustrated in **Figure 5.11**. Completions started to pick up pace from 2012 through to the peak in 2016, but with considerably lower rates in the years that followed. Completions peaked again in 2020. The average delivery rate from 2021 to 2023 was much lower than the long-term average at approximately 57,000 sq ft (5,295 sq m) and in YTD 2024 completions have been approximately 22,600 sq ft (2,100 sq m).

5.3.4. The peak in completed space in 2020 was propped up by the delivery of two new buildings on Green Park, namely 450 Longwater Avenue and 400 Longwater Avenue, each providing 119,000 and 117,000 sq ft respectively of modern office space.

Figure 5.11 Sub-Region Office Completions Since 2012



Source: CoStar 2024, Savills 2024

5.3.5. In addition to the plans in the LGV, there are several key projects in the development pipeline that are yet to be delivered, currently at various stages of construction. These are presented in **Table 5.1**.

Table 5.1 Sub-Region Key Pipeline Schemes

Scheme	Area	Developer	Status	Sq ft
600/700/800 South Oak Way, Green Park	Out of town	Oxford Props	Full planning permission granted	388,000
Reading 360, Phase 3 Reading International Business Park	Out of town	Goodman International	Full planning permission granted	365,000
Two Station Hill, Station Hill North	Town centre	Lincoln MGT	Outline planning permission granted	350,000
Reading Station Park	Town centre	Aviva Life & Pensions	Outline planning permission granted	270,000
500/600 Longwater Ave, Green Park	Out of town	Oxford Props	Full planning permission granted	200,000
80 Caversham Road	Town centre	Hermes Investment Management / Royal Mail	Outline planning permission granted	133,801
Earley Gate, Whiteknights Campus	Out of town	University of Reading / Government Prop Agency	Planning permission granted under Section 106 of the Town and Country Planning Act (1990)	114,259
BP Technology Centre, Pangbourne	Out of town	BP Technology Centre	Full planning permission granted	112,214

Scheme	Area	Developer	Status	Sq ft
Building 1040, Winnersh Triangle,	Out of town	Frasers Centrepoint	Full planning permission granted	110,000
900 South Oak Way, Green Park	Out of town	Oxford Props	Full planning permission granted	105,000
350 Longwater Ave, Green Park	Out of town	Oxford Props	Full planning permission granted	83,298
Former British Gas HQ, Thames Valley Park	Out of town	Lonza Biologic / Segro	Pre-application	N/A

Source: PROMIS, 2024. This list is not exhaustive.

5.4. Conclusion

5.4.1. The office market is relatively healthy, but demand is muted and the vacancy rate has been rising. The market is still recovering from changes to the office market due to Covid-19 and the change in work practices as well as the flight to high quality premises. Over time it is likely that the market will recover to a greater degree.

5.4.2. The analysis of the office market in this chapter reflects overall office market performance but it does not take into account special sub-sectors and anticipated growth drivers that will require new, high-quality premises. Consideration of these alternative drivers of demand for offices is covered in chapters 7 to 14. When these sectoral dynamics are taken into account, it is likely that the demand for office floorspace in the sub-region is stronger than current dynamics suggest. It is likely that some of this demand would be accommodated at the TVSP.

6. Property Market Analysis: Use Class E(g)(iii), B2 & B8

6.1. Introduction and Summary of Findings

6.1.1. This section analyses the demand and supply of employment floor space for light industrial and industrial uses within the sub-region. Within this market segment we also see a variety of R&D activities.

6.1.2. Our main findings from the analysis are:

- The sub-region has total stock of about 58 million sq ft (5.4 million sq m).
- The market is oriented towards medium and large-size occupiers.
- Vacancy rates were about 4.3% as at the end of 2023 and have trended slightly upwards since
- Since 2013, rents have steadily increased and are now at £14.60 per sq ft.
- New completions slowed in 2023 after a high in 2022.
- Gross absorption averaged about 2 million sq ft (186,000 sq m) per annum from 2012 to 2023.
- Net absorption has been broadly positive across the historic series.
- Total space transacted is broadly distributed across small, medium and large size categories.
- Most leasing activity is in the Professional, Scientific, and Technical Services sector, followed by strong demand from Manufacturing and Retailers.

6.1.3. Demand across the broad industrial market is strong and logistics activity has been a key driver in the sub-region for well over a decade. The markets have generally been characterised by a shortage of suitable premises. However, there are a range of other industrial activities in the area, including R&D, which is not fully reflected in the overall data. This includes some of the recent activity at the TVSP such as film studios and museum spaces. It is likely that more of these types of activities could be accommodated at the TVSP.

6.2. Demand

6.2.1. The indicators of demand we use are rents, vacancy rates and net absorption.

6.2.2. Real rents have trended upwards from £7.90 per sq ft in 2012 to £13.90 per sq ft in 2023. In YTD 2024 this figure has risen to £14.60 per sq ft. This rise in average rents reflects the strength of demand and willingness of occupiers to pay a premium for high quality industrial space.

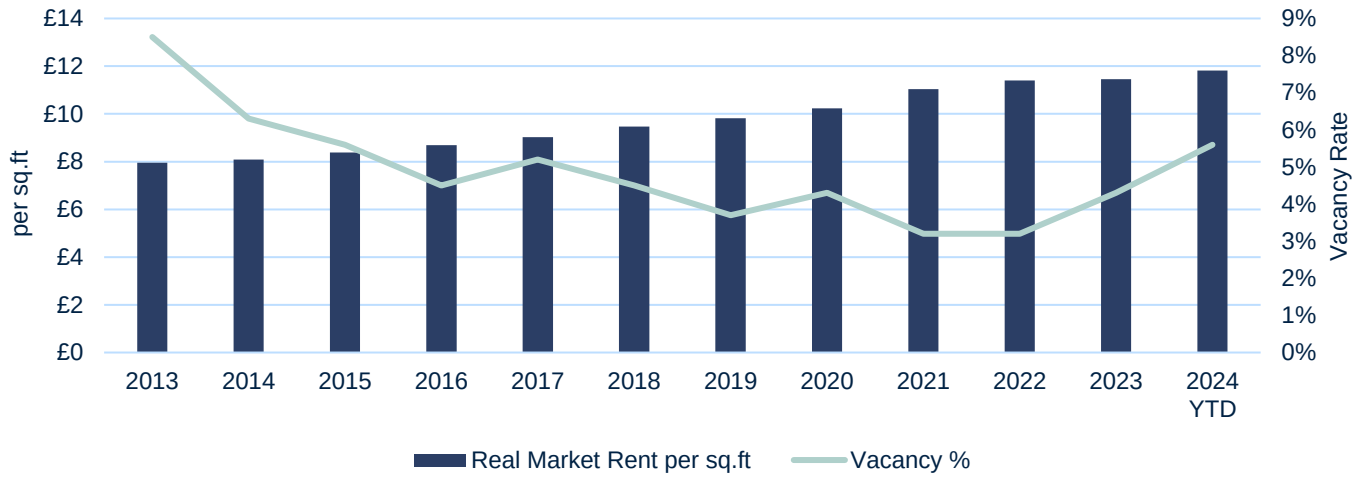
6.2.3. Like the office sector, the I&L sector has experienced a steady migration by occupiers to higher quality premises. There are several key sectoral trends that are driving this. These include:

- Greater attention being paid to environmental sustainability and environment, social and governance (ESG) objectives. Modern I&L buildings are sought that can deliver on ESG objectives across all stages of a property's lifecycle.
- Importance of operational efficiency and flexibility, particularly through higher clear heights. Higher clear heights have become a key operational requirement for many I&L occupiers.

6.2.4. This rise in rents is matched by a trend of declining vacancy rates, as illustrated in **Figure 6.1**. Vacancy rates steadily decreased from 9.0% in 2012 through to 3.7% in 2019. Vacancy rates were exceptionally low in 2020 and 2021, partly due to retailers and other businesses taking up additional space for storing excess goods and safeguarding their supply chains. However this trend has since stabilised, and vacancy rates

have gradually increased in 2023 and again this year. The current YTD 2024 vacancy rate is 5.6%, equating to just under 3.3 million sq ft (300,000 sq m).

Figure 6.1 Average Industrial Market Rents and Vacancy Rates in Sub-Region

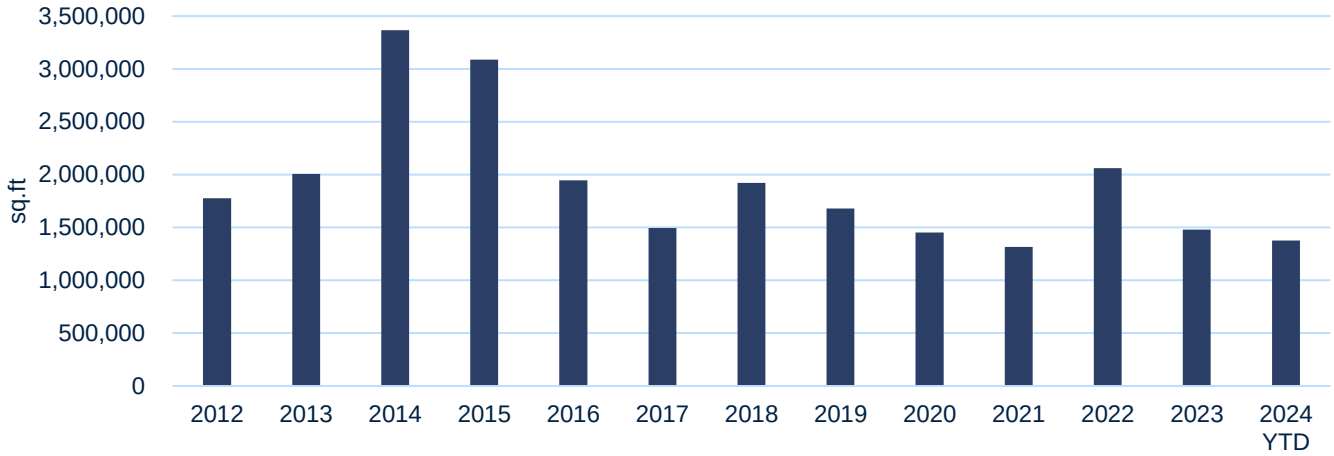


Source: CoStar 2024, Savills 2024

6.2.5. Figure **6.2** shows demand as indicated by gross absorption rates since 2012. Take-up levels have been relatively strong. Gross absorption averaged just under 2 million sq ft (186,000 sq m) per annum from 2012 to 2023, and demand was strong in 2022 with gross absorption of just under 2.1 million sq ft (195,000 sq m), but last year it dropped to 1.48 million sq ft (137,000 sq m). The YTD 2024 figure is at just over 1.37 million sq ft (127,000 sq m).

6.2.6. Take up has been skewed towards modern, purpose-built space. At a micro level, occupiers are being driven by strategic decision-making and a desire to improve the ESG credentials of their real estate portfolios, not only to support the decarbonisation of the sector, but also from an efficiency and cost saving point of view. Occupiers are gravitating towards better-quality buildings. Demand is strongest for Grade A properties that achieve high BREEAM and EPC ratings.

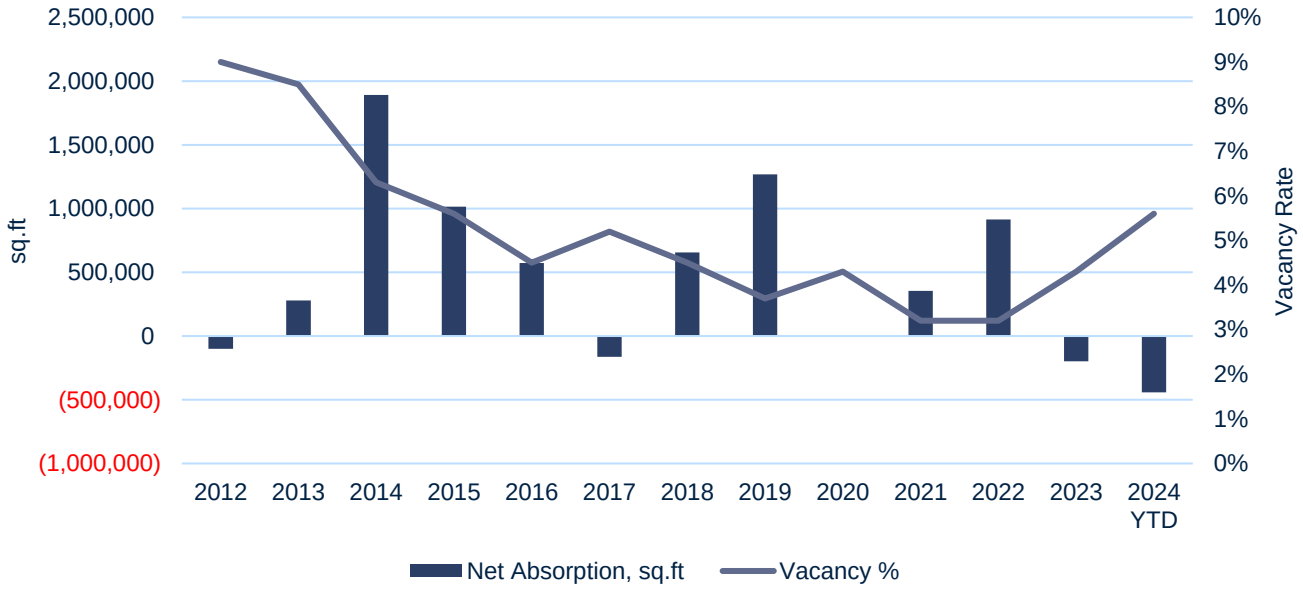
Figure 6.2 Industrial Gross Absorption in Sub-Region



Source: CoStar 2024, Savills 2024

6.2.7. Net absorption has been broadly positive, averaging about 540,000 sq ft (50,000 sq m) per annum from 2012 to 2023. Net absorption was particularly positive in 2022 at over 900,000 sq ft but was negative last year and has been negative during YTD 2024.

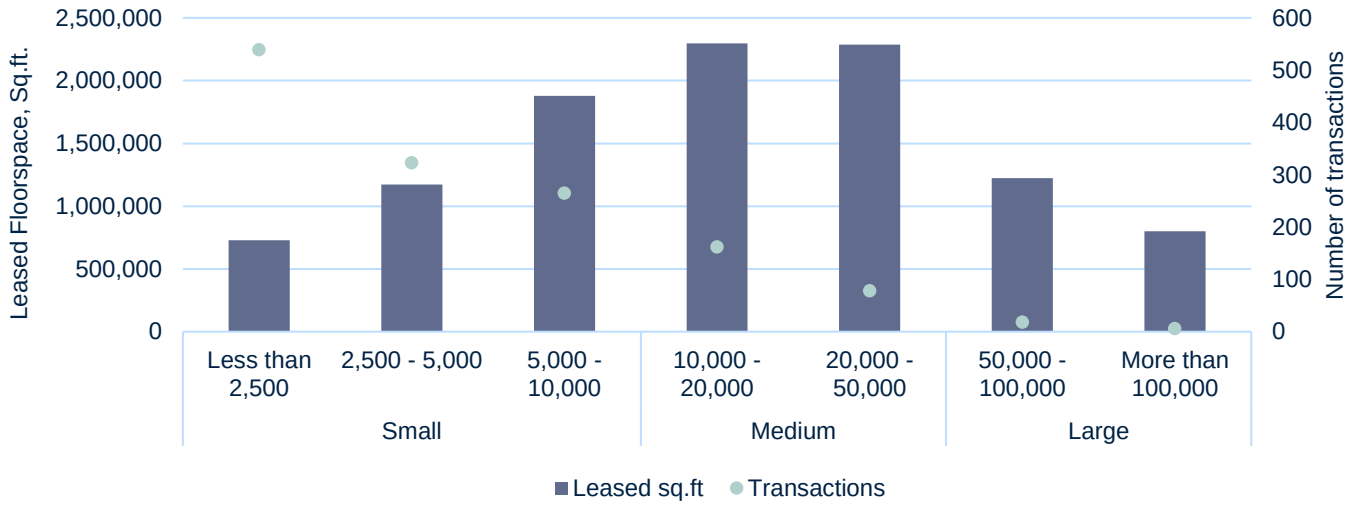
Figure 6.3 Industrial Net Absorption in the Sub-Region



Source: CoStar 2024, Savills 2024

6.2.8. Data on lease transactions over the period 2019 to YTD 2024 is shown in **Figure 6.4**. The highest number of transactions were for small premises. Over 80% of transactions by count were space under 10,000 sq ft. There were 24 transactions for space over 50,000 sq ft, equating to 1.7% of the total count of transactions. By floor space total small transactions account for around one-third of space taken and large transactions represent just under 20%.

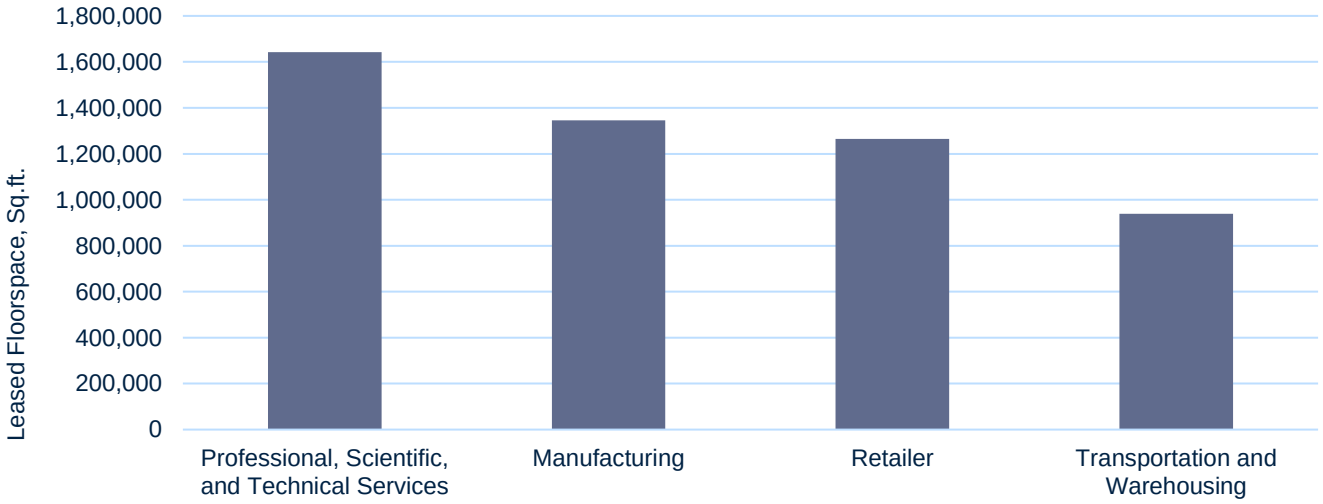
Figure 6.4 Industrial Lease Transactions 2019-2024 YTD and Number of Transactions in Sub-Region



Source: CoStar 2024, Savills 2024

6.2.9. The sector analysis for lease transaction shows that most transacted space is in Professional, Scientific, and Technical Services followed by strong demand from Manufacturing and Retailers. Around 15% of space has been taken by firms operating in the Professional, Scientific, and Technical Services sector, which is notable as it contrasts with other UK markets, highlighting the significant presence of R&D activities in the sub-region.

Figure 6.5 Industrial Transactions by Sector and Floorspace Leased, 2019-2024 YTD in Sub-Region



Source: CoStar 2024, Savills 2024

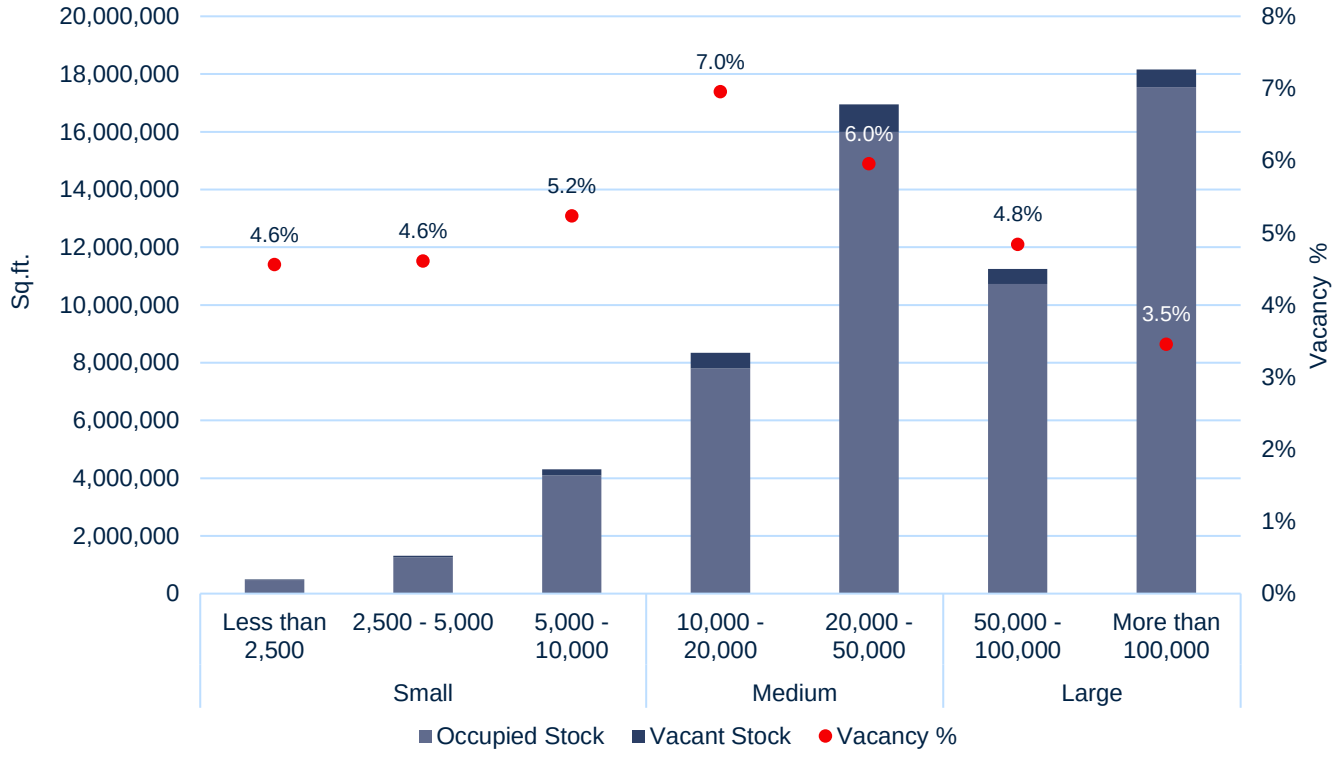
6.3. Supply

6.3.1. Total stock of light industrial and industrial space in the sub-region comprises approximately 58 million sq ft (5.4 million sq m). Supply is skewed toward large premises, which represent almost 50% of the market.

This is followed by just over 40% of floor space being medium-sized and 10% being small-sized space. This is illustrated in **Figures 6.6** and **Figure 6.7** below.

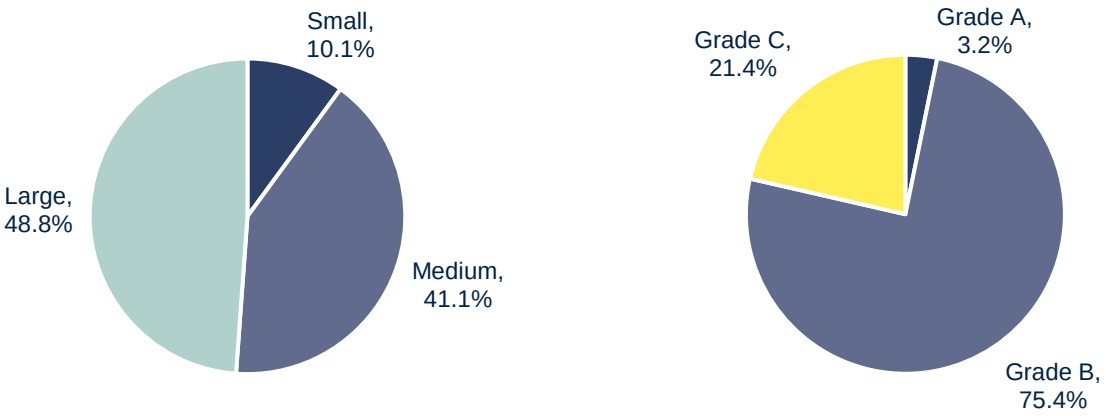
6.3.2. For occupiers the necessity for larger buildings is based on the efficiencies of utilising more cubic space rather than simply a larger footprint. This maximises the volume of the building. Taller buildings are now possible due to advances in automated systems which handle storage and retrieval. With these solutions businesses utilise their cubic space to its full potential whilst reducing building footprints.

Figure 6.6 Sub-Region Industrial Stock by Size, with Share of Vacant Stock



Source: CoStar 2024, Savills 2024

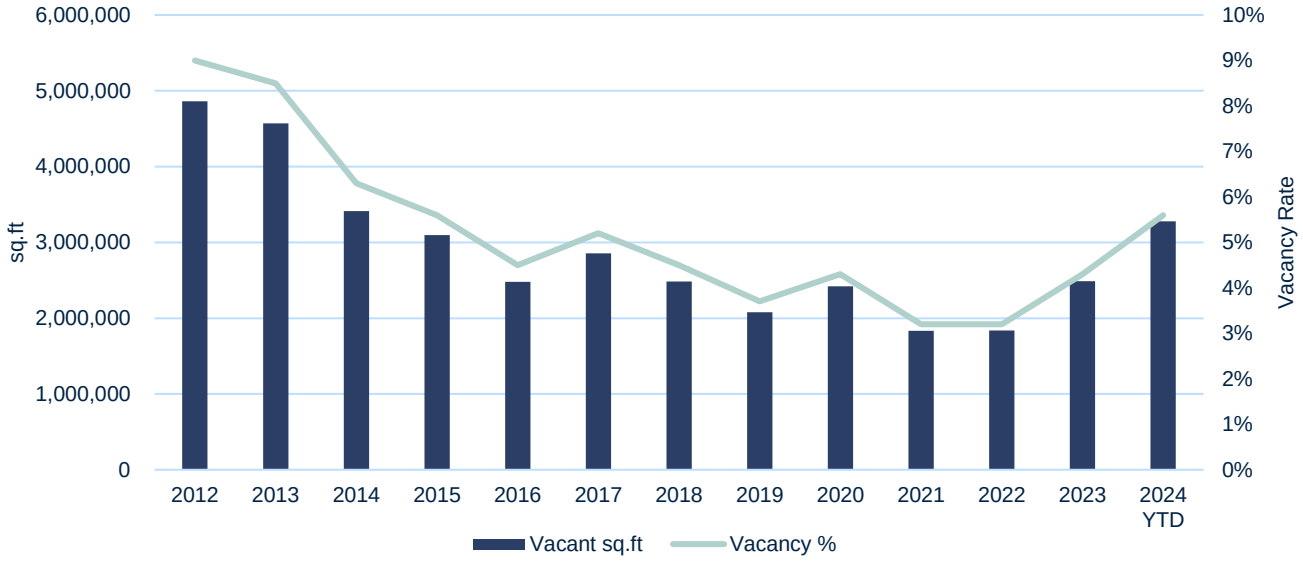
Figure 6.7 Industrial Stock by Unit Size Category and Quality in Sub-Region



Source: CoStar 2024, Savills 2024

6.3.3. Vacancy in the sub-region has steadily decreased from highs of 9.0% vacancy rate in 2012. Vacancy rates were at 4.3% as at the end of 2023 and have trended upwards to 5.6%. This is due to slightly weaker demand last year against new completions.

Figure 6.8 Vacant Industrial Floorspace in Sub-Region

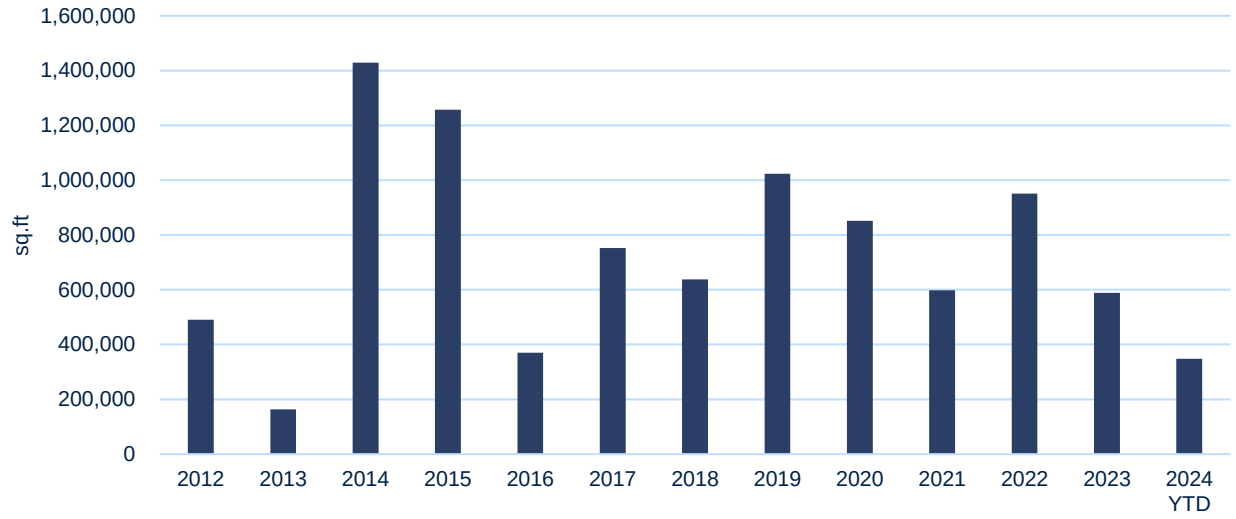


Source: CoStar 2024, Savills 2024

6.3.4. Historic completions of industrial floor space in the sub-region are illustrated in **Figure 6.9** below. The development of new industrial floorspace has fluctuated significantly. After peaking in 2014/2015 the delivery of new space slowed. Over the period 2012 to 2023 completions on average were 760,000 sq ft (71,000 sq m) per annum.

6.3.5. Last year completions were just over 588,000 sq ft (55,000 sq m) which is below the long-term average. During YTD 2024 the figure is 348,000 sq ft (32,000 sq m). The lower level of completions in recent years suggests that vacancy rates will stabilize and decrease again as demand continues. This indicates that in the medium to long term there will be an ongoing need for new floorspace.

Figure 6.9 Industrial Completions Sub-Region



Source: CoStar 2024, Savills 2024

6.4. Conclusion

6.4.1. Demand across the broad industrial market is strong and largely driven by logistics and other traditional industrial activities. However, the overall strength of the market does not reflect the full range of industrial activities, including R&D and other uses including film studios and museum spaces. It is likely that the demand for more of these types of activities could be accommodated at the TVSP.

7. Implications for Loddon Valley Garden Village

7.1. Context of the TVSP Development to Date

7.1.1. Over the past decade, alongside the broader property market, the TVSP has demonstrated its capacity to meet the evolving needs of the economy due to its accessibility; academic and financial support from University of Reading; the strong local and sub-regional, knowledge-based economy; and its overall commercial attractiveness which has drawn inward investment. The TVSP now has considerable momentum which started a decade ago with the initial phases that were narrowly focussed on office and lab space.

7.1.2. Since the initial phases of the originally conceived TVSP Gateway area, the park has expanded by drawing several high-profile occupiers and several organisations who have committed to the area. The establishment of American-owned Shinfield Studios demonstrates the interest drawn from international investors. The studio was built out rapidly, having completed construction this year, and has accommodated production activities for Disney and other creative companies. Whilst the TVSP had planned to accommodate the sector through its vision statement the scale of the interest illustrates the potential.

7.1.3. The wider opportunities illustrated by Shinfield Studios is akin to that of other high profile organisations who have committed to or expressed interest in the TVSP. This includes the British Museum, The Royal Botanical Gardens Kew and the Natural History Museum. Given the potential expansion of the TVSP through the LPU it would be expected that similar expressions of interest would be forthcoming from other similar organisations.

7.2. Context of Property Market Activity

7.2.1. Our findings from our analysis of the high-level metrics for the sub-regional property market area in chapters 5 and 6 is broadly consistent with the council's own evidence base. Overall offices have experienced a lower level of demand due to a wide range of factors having to do with economic change and evolving work patterns. Whilst the council's evidence base concludes that no new land is required for new offices, our assessment does show that there is a lack of high quality premises in the sub-region and a relatively healthy demand for them. Whilst overall rental levels have remained broadly stable, rental levels for good quality office floorspace have grown as the flight to quality dynamic continues. In addition, the high-level review of market metrics doesn't reflect underlying sectoral dynamics which would demonstrate demand in some of the growth sectors identified in chapters 8 to 14.

7.2.2. Like our assessment of the office market, the analysis of the I&L market follows a traditional method that is consistent with the council's evidence. The data indicates a robust industrial market where demand is strong and there is limited availability, especially for high quality premises. However, recent activity in the sub-region and the TVSP demonstrate that demand is increasingly coming from unanticipated sectors who seek commercially attractive locations with the scale and flexibility to meet their emerging requirements.

7.2.3. The overriding conclusion of our work is that future demand for office and industrial floorspace will come from a combination of traditional sources as well as from new, innovative and unanticipated sources, some representing new inward investment. To ensure that such requirements can be accommodated, the expansion of the TVSP as proposed by LPU Policy SS13 is essential.

C. GROWTH SECTORS AND PROSPECTS

8. Overview

8.1. Introduction

8.1.1. In Chapters 9 to 14 we investigate key growth sectors that are generating economic value and could form part of new development at an extension to LVSP. We expect that these sectors will continue to grow if the right real estate premises are in place to meet demand. These key sectors that we review are:

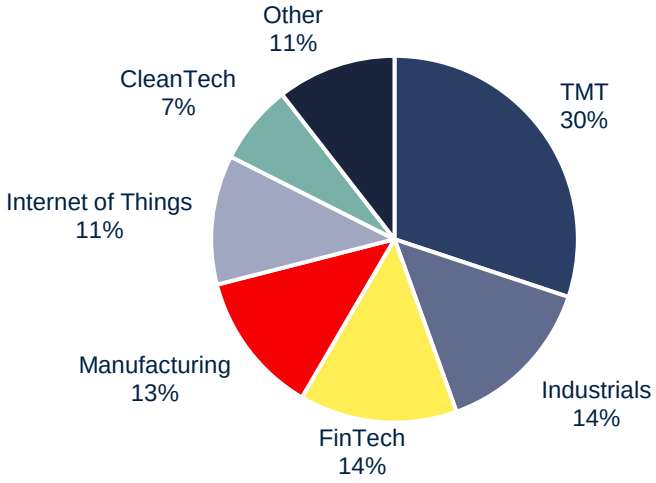
- Film & media
- Health & life sciences
- Industrial & logistics
- Innovation & technology
- Culture & heritage
- Climate change & sustainability

8.1.2. Many of these sectors drive innovation through research and development activities. Employment premises must offer flexibility in both design and lease terms to accommodate the evolving needs of these innovative occupiers.

8.1.3. Enterprise activity within the region has grown continuously with a 22% increase in the volume of businesses active in the local authority areas of Reading and Wokingham alone. Total employment within these authorities is also anticipated to grow by about 17% by 2032[1].

8.1.4. **Figure 8.1** sets out the significant areas of value generation where investment has been directed into the sub-region. This includes Technology, Media and Telecommunications (TMT), CleanTech, Internet of Things, and Industrial and Manufacturing. In the following chapters we explore trends in these industries in detail, drawing out key growth sectors.

Figure 8.1 Key Investment Areas in the Sub-Region (2019 to YTD 2024)



*Source: Pitchbook. *YTD reflects end September 2024.*

[1] *Oxford Economics, forecasts as at September 2024*

8.2. Summary

8.2.1. In Chapters 9-14 we discuss six key industries and evaluate their growth trajectory and future potential opportunities they represent. We also consider the LGV's suitability to accommodate their requirements. Our analysis illustrates the dynamic nature of these sectors and the opportunities for step-change in inward investment.

8.2.2. Whilst each sector has their own premises requirements and differing footprint within the sub-region, the success and impact of these industries is mutually reenforcing. For example, the I&L sectors can support the commercial needs of the film industry and the application of technology can be of benefit to sustainability and life sciences. Each of these industries have the potential to benefit from a presence in the LGV whilst bringing significant value and interest to the area. The variety of activity is already creating a virtuous cycle that is a draw for commercial occupiers and future talent.

9. Industrial and Logistics

9.1. Introduction and Summary

9.1.1. The purpose of this section is to assess the suitability and opportunity that the Industrial and Logistics ('I&L') sector can bring to the LGV. In recent years the I&L sector has seen a notable transformation with jobs growth and wages outperforming the UK average. This is unsurprising given that the manufacturing sector is highly productive and the logistics sector is becoming increasingly crucial to daily life in a world of next day deliveries and a sustained rise in e-commerce.

Figure 9.1 Industrial and Logistics Summary Statistics

+26% job growth Rise in UK logistics job growth from Q1 2015 - Q1 2024 (ONS)	**Grade A = 93%** Of space transacted in the South East (Savills Research)
4.9% availability rate for sub 100,000 sq ft I&L units in Q3 2024 (CoStar)	**47% R&D spending** Of businesses in the UK in 2022 was based in the manufacturing sector (ONS)
26 million sq ft Tracked lease events due across 2024 (Savills Research)	**87% rent growth** Between 2014 to 2023 in the sub 100,000 sq ft I&L market (CoStar)

9.1.2. As the application of I&L is diverse we interrogate the sector in more detail within this introductory chapter. I&L provides solutions for a variety of occupiers and therefore plays a key role in supporting activity within the LGV. Real estate needs can range from last-mile delivery and production warehousing, through to innovative mid-tech manufacturing and to basic (e.g. residential) and complex (e.g. museum preservation) storage requirements. Analysis shows the utilisation of I&L has grown across the UK and indicates an existence of suppressed demand and the LGV is a fitting location to meet the I&L needs of a range of occupiers.

9.2. Sectorial Outlook and Growth Drivers

9.2.1. Within this section, we discuss the I&L in a national context and the types of real estate involved.

9.2.2. The logistics sector is one of the fastest growing segments of our economy, both in recent years and over the long term. Between Q1 2015 and Q1 2024 the number of jobs in the logistics sector grew by 26% compared to 10% (growth of all job types) across the entire UK economy.

9.2.3. As I&L occupiers have diverse locational and typological requirements investment is also more regionally balanced. This is in contrast to the office sector, where investment and development is mainly concentrated in city centres. I&L units not only form a key part of the film and media needs in the LGV (as defined in the types of premises in chapter 5) but also can add to and supplement the surrounding ecosystem of residential and commercial activity. For example, it can provide space for:

- New manufacturing and logistics businesses looking to benefit from the M4 corridor
- Self-storage to support nearby resident populations and small and medium sized enterprises (SMEs)

- Storage, archiving and equipment space for existing and new local businesses including museums, hotels, offices, eco parks and cafes
- Last-mile solutions for delivery companies to service the local population
- For R&D, mid-tech I&L units have a flexible layout which allows tenants to customise units depending on their needs, which include elements of office, lab space, and prototyping/manufacturing uses
- Manufacturing space which, under Good Manufacturing Practice (GMP) standards, can support life sciences businesses in bringing their solutions to market.
- Production, maintenance and/or repair of photovoltaic (PV) panels or ClimateTech solutions used locally.

9.2.4. Looking at the first half of 2024 UK take-up of 'big box' (over 100,000 sq ft) I&L space has risen 44% compared to H1 2023 to stand at 16.82 million sq ft. Within the London and South East regions 93% of space transacted in H1 2024 has been Grade A quality Overall, we consider that market sentiment is improving.

Table 9.1 Key I&L Statistics for Big-Box Space in the South East in H1 2024 (Over 100,000 sq ft)

Statistic	Value
Take-up	1.62 million sq ft
Supply	11.5 million sq ft
Development pipeline	2.69 million sq ft
Quoting Grade A rent	£9.50–£37.50 psf
Vacancy rate	7.98% (5.92% London, 8.98% South East)

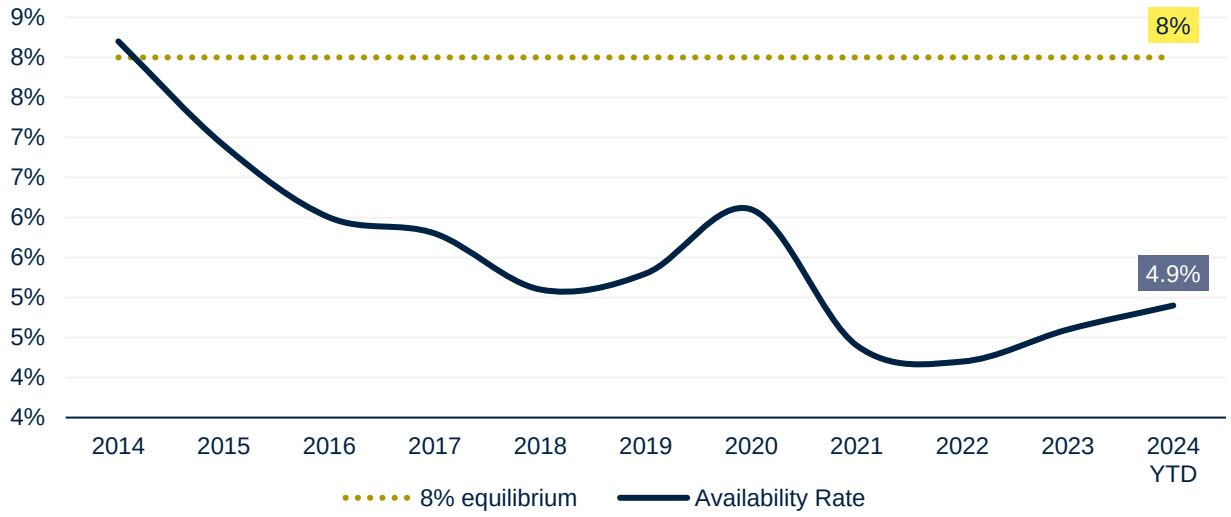
Source: Savills Research

9.2.5. For Big Box space supply has increased by 28%, reaching 11.5m sq ft across 68 units due to 1.02 million sq ft of speculative development completions alongside 2.3 million sq ft of second-hand supply returning to the market. The vacancy rate in the South East currently stands at 8.98%. With many spaces under offer and greater take-up activity forecasted for H2 2024, vacancy rates are forecasted to fall[11].

9.2.6. The I&L market for sub 100,000 sq ft units also plays a critical role, providing a flexible platform for companies to develop and scale products and services. Anchor occupiers in the LGV, such as Shinfield Studios, operate in small to mid-sized units (See **Table 10.2** for Studio and Workshop sizes). Units under 100,000 sq ft have the ability to facilitate all stages of a supply chain from start-ups through to established businesses.

9.2.7. The sub 100,000 sq ft sector has been supply constrained in the UK. This is due to demand exceeding supply. The sector has experienced significant rental growth that has outpaced both private housing prices and rents since 2015. Within the market 8% availability is commonly defined as the frictional equilibrium rate. Availability under this rate can be defined as supply constrained as potential occupiers will struggle to find space and will tend to compete on price. As shown in **Figure 9.2** The sub 100,000 sq ft I&L market in England has been below this 8% frictional equilibrium since 2014 and has continued to trend downwards.

Figure 9.2 I&L Units in England Under 100,000 sq ft Market Availability Rate vs. Equilibrium (2014-24 YTD)



*Source: CoStar (*YTD – Q3 2024)*

9.2.8. The lack of supply, particularly of smaller space, has been exacerbated by losses of I&L premises in urban areas to alternative uses such as housing and offices which has not been replaced elsewhere. Most recently, plans have been unveiled for the conversion of the +27,500 sq ft John Lewis customer collection warehouse in Mill Lane, Reading into 215 residential apartments[2] demonstrating this trend of a conversion of former I&L space to residential in locations where this is more appropriate at a site specific level.

9.2.9. Due to the lack of available supply of these units, occupiers cannot find suitable quality and sized space which has led to a suppression of demand (i.e. demand for I&L space that has not been realised). Further aggravating this is the flight to quality which has been observed in the industrial and logistics market. Modern occupier requirements include good quality and flexible premises with strong sustainability credentials. Suppressed demand for UK sub 100,000 sq ft units has been projected at 38% (of realised demand) between 2014 and 2023 (30% in the South East region)[3]. This estimate illustrates the missed opportunity for the local economy as new suitable supply would support small to medium sized businesses, provide higher quality facilities and additional employment opportunities.

9.3. Activity in Sub-Region and Relevance to Loddon Valley

9.3.1. In the sub-region, the supply of industrial and logistics stock is concentrated across Reading, in south west Wokingham, east of Newbury (along Hambridge Lane), south of Bracknell, north of Basingstoke and in Farnborough (benefitting from the business airport, Farnborough Airport).

9.3.2. I&L brings further productivity and value to the LGV development through talent. Jobs in the I&L sector have increasingly become higher skilled in recent years which is partly due to I&L roles and processes shifting away from manual labour towards managing machinery and technology. These higher skilled roles, particularly in warehouse/plant management and research and development, also fuel productivity in the

[2] *John Lewis Partnership – September 2024, 'John Lewis Partnership submits plans to regenerate Reading site with new homes'*

3 Savills Economics, 2024

more traditionally lower skilled roles through increased use of technology and faster and more efficient processes.

9.3.3. Key employers and occupiers in the local area include Gilette who have based their R&D facility in Reading (Basingstoke Road) accommodating approximately 1,500 employees. In 2017 it was announced that their innovation centre in Egham (London) would be closing and their headquarters in Reading would be expanded to accommodate staff relocation. The original headquarters have been complemented with a combination of offices, warehousing and laboratories and used for the creation, prototyping and testing of Gillette products. Facilities like these illustrate the diversity available in the industrial and logistics market as a variety of products are researched and manufactured.

9.3.4. The R&D value of the sector is significant. Business enterprise research and development data from the Office for National Statistics (ONS) illustrates that business spending on R&D can in part explain the productivity gains in the manufacturing industry with 47% of all R&D spending within the UK in 2022 being within this sector.

9.3.5. In addition to R&D solutions the I&L market in the local area has a variety of major warehouse occupiers across transport and delivery, services and manufacturing (especially in the food sector). **Table 9.2** illustrates these occupiers and related employee populations. Other key R&D employers include Syngenta, 3M, Daler Rowney, Fujitsu and Honda in Bracknell Forest and Hutchison 3G UK Ltd in Maidenhead.

Table 9.2. Major Employers in the Local Area

	Name	Sector	Employee Count
	Royal Mail (Reading/Slough)	Transport and Delivery	1,000-1,999
	Tesco (Reading)	Services	1,000-1,999
Mars (Slough)	Manufacturing	1,000-1,999	
	Brakes Group (Reading)	Manufacturing	500-999
Thermo Fisher Scientific (Basingstoke)	Manufacturing	250-499	
John Crane UK (Slough)	Manufacturing	250-499	
UCB (Slough)	R&D and Manufacturing	750	

Source: PMA 2024, public sources.

9.4. Conclusion

9.4.1. The I&L market has the flexibility to thrive within the LGV, fitting cohesively within the diversity of activities in the LGV concept plan, as well as driving productivity and resulting GVA for the area. For example, R&D manufacturing facilities to support the existing science park, storage facilities and last-mile delivery hubs for local centres, residents, schools and sports hubs and also suitably sized facilities for employment areas.

10. Film and Media

10.1. Introduction and Summary

10.1.1. The purpose of this section is to introduce the sector and assess the opportunity for film and media activities at Loddon Valley Garden Village and film production space in particular. The hub of activity is based in the fully completed Shinfield Studios and a handful of surrounding production spaces.

Figure 10.1 Film and Media Summary Statistics

Over £4bn Annual UK spend on film and high-end television (HETV) production (BFI 2023)	**4%** Projected growth of UK Entertainment and Media industry by 2026 (MetFilm)
16,240 Film and video production companies in the UK (Statista 2022)	**18.9%** Forecasted growth in global cinema spending 2022-2026 (Statista 2022)
68% Production spend in the UK was inward investment (BFI 2023)	**106,000** Employed in the UK's film industry (Statista 2021)

10.1.2. Shinfield Studios has only recently been completed however has already been a key contributor to the UK film and media industry in the last couple of years. Its extensive provisions will attract future production activity and therefore demand for greater capacity and amenities. The sector is becoming more dynamic globally in the type of occupiers (ranging from film producers to content creators) looking for space which will bolster future demand requirements.

10.1.3. Additionally, the sub-region has historically attracted a significant volume of inward investment and has been recognised as a suitable location by international occupiers; with this history and investment commitments to the UK by major corporates such as Amazon Prime and Netflix, we expect this trend to continue.

10.2. Sectorial Outlook and Growth Drivers

10.2.1. Within this section, we discuss film and media in a global and national context and the real estate involved.

10.2.2. There are a variety of real estate requirements within film and media which encompass sound stages, workshops, offices and amenities. As well as accommodating the need to stage and film productions, additional spaces are required for set designers and construction, technical equipment, parking, catering, dressing rooms and walkways.

10.2.3. Samantha Perahia, Head of Production UK at the British Film Commission states: *'We've seen a trend for more production-style hubs, more campus style studios where there's a mix of large stages, space for virtual production and also more rooms for tenants and even for training…'.* With the rise in virtual production (film making which combines virtual and physical worlds using visual effects), greater flexibility and diversity is needed within studios. Sound stages need to be adaptable to the requirements of production company occupiers through the removal and reorientation of division walls and demountable stage spaces.

10.2.4. The UK's history of productions (including Harry Potter, Doctor Who, Game of Thrones, The Crown, the Bond Series and Star Wars to name a few) combined with a skilled and versatile workforce, historic buildings, government incentives and a series of respected film and television schools, has led the UK to be a key recipient of inward investment in this sector. The award winning Barbie movie generated over £1bn in takings and much of the production was shot in the UK in 2022, adding over £80m during the time of filming[4]. Inward investment continues to make-up the majority of spend on film and HETV production in the UK and its concentration has increased from 85% in 2019 to 87% in H1 2024 (See **Figure 10.1** for breakdown between film and HETV production).

Table 10.1 Spend on Film and HETV Production in the UK in H1 2024 (£ million)

Statistic	Film	HETV	Total Film & HETV
Domestic UK spend	61	324	**385**
Inward investment and co-production spend	1,046	1,471	**2,517**
Inward investment and co-production (% of total investment) in H1 2024	95%	82%	**87%**
Inward investment and co-production (% of total investment) comparison as at pre-pandemic level FY 2019	91%	78%	**85%**
Total spend	**1,107**	**1,795**	**2,902**

Source: BFI Research and Statistics Unit, August 2024.

10.2.5. Funded by the Department for Digital, Culture, Media and Sport (DCMS), significant investment has been made into studio infrastructure with a growth in UK studio space from 3.2 million sq ft in 2019 to 5.3 million sq ft in 2022/23.[5] This was required to accommodate space for UK production and led to new space in Sky Studios Elstree (Borehamwood), Warner Bros. Studios (Leavesden), Shepperton Studios (Surrey), Versa Leeds Studios (Leeds), The Bottle Yard (Bristol), The Depot (Liverpool) and an underwater filming stage in Pinewood Studios (Iver). Major steaming platforms continue to invest in the UK, with Netflix confirming inward investment of approximately £4.8bn between 2020 to 2023[6] and Amazon Prime Video reporting investment of over £1bn in UK content production since 2018[7].

10.2.6. Over-the-top (OTT) video has accelerated the demand for creation of new content. OTT video is the means of providing film and TV content over the internet to suit the requirements of the consumer. Providers include Disney+, Netflix and Amazon Prime Video. PWC forecasts that world subscriptions to OTT videos will rise from 1.6 billion in 2023 to 2.1 billion in 2028[8]. Forbes project that the video streaming industry, currently valued at $544 billion, will reach valuation of approximately $1,902 billion by 2030.

[4] *BBC – Culture*, November 2023

[5] *Department for Culture, Media and Sport – October 2023 Statement*

[6] *Netflix - Netflix Reveals Almost $6 Billion Investment in British Creative Economy Since 2020, and Announces Three New Commissions (2023)*

[7] *Amazon UK - Prime Video reveals an investment of £1 billion in TV, movies, and live sport (2022)*

[8] *PwC's Global E&M Outlook 2024–2028*

10.2.7. The diversity in content production also continues to grow as online influencer and entrepreneurs want to continue to capture and meet the demand of their audiences. It is not only the major corporations requiring studio space for film making but also professional online content creators whose productions have expanded in scale over time as they have become more successful. This demand is also working in parallel to the increasing interest from large corporates who want to generate digital content for product promotion (in any sector). The emergence and continued growth in the 'Creator Economy' and its low barriers to entry will intensify demand for production space.

10.2.8. The combination of demand for new film and media content from worldwide consumers has fuelled the need for more space from film, TV and media producers. UKREiiF emphasised that this interest has accelerated plans for new studio space in the UK with the number of planning consents for film studios rising by 45% from 2018 to 2021.

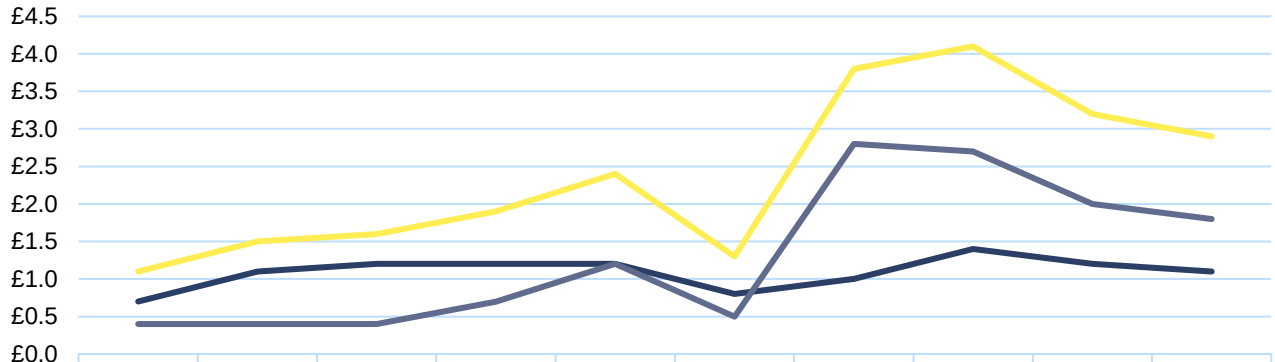
10.2.9. The UK Government is keen to support and restore film and tv production following the Covid-19 pandemic and have introduced schemes such as 'The Film and TV Restart Scheme' to provide £500m to support productions impacted by the pandemic. New tax credits for British film, TV and video game makers also became available to the industry in January 2024 in order to maximise UK production potential and preserve British talent[9]. Adding to the existing talent Labour's 'Plan for the Creative Industries' published in March 2024, sets out the Government's plan to reform the Apprenticeship Levy into a 'Growth and Skills Levy' so it can also be used to support creative businesses.

10.2.10. Despite the writers and actors strikes of 2023, which resulted in several large projects being paused or postponed in 2023, production has continued with spending gaining pace in 2024. The British Film Institute reports that 72 films started shooting during H1 2024 and total UK production spend for these films was £1,107 million, compared with £799 million as reported for H1 2023. The trend in inward investment continues with inward investment films accounting for £1.3 billion, or 83%, of the total UK production spend on film in the last 12 months to August 2024.[10]

[9] *Gov.uk, 2024 - New tax credits for British film, TV and video game makers start from today*

[10] *BFI Research and Statistics Unit - Film and high-end television programme production in the UK, January to June 2024 and year ending June 2024*

Figure 10.2 UK Spend on Film and High-End Television (HETV), H1 2015-2024 (£bn)



	2015	2016	2017	2018	2019	2020	2021	2022	2023	H1 2024
Film	0.7	1.1	1.2	1.2	1.2	0.8	1	1.4	1.2	1.1
HETV	0.4	0.4	0.4	0.7	1.2	0.5	2.8	2.7	2	1.8
Total	1.1	1.5	1.6	1.9	2.4	1.3	3.8	4.1	3.2	2.9

Source: BFI Research and Statistics Unit

10.2.11. As illustrated in **Figure 10.2** over the last decade the UK spend on film and HETV projects has remained resilient. Given the popularity of UK as a production destination with its supportive tax relief, credit policies, production history and talent combined with the diversifying and burgeoning global streaming and content landscape, there is a requirement to keep pace with the right real estate provision in place.

10.3. Activity in the Sub-Region and Relevance to Loddon Valley

10.3.1. Film and media activity in the LGV is centred around the 1 million sq ft Shinfield Studios, fully operational as of June 2024, comprising 18 new purpose-build sound stages, two of which are the largest in the UK at 43,000 sq ft each[11]. The first four stages were built to host the latest Disney+ Star Wars series, *The Acolyte*.

10.3.2. Shinfield Studios is a clear example of a high-value project delivering value over an extended time during construction. Following planning permission granted in August 2021, Phase 1 work began to complete four sound stages covering 74,000 sq ft and four workshops totalling 75,000 sq ft. By December 2021, Disney was confirmed as a new client with production to start in 2022. Phase 2 construction began in 2022 to prepare ground and foundations for a further five sound stages. These new facilities would then be used by the Ghostbusters: Frozen Empire production in time for their film release in March 2024. In October 2023, Screen Berkshire was launched (See **Paragraph 10.3.7**) and by November 2023, 13 stages were in operation[9]. All stages were then complete by June 2024, by which time, Shinfield Studios had already been a key part of production delivery in the UK.

10.3.3. The US ownership of Shinfield Studios illustrates the role of foreign direct investment directed into this sector in the UK. Additionally, it demonstrates Wokingham's ongoing attractiveness to international investment for businesses looking for large amounts of space in proximity to a key global city such as London. The management of Shadowbox Studios (who own Shinfield Studios) confirmed they, "are firm believers that best-in-class facilities in tier-one markets will continue to see an outsize benefit from the secular shift toward streaming and [their] Shinfield facility was carefully designed to meet the most

[11] *Shinfield Studios*

discerning production needs … [they] are thrilled to expand the Shadowbox platform in the UK – one of the world's top film and television production markets"[12].

10.3.4. Within the wider area there is also activity in Arborfield Studios in Wokingham, Farnborough International Studios in Rushmoor Borough Council and Bray Film Studios in the Royal Borough of Windsor & Maidenhead. Data from the British Film Institute illustrates that, to the West of the local area around Reading no further studios are available up to Bristol, and no studios are available to the south.

Figure 9.3 Studios and Stage Space Around Reading to West London

*Source: British Film Institute (BFI). *Blue icons indicate stages above 15,000 sq ft and green indicates stages below 15,000 sq ft.*

[12] *Bracknell News, November 2023. "Shinfield Studios announce completion date for final phase".*

Table 9.2 Film Studios West of London

Stages (Size)	Workshops	Offices	Backlot*	Other
Arborfield Studios (Wokingham) - Total Current Stage Size 96,428 sq ft				
Stage 1: 69,797 sq ft Stage 2: 13,176 sq ft Stage 3: 13,455 sq ft	Wardrobe, art department, construction, props space	Office space	2 backlot areas (totalling 140,000 sq ft	Large external building – potential to become an editorial/VFX suite Car parking
Farnborough Studios (Rushmoor) - Total Current Stage Size 44,000 sq ft				
2x 22,000 sq ft stages	20,000 sq ft workshops	10,000 sq ft offices	50,000 sq ft unit base/parking	Car parking
Bray Studios (Windsor & Maidenhead) - Total Current Stage Size 53,636 sq ft				
Stage 1: 8,546 sq ft Stage 2: 10,947 sq ft Stage 3: 2,260 sq ft Stage 4: 22, 152 sq ft Stage 5: 9,731 sq ft	77,480 sq ft workshops	39,400 sq ft offices	182,952 sq ft backlot	168,998 sq ft parking and hardstanding
Shinfield Studios - Total Current Stage Size 444,400 sq ft				
Stage 1: 22,700 sq ft Stage 2: 22,700 sq ft Stage 3: 43,600 sq ft Stage 4: 43,600 sq ft Stage 5: 33,600 sq ft Stage 6-7: 22,700 sq ft Stage 8-9: 20,700 sq ft Stage 10: 26,600 sq ft Stages 11-14: 22,700 sq ft Stage 15-16: 17,250 sq ft Stages 17-18: 19,750 sq ft	Over 200,000 sq ft for 38 workshops	180,000 sq ft offices	12 acres of quiet backlot	Car parking Surrounded by trees and farmland

*Source: British Film Institute *A backlot is an outdoor area on a film studio's property used for shooting exterior scenes*

10.3.5. Key planning applications for other film and media activity that are approved and in progress include:

- Production company Stage Fifty received permission for the demolition of two warehouses at Winnersh Film Studios (Wokingham) to construct a 4,552 sq m sound stage building, completion expected at the end of 2025.
- Redevelopment of an existing 22,042 sq m site to create new film and TV studios at Bray Film Studios in Windsor. Completion is expected in H1 2025. Amazon Prime Video also announced in July 2024 that it would be acquiring Bray Film Studios to support plans to produce more film and TV in the UK.

10.3.6. Shinfield Studios has become a prominent employer within the creative industries in the local area. The Wokingham Employment Land Needs Review 2023 reported that approximately 1,500 direct jobs will be delivered by these studios which a corresponding volume of indirect jobs. Stage Fifty, a film and television studio solutions provider, is also expanding its operations in the area. Stage Fifty supports local employment by offering roles in construction, technical support, and creative services within the film industry.

10.3.7. Together with Shinfield Studios, Resource Productions (Slough) and Bedlam Productions (London), the University of Reading is supporting the pipeline of talent into the industry and is a partner of 'Screen Berkshire' a British Film Institute funded training programme. Screen Berkshire creates opportunities '…*to build on the regional screen skills talent pool, improve diversity in the industry and support productions that are filming in the region'*[13].

10.4. Conclusion

10.4.1. The existing studios act as a key anchor for the area's film and media industry (as well as being a renowned location across the UK) and new and developing talent is being supported through University of Reading and Shinfield Studios. These fundamentals alongside the growth in HETV production and content from the expanding Creator Economy means the sector has the foundations and attractiveness to excel, generate further demand for space (whether for studio or ancillary spaces) and generate significant value in the LGV.

[13] *University of Reading, October 2023 - Screen Berkshire launched*

11. Health and Life Sciences

11.1. Introduction and Summary

11.1.1. The purpose of this section is to assess the suitability and opportunity for the health and life sciences sector to be part of the LGV development.

Figure 11.1 Health and Life Sciences Summary Statistics

23% of employment in UK life sciences is based in the South East (Gov.uk)	**Over £13 billion** In GVA contributed to the national economy in 2021 from pharmaceutical manufacturing alone (Gov.uk)
£9 billion Worth of pharmaceutical R&D was undertaken in the UK business sector in 2022 (Gov.uk)	**6.8% CAGR** In science related jobs in Reading and Wokingham from 2015 – 2022 (ONS)
6,850 businesses Operating in the UK life sciences industry as at 2022 (Gov.uk)	**636,000 jobs** directly and indirectly supported by the UK life sciences sector as at 2021 (PwC)

11.1.2. There is a variety of science real estate than can be considered to support a health and life sciences ecosystem including:

- **Office space** (for head office functions, administrative operations, and write-up space for analysing and documenting experimental results)
- **Wet labs** (laboratories equipped for handling biological agents, genetically modified organisms, animals, and plants, with the necessary containment and safety controls)
- **Dry labs** (facilities supporting digital innovation, data analysis, AI and computational research)
- **Clinics and teaching hospitals/facilities** (spaces dedicated to clinical research, patient care, and training for medical professionals)
- **Manufacturing facilities** (requiring adherence to 'Good Manufacturing Practice' standards, which ensure safe and consistent production processes for medicines)
- **Incubators and fitted labs for start-ups** (providing specialised equipment and resources for early-stage companies to develop and test their innovations)
- **Supply chain and distribution hubs** (facilities for storing, managing, and distributing products, including raw materials, medicines, and medical devices).

11.1.3. The UK has built a strong global reputation for research and discoveries within the health and life sciences sector and continues to attract investment and resulting occupier demand for R&D space. A combination of talent, research bodies, established corporates, transport connections and amenities are all needed to help the sector thrive. With these elements already in place locally, the LGV is a fitting location to meet occupier requirements and grow its existing provisions.

11.2. Sectorial Outlook and Growth Drivers

11.2.1. Below we discuss the nature of the UK health and life sciences real estate sector and the government initiatives in place to reinforce the sector and support the nation's talent.

11.2.2. Whilst activity within health and life sciences has been existent for many years (especially thriving in the US), the interest and investment into the sector has been accelerated by the Covid-19 outbreak, combined with the world's ageing population and desire to improve quality of life at any age. A thriving science ecosystem is often characterised by the triple helix model, which involves collaboration between industry, academia, and government. A prime example of this in the broader UK landscape is the innovation and success seen in the Golden Triangle formed by Cambridge, Oxford, and London.

11.2.3. In recent years demand in the life sciences sector has been heavily concentrated within the Golden Triangle of Cambridge, Oxford, and London. This is largely due to the presence of the triple helix model in the region, where close collaboration between industry, academia and government drives innovation, research and commercialisation. A reoccurring theme within the UK health and life sciences market is the severe lack of suitable laboratory ('lab') supply for life sciences occupiers which has prompted businesses to look at alternative locations outside of but within proximity to the Golden Triangle.

11.2.4. The availability of housing is becoming a constraint to the growth of the life science sector in the UK, especially as many life science R&D clusters are located in areas of high affordability pressure.

11.2.5. Take-up of science-related space across these Golden Triangle markets totalled 566,000 sq ft by the end of H1 2024. 25% of this take-up was for lab space. At the end of June 2024 Oxford alone had recorded approximately 1.1. million sq ft of requirements. The majority of this demand (78%) has been for spaces under 20,000 sq ft which are likely to have fully fitted lab space requirements.

11.2.6. Alongside continuing structural factors which support investor demand and leasing rates, such as an ageing population, there are emerging considerations such as artificial intelligence (AI) in clinical drug trials. This supports drug discovery and speeds up the process of bringing products to market whilst also creating further requirements for suitable dry lab units which have adequate utilities in place to safeguard connectivity, security and power. Application of technology is discussed further in Chapter 8.

11.2.7. There are multiple benefits to gain from the health and life science ecosystem. In a recent research study undertaken by Savills in partnership with British Land there was an assessment carried out to understand the potential impact of accelerated growth within the UK life science industry. This assessment found that, for example, if the Golden Triangle were to match the pace of development in the US this would bring significant additional employment, gross value added (GVA) and tax revenues to the local economies. This is illustrated in **Table 11.1** below.

Table 11.1 Comparison of UK and US Life Science Employment, GVA and Tax

Golden Triangle lab space supply increase (sq ft p.a.)	Additional Employment 2035	Additional GVA 2035 (£m)	Additional Tax 2035 (£m)
Business as usual (5.2% p.a.)	33,536	2,012	543
Matching the US (6.7% p.a.)	47,778	2,867	774
Matching Boston (8.7% p.a.)	66,672	4,000	1,080
Matching New York (9.7% p.a.)	73,930	4,436	1,198

Source: Savills & British Land, 2024

11.2.8. There are a handful of established developers in the UK bringing suitable space to the market and building recognisable brands in order to attract tenants. Major players include Kadans Science Partner, Bruntwood SciTech, Pioneer Group and British Land. All are looking to provide high quality space to support a range of science businesses through their lifecycle whilst accommodating the often highly specific requirements of occupiers and managing profitability. As talent is often a key driver of success for a science business, landlords of these assets are constantly seeking ways to enhance the surrounding infrastructure and amenities to satisfy employees and boost occupier demand.

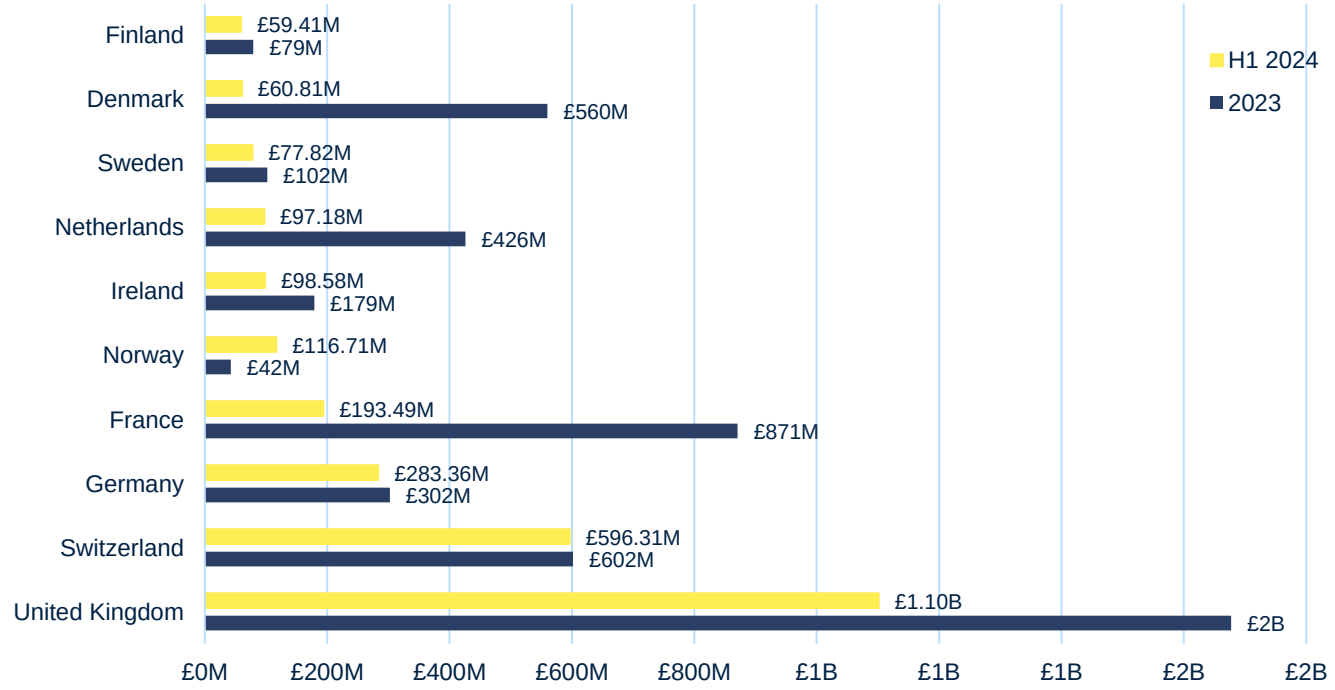
11.2.9. The UK is widely known for its talent, spinouts and R&D intensity in science and technology with three universities ranked in the world's top 10 universities[14]. It is imperative to create suitable and thriving spaces to attract and retain talent. We consider that these spaces should be regionally dispersed to support the growth of activity from universities across the UK that form part of the wider academic ecosystem.

11.2.10. With innovation also correlated to large sunk costs during R&D phases analysis of capital flows is a key indicator of activity and interest in the sector. Venture Capital (VC) is largely known for its role in financially supporting start-ups who would not have the resources to gain funding from traditional lenders. Despite a year-on-year fall on venture capital raising in the UK, a trend seen globally, the UK still accumulated approximately £1.78bn of fundraising in the life sciences in 2023. The UK is the 3rd highest economy in the world when measured on VC raised over the last five years[15].

[14] *Times Higher Education World University Rankings 2024*

[15] *Pitchbook Data*

Figure 11.2 Europe VC Volumes (2023 vs H1 2024)



Source: Pitchbook, 2024.

11.2.11. After Q1 2024 the UK had already exceeded one-third of total VC raised in 2023. By the end of H1 2024 this had risen to approximately two-thirds, illustrating the rebound of investment activity into the sector. Local occupiers that have benefited from recent rounds of fundraising from VC investors include the likes of Oxford Immune Algorithmics, Psychology Tools, Evariste, Jayex Technology and Occuity.

11.2.12. In their pre-election plan for the life sciences sector the UK Labour party highlighted the necessity to incentivise life sciences companies to carry out R&D and proposed to create 100,000 new jobs in the life sciences industry by 2030. We summarise below the variety of support which is due to be provided to support the growth of this sector in the UK.

- The Spring Budget pledged a £360m funding package[16] to boost British manufacturing, research and development, including electric vehicles and pharmaceuticals.
- The UK Government aspires for the UK to manufacture its own medicines and announced a new investment by pharmaceuticals giant AstraZeneca to invest £650 million in the UK to expand on the Cambridge Biomedical Campus and develop a vaccine manufacturing hub in Speke, Liverpool[17].
- Other considerations have been taken in 2023-24 to support the life science sector including the admission to Horizon Europe, investments committed in the UK Autumn/Spring statement and the progress around the Mansion House Pact. These initiatives demonstrate the UK Government's prioritisation of innovative solutions and the technology sector (see Chapter 12 below).

[16] *Gov.uk - £360 million to boost British manufacturing and R&D (2024)*

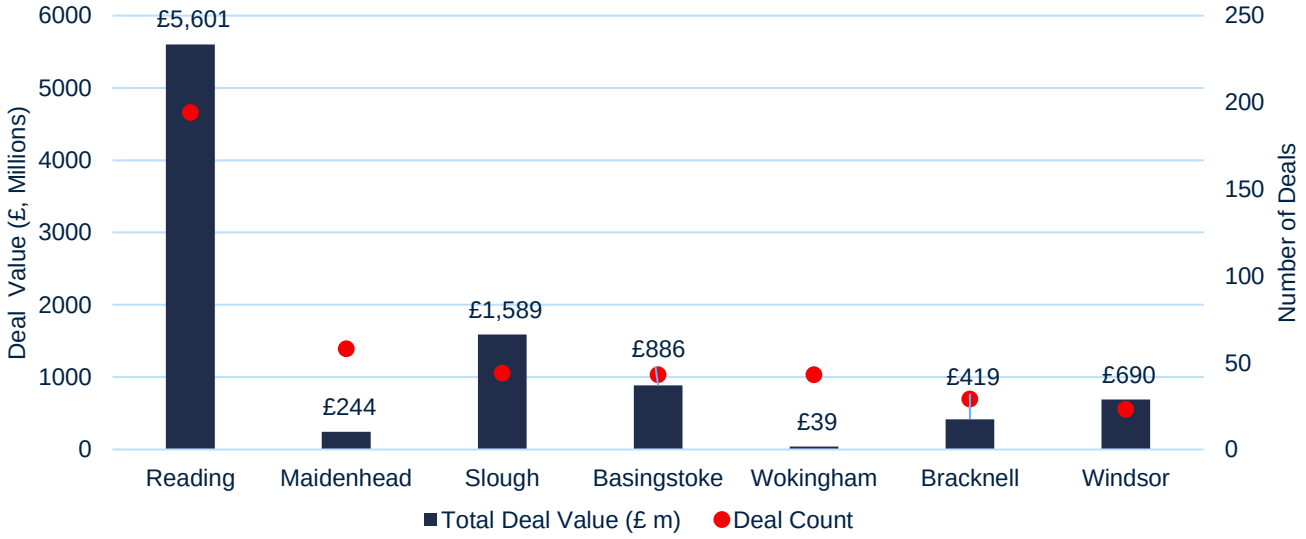
[17] *Gov.uk - AstraZeneca plans £650 million investment in UK (2024)*

11.3. Activity in the Sub-Region and Relevance to Loddon Valley

11.3.1. The local sub-region is home to a variety of occupiers including established life science international corporates, NHS trusts, SMEs, scale-ups and academic institutions which form a strengthening health and life science network. Clustering these entities together is a range of business parks including Green Park (Reading), Thames Valley Science Park (Wokingham), Arlington Park (Reading), Winnersh Triangle (Wokingham) and Greenham Business Park (West Berkshire). Supporting the health network is the Royal Berkshire NHS Foundation Trust, citing itself as one of the largest general hospital foundation trusts in the country.

11.3.2. As well as the activity in the established Golden Triangle markets activity in the sector has risen across the wider South East region. Within the Reading and Wokingham authorities combined there has been a 4% compound annual growth rate (CAGR) in deal volume from 2010-2023. Sciences jobs in this same sector have a recorded 6.8% CAGR between the years of 2015 to 2022[18]. As illustrated in **Figure 11.3** health and life science investments have been completed across the local sub-region, with the majority of businesses receiving funding based in Reading.

Figure 11.3 Health and Life Science Investment Deals in the Sub-Region (2014 – September 2024)



Source: Pitchbook, 2024.

11.3.3. Across the sub-region there are at least 33 live projects set to bring forward new and/or refurbished lab and research spaces to the market. Approximately 93,000 sq ft of lab space is expected to complete between 2024 and 2026 to support occupiers such as Syngenta Ltd, Reading Scientific Services Ltd, Steris Solutions Ltd, Ortho Consulting Group Ltd and Intersurgical Ltd.

11.3.4. One of the most significant life science anchor tenants within the sub-region is Lonza, an international biopharmaceuticals group. Lonza has plans to relocate from Slough to Thames Valley Park, east of Reading town centre, within the boundaries of Wokingham Borough Council. Lonza purchased a plot in Thames Valley Park to develop their new hub (>400,000 sq ft) to contain offices, laboratory space and a

[18] *ONS Data (SIC Codes 72110 and 72190)*

manufacturing facility. This will be significantly larger than their existing Biologics site in Slough, which is approximately 210,000 sq ft.

11.3.5. The NHS also acts as a major anchor of the local health and life science ecosystem. Royal Berkshire NHS Foundation Trust is a crucial employer within the healthcare sector, operating Royal Berkshire Hospital, one of the largest general hospitals in the area. It provides a wide range of medical services and employs approximately 6,500 staff including healthcare professionals, administrative staff, and support workers. It serves a population of around one million people. Royal Berkshire NHS Foundation Trust manages seven sites including Royal Berkshire Hospital along with Bracknell Healthspace, Dingley Child Development Centre, Price Charles Eye Unit, Townlands Memorial Hospital, West Berkshire Community Hospital and Windsor Dialysis Unit.

11.3.6. The LGV is well placed to capture and enhance the positive growth in science activity in the region. It is conveniently placed between the hubs of London and Oxford, along the M4 corridor within an accessible location.

11.3.7. We have seen evidence of locations benefiting from their proximity to the 'Golden Triangle'. A key example is Stevenage, which is strategically located within proximity to London, Cambridge and Oxford. Stevenage is home to Stevenage Bioscience Catalyst and the GSK R&D Centre, which has acted as an anchor for the local science ecosystem.

11.3.8. Reading is already home to major life science conglomerates such as Bayer plc, Pierre Fabre, Britannia Pharmaceuticals and Sanofi. Bayer plc, for example, have their UK and Ireland headquarters in Green Park, which supports their pharmaceuticals and consumer health functions. They are a good example of a company that can act as an anchor to the local health and life science industry.

11.3.9. As well as proximity to anchors such as the clinical space and major occupiers access to academia is often key for health and life science activity to thrive. The University of Reading is a valuable source of knowledge and talent for the sector locally. For example the University of Reading's School of Psychology and Clinical Language Sciences is renowned for research in areas including development and treatment of psychopathology such as depression, anxiety and autism, diet-brain interactions, language development, impairment and multilingualism, and three dimensional (3D) vision. The university was ranked in the top 25% of courses in the UK for psychology.

11.3.10. Research institutes and clinical research organisations such as ICON research in Green Park (adjacent to Bayer plc) provide further support to the sector. This includes consulting, outsourced development and commercialisation services to pharmaceutical, biotechnology, medical device and public health organisations.

11.4. Conclusion

11.4.1. There is a foundational ecosystem of health and life science activity within the sub-region which we consider would support the growth of the sector in the LGV. Potential occupiers may be attracted to base their operations at the LGV due to its strategic location within proximity to Oxford and London coupled with comparatively affordable premises.

12. Innovation and Technology

12.1. Introduction and Summary

12.1.1. The purpose of this section is to assess the suitability and opportunity for the Innovation and Technology Sectors to add value within the LGV. The innovation and technology ('Tech') industry is closely interlinked with the discoveries in health and life sciences and experiences similar demand drivers through academia, research institutes, industry and investment. **Figure 11.2** illustrates the attractiveness of the UK as a hub that invests in innovation and discoveries.

Figure 12.1 Innovation and Technology Summary Statistics

Over £5bn Invested into the information and technology sector in the PMA since 2018 (Pitchbook)	**240 software firms** Domestic software development companies based in Wokingham (ONS)
82% software Of recorded IT, telecoms and data businesses in the PMA work in application software (Beauhurst)	**10,000+ graduates** in digital technology disciplines within a 1-hour catchment area (Berkshire LEP)
255 FDI projects FDI technology projects recorded in the UK in 2023 (ONS)	**50,000+ employed** in the UK's Artificial Intelligence (AI) sector alone (ONS)

12.1.2. As the adoption of technology accelerates the ability to complete a variety of tasks, technology is being integrated into a variety of industries, which has led to the rise in a number of verticals such as AgTech, FinTech, EdTech, FoodTech, CleanTech, HealthTech, SpaceTech and more. Applications of technology can include:

- Healthcare – AI-driven diagnostics, digital drug testing and streamlining healthcare management systems.
- Manufacturing – Internet of Things, security, robotics and creating smarter supply chains.
- Finance – Disruption of traditional banking, automatic financial risk modelling and blockchain transactions.
- Educations – E-learning platforms and increasing accessibility to learning.

12.1.3. The sub-region already has an existing population of established innovators who have proactively moved into the region to house their operations. More particularly, Reading is well-known as a UK destination for international technology conglomerates. Recent business expansions from the likes of Lonza, Adobe and Three are tangible examples to illustrate that the sub-region is apt for further investment. Combining these foundations with the exponential growth in the innovation and tech industry shows that future demand will occur and the LGV is an attractive location for further development.

12.2. Sectorial Outlook and Growth Drivers

12.2.1. Within this section, we discuss this sector in a national context and the types of real estate involved.

12.2.2. The UK is the third country in the world to have a technology sector valued at over $1 trillion in capital and is a leader in R&D. The UK also continues to be the European leader for tech FDI and received more than a quarter (26.7%) of all tech FDI projects in Europe last year[19].

12.2.3. In McKinsey's Technology Trends Outlook, the areas of generative AI and electrification and renewables stood out in 2023 due to a significant rise in job postings and investments in these areas. According to the US International Trade Administration, the UK AI market is currently worth more than $20 billion, and is expected to grow to $1 trillion by 2035. Research from Tech Nation's 2024 Report suggests that one in two UK tech companies are using AI to improve their existing product offering.

12.2.4. To accommodate these diverse applications the sector requires premises which support office and dry lab activity as well as testing and design workshops/units for building and scaling physical products. Occupiers have requirements for affordable, flexible accommodation which they can reconfigure if needed. This has led to the rise in demand for hybrid industrial units to accommodate these activities.

12.2.5. The volume of investment being committed to UK tech businesses illustrates the value and interest in the sector. In 2023 $21.3 billion was raised by UK start-ups, a phenomenal amount of capital for a community of new young businesses. $50 billion was also raised by UK-headquartered funds in Q1 2024, the biggest quarterly fundraise to date[20].

12.2.6. According to Savills Research demand for office space across the Greater London and South East region has continued with the technology sector accounting for the greatest proportion of space under offer. This amounts to 209,000 sq ft and a further 354,000 sq ft of live requirements (as at July 2024)[21]. Savills is currently tracking 2.5 million sq ft of active demand within the region. A tightening of supply is expected across the region with the majority of existing stock requiring upgrading to adhere to the proposed Minimum Energy Efficiency Standards (MEES) and Energy Performance Certificate (EPC) changes due to be implemented in 2027.

12.2.7. The mobility of innovative businesses and significance of spinouts is also a driver of demand for the LGV area. Beauhurst recorded that UK spinout companies raised £1.66 Bn in equity funding in 2023. This is 9.54% of equity funding raised by UK companies across the year[22]. However many start-ups face the hurdles of finding available and affordable space within the Golden Triangle cities.

12.3. Activity in the Sub-Region and Relevance to the TVSP

12.3.1. Technology is a crucial sector within the sub-region with a notable number of international corporates basing their UK headquarters within the area. Research from the Berkshire Local Enterprise Partnerships highlighted that over one-fifth of Berkshire firms operate in the Professional, Scientific and Technical Services industry and just under one-fifth in the Information and Communication industry.

[19] *EY- July 2024, 'Foreign Direct Investment: UK's project total grows as Europe's falls'*

[20] *The Tech Nation Report 2024, 'UK Tech in the Age of AI'*

[20] *Savills Research - Market in Minutes: Greater London & South East Office (2024)*

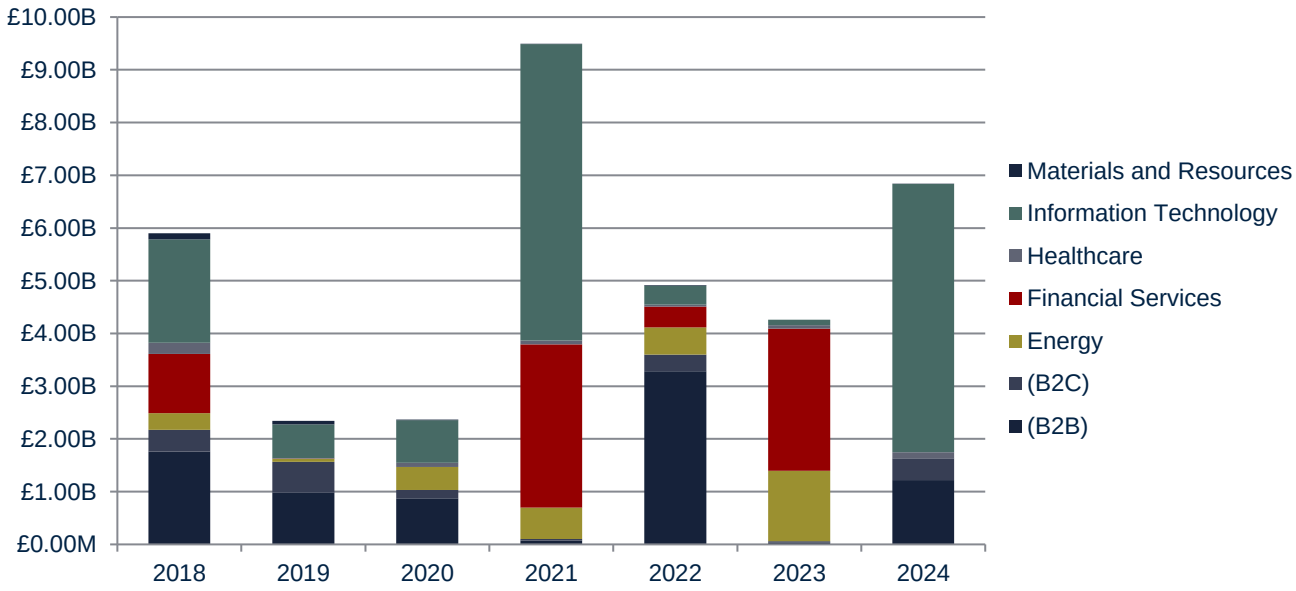
[22] *Beauhurst - Spotlight on Spinouts 2024*

12.3.2. Similarly to the life sciences, tech companies have clustered in out of town business parks across the sub-region including Green Park (Reading), Thames Valley Science Park (Wokingham), Campus Reading International (Reading), Arlington Park (Reading), Winnersh Triangle (Wokingham), Slough Trading Estate (Slough) and Greenham Business Park (West Berkshire).

12.3.3. The annual volumes of overall investment capital in the sub-region has increased by approximately 167% since 2019. This is expected to be higher by the end of 2024 when further deals are completed in Q4 2024. Recent tech deals recorded in Reading and Wokingham cover solutions such as computer software (CreaVision), CleanTech (Tepeo), Productivity software (Send Me a Sample) and healthcare management (Jayex Technology).

12.3.4. Over £5 billion has been invested into firms in the information and technology sector based within the sub-region this year. This illustrates the weight of capital and interest in this sector. Deals in the business to business (B2B) sector are largely comprised of innovation manufacturing, cleantech and data centre deals. This is illustrated in **Figure 12.2**. Analysis of the verticals that are under the umbrella of innovation and technology illustrate the impact of the sector and variety of solutions it can bring. This ranges across hardware, communication software, internet retail, network management, energy equipment, digital diagnostics and 30 more subsectors.

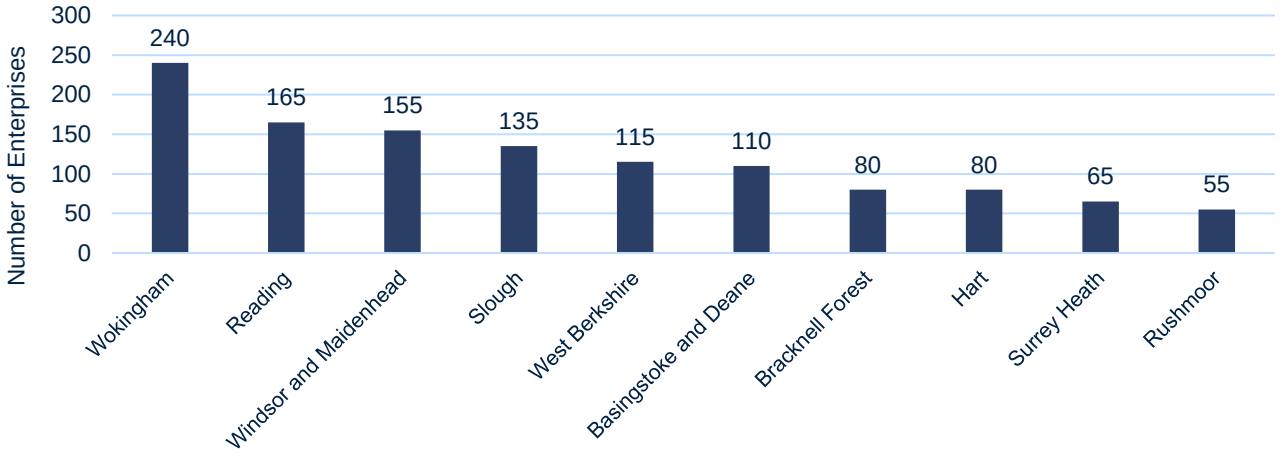
Figure 12.2 Deals in the Sub-Region (2018 – September 2024) by Primary Sector



Source: Pitchbook, 2024

12.3.5. A particular field of interest within the sub-region is software development. There are hundreds of enterprises spread across the sub-region. The highest volumes are based in the Wokingham Borough Council boundaries.

Figure 12.3 Volume of Business and Domestic Software Development in the Sub-Region



Source: ONS (SIC Code: 62012)

12.3.6. The technology cluster in Reading in particular has attracted new inward movers. 80% of new entrants to the town are occupiers from this sector[23]. Amazon opened a new 49,000 sq ft office at 400 Brook Drive Green Park and the cyber security company Rapid7 left Arlington Business Park in Stevenage and doubled their space, signing for over 22,600 sq ft at Forbury Place. Since 2021 433,789 sq ft of offices have been taken up by technology occupiers within Reading.

12.3.7. **Table 12.1** illustrates the impact of a handful of corporate migrations as large employee populations are brought to their relocated offices. For example, Lonza have approximately 1,300 in their Slough offices who will then be commuting to Thames Valley Park. Relocations are carefully strategized and planned many years in advance especially when companies are manufacturing and distributing pharmaceutical products from these premises. This is due to a variety of factors including staff management as well as ensuring accurate and compliant labelling of packaging, amongst other considerations. We consider that the movement of large corporates is a useful indicator of the vitality and potential of this location to other similar businesses.

Table 12.1 Business Expansion and Change in Employment in the Sub-Region

Name	Sector	Approximate Employee Count	Status	Date	Comments
Lonza Group Ltd	Manufacturing	Estimated +1,000	Planned	2027	In-mover. Relocating from Slough to Thames Valley Park
Adobe Systems	IT	200	Planned	2024	In-mover. Relocated from Maidenhead to CAMPUS Reading International.
PepsiCo	Manufacturing	750	Planned	2024	Relocation to town centre.
Three*	IT	350	Occurred	2021-2022	In-mover. Relocated from Maidenhead.
Three*	IT	1,000	Occurred	2021-2022	Relocation to out-of-town. New office at Green Park.

*Source: PROMIS, 2024. *These are two separate offices occupied by different business units of Three.*

[23] *Savills Research - Reading – positioned for growth (2023)*

12.3.8. Anchor tenants within the sub-region include Oxford Quantum Circuits (OQC), founded in 2017, which is headquartered in Thames Valley Science Park, adjacent to Shinfield Studios. OQC is a quantum computing business and spinout from the University of Oxford who has raised £120m in equity since inception and is an example of talent from the Golden Triangle moving into nearby emerging regions[19].

12.3.9. Public capital is also being channelled into the sector. Bolstering the real estate science space is the UK Government's Department for Science, Innovation and Technology (DSIT). In February 2024 it was announced that plans for a new European Centre for Medium-Range Weather Forecasts (ECMWF) headquarters had been approved. This centre will house 300 scientists in a sustainably designed facility and will be one of the largest clusters of weather and climate scientists in the world. The DSIT-funded project is due to complete in 2026 and is based on the University of Reading's Whiteknights campus.

12.3.10. The sub-region is home to a concentration of high-tech firm's operating offices, with major employers including Microsoft, Verizon, Oracle, Symantec and Huawei. Following an announcement in 2022 Microsoft are due to vacate their Thames Valley Park site due to the expiry of their lease in 2027. Microsoft's Thames Valley Park comprises 246,000 sq ft of office space across three buildings. Microsoft is reportedly undertaking a review of their entire office portfolio to 'right size' this. This underlines the importance of having a quality, attractive offer in the sub-region.

Table 12.2 Size of Major Employers in the Sub-Region

Name	Sector	Employee Count
Microsoft	Services	2,000-4,999
Oracle Corporation	Services	2,000-4,999
Verizon	Services	2,000-4,999
Symantec	Services	1,000-1,999

Source: PROMIS, 2024

12.3.11. The University of Reading is a key source of talent for innovation and tech companies in the sub-region. However the area has also successfully attracted graduates from further afield. 30% of graduates working in Reading are those originally from Reading who moved back after their studies. 50% both lived and studied elsewhere before being drawn to the town[24]. The connection into London has further improved the region's attractiveness. The Elizabeth line, opened in 2022, provides a direct railway line into central London, across the City and into business hubs such as Canary Wharf. Reading Green Park Station, an approximate 10 minute drive time from the Site, opened in 2023 to add to the region's transport infrastructure and ease pressure on local road infrastructure.

12.4. Conclusion

12.4.1. The pace of development and innovation within tech solutions will both grow existing companies and bring opportunities for new start-ups to enter the market. The LGV is well positioned to add to the occupier community and activity occurring in Thames Valley Science Park, as well as bring further value to the local economy through the opportunities in the burgeoning technology sector.

[24] Savills Research

13. Culture and Heritage

13.1. Introduction and Summary

13.1.1. The purpose of this section is to assess the suitability and opportunity for creating space for the Culture and Heritage sector.

Figure 13.1 Culture and Heritage Summary Statistics

£2.6 billion GVA from the heritage sector in South East England (Centre for Economics and Business Research)	**Over £15 billion** Directly contributed to the UK's GVA in 2022 by the heritage sector (Historic England)
29 UNESCO World heritage sites in the UK and British overseas territories (UNESCO)	**200,000+ employees** estimated to work in the heritage sector in England (Historic England)
24.1 million visits To National Trust sites in the UK 2022/23 (Creative Industries Policy and Evidence Centre)	**95% small businesses** Of Arts organisations 95% are classified as sole traders or small enterprises (McKinsey)

13.1.2. A location's conserved history and access to cultural and heritage insights can differentiate a place from competing locations and therefore support a city or town in attracting investment and talent. This is due to the difficulty in replicating the same environment elsewhere. Therefore, the LGV has a great advantage of having a modernised and established British Museum Archaeological Research facility in Wokingham, with the Natural History Museum development to follow. This is in addition to the existing heritage offering available across the sub-region. Subsequently, further occupiers will be attracted to the region, existing occupiers may want to expand their existing sites and there is already evidence of successful place-making in place.

13.2. Sectorial Outlook and Growth Drivers

13.2.1. Within this section, we discuss the culture and heritage sector in a national context and the variety of real estate involved.

13.2.2. This sector is a diverse and creative industry with spaces ranging from creative studios to theatres, museum incubators and preservation facilities and protected heritage sites. It provides facilities which have the capacity to both generate art and share culture, as well as providing opportunity for others to learn and hone new skills. The industries making up 80% of GVA from England's heritage sector are: 1) construction; 2) libraries, archives, museums and other cultural activities; and 3) architectural and engineering11.

13.2.3. As a result of the variety of activities encompassed within the sector a wide range of real estate solutions are needed that vary in complexity. The United Nations Educational, Scientific and Cultural Organization (UNESCO) '…seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity'. This creates the need to establish clear plans for site conservation and management for particular sites. In other contexts such as museums, additional facilities are needed to store and analyse significant artifacts. This creates the

requirement for the climate controlled space that can also be accessed by the public when required, such as for researchers.

13.2.4. Analysis from the Centre for Economics and Business Research (CEBR) demonstrates that for every £1 of gross value added (GVA) generated by the heritage sector in England, an additional £1.93 of GVA is supported in the wider UK economy. Whilst the heritage sector in London generated the largest GVA contribution of £4.2 billion in 2022, accounting for 27.6% of the total heritage sector in England, the South East accounted for the second largest GVA contribution with £2.6 billion25. In the same year CEBR calculate that for every worker directly employed in the heritage sector in 2022 a total footprint of 2.60 workers is supported in the wider UK economy.

13.2.5. In addition to the quantitative economic benefits, a growing culture, arts and heritage sector is also influential in place-making as it creates more attractive, vibrant communities that people want to visit. McKinsey (2023) published their research on *'Assessing the Direct Impact of the UK Arts Sector'* and highlighted a variety of case studies where engagement with the arts encouraged social connections and supported place-making, leading to a surge in visitor engagement.

13.2.6. A 2023 survey undertaken by the Department for Digital, Culture, Media & Sport (DCMS) illustrated the impact of the arts on the UK population and recorded that approximately 91% of UK adults had engaged with the arts at least once, in one way or another, during the previous 12 months. The DCMS Participation Survey also showed that one-third of the population had visited a museum or gallery and around one-fifth had visited a library.

13.2.7. The UK's heritage sector, with its wealth of knowledge and history, actively promotes both domestic and international tourism. Historic England examined the relationship and found that 78% of surveyed international tourists selected 'exploring history and heritage' as an important driver in selecting any international destination for a break or holiday. The British Museum was the most visited tourist attraction in the United Kingdom in 2023, followed by the Natural History Museum in London[26].

13.2.8. Continued investment into this sector is imperative. The UK has the foundations to attract visitors and talent. However the sector needs to continue to modernise and remain accessible, as well as manage the fixed costs of heating, repairing, and conserving historic assets. Admissions to historic attractions were 11% higher in 2023 than 2022. However visits still lag behind numbers achieved in 2019[27].

13.2.9. In addition to tourism, education, and research, the culture and heritage sector also appeals to the film industry, establishing a strong connection between the two themes. According to Historic Houses, a cooperative association of independent historic houses, castles, and gardens, in 2022, their members hosted over 4,100 days of filming across the country, using different sites for the setting for programmes as varied as Apple TV's Ted Lasso, to Netflix's Bridgeton[25]. This also leads to 'screen tourism' where visitors are attracted to a destination, based on showcasing locations and experiences featured in film and TV

[25] *Centre for Economics and Business Research - 'The heritage sector in England and its impact on the economy 2024'*

[26] *Statista, 2024*

[27] *Historic England. Article accessed October 2024 – 'The Contribution of the Heritage Sector to the Visitor Economy'*

shows. Examples include the Warner Bros studios and London King's Cross following the Harry Potter film series.

13.2.10. Despite Historic England forecasting a 2.6% fall in total GVA and a reduction in employment figures, the heritage sector has the potential for economic growth in the future. A key component of this is to manage the UK's aim to work towards net-zero and support targeted heritage-led interventions. Strategic investments can be used such as reusing historic buildings, digital adoption and specialist construction services.

13.2.11. The UK Government recently set out plans to improve access to cultural assets and to support creative industries through their creative industries sector plan. Measures include collaboration amongst the Creative Industries Council, Arts Council and other public funders, investors and donors to attract more funding from different sources into arts organisations. The Labour Government also aims to launch a new National Music Education Network to provide the right resources for parents, teachers and children. Support is also still being provided through the Culture Recovery Fund which was set up in 2020 as a response to the Covid-19 pandemic.

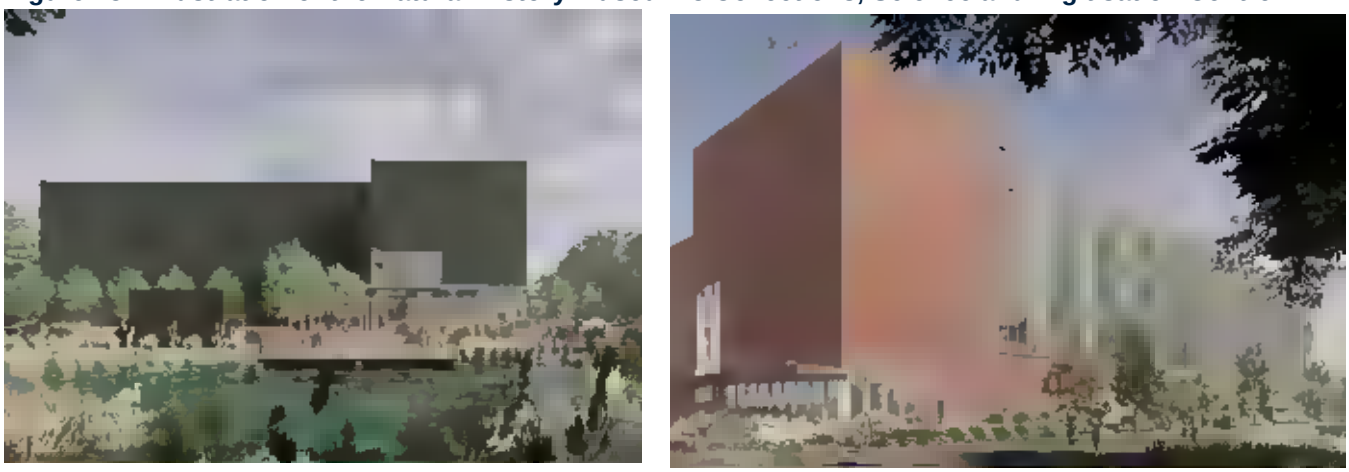
13.3. Activity in the Sub-Region and Relevance to the TVSP

13.3.1. Recent significant developments include Wokingham Borough Council's approval of the Natural History Museum's application for a new collections, research and digitisation centre. The museum reports that this new site *'…will then enable secure irreplaceable collections in a purpose-built storage facility, provide new scientific infrastructure to accelerate research and digitisation, and act as a base for new collaborations and partnerships'.*

13.3.2. The new facility will be based within the LGV and will further open up the Natural History Museum's collections to researchers both physically and digitally. In addition to bespoke storage, the net-zero museum will include: an imaging and analysis centre with state-of-the-art molecular biology laboratories; cryo-facilities for tissue storage; conservation labs; and specimen preparation labs and quarantine facilities[28]. Construction is expected to begin in 2025. This infrastructure illustrates the variety of space and equipment required in the Culture and Heritage sector. The new facility will also enable 16% more gallery space in the museum in South Kensington, allowing a transformation of these areas back into public use.

[28] *Natural History Museum article 'Our plans for a new Science and Digitisation Centre' accessed September 2024.*

Figure 13.2 Illustration of the Natural History Museum's Collections, Science and Digitisation Centre



Source: National History Museum (Feilden Clegg Bradley Studios Architects), 2024

13.3.3. Other museums situated across the sub-region include:

- **Museum of English Rural Life**, **Reading:** Showcases the history and culture of rural England through various exhibits, artifacts, and interactive displays.
- **Windsor & Royal Borough Museum:** Explores the rich heritage of Windsor and the surrounding area, featuring local history, art, and royal connections.
- **West Berkshire Museum, Newbury**: Highlights the history, culture, and archaeology of West Berkshire, with a diverse range of exhibits and educational programmes.
- **Reading Museum and Reading Abbey:** Presents the history of Reading, including its Abbey, through a variety of artifacts, exhibitions and displays.
- **Museum of Berkshire Aviation**: Focuses on the aviation history of Berkshire, showcasing aircraft, memorabilia, and the region's contributions to aviation.
- **Maidenhead Heritage Centre:** Celebrates the history of Maidenhead and its surrounding areas through collections of photographs, documents, and local artifacts.

13.3.4. Nearby to the new Natural History Museum site is the existing 15,500 sq m British Museum Archaeological Research facility (BM_ARC) which opened in June 2024. Museums + Heritage (an independent events and publishing company) reported that BM_ARC has been designed to serve both as a museum storage as well as a facility for research and study by academics and members of the public who will be able to visit by appointment. The facility houses approximately 1.3 million objects from the London Museum and the collection dates from 5,000 BC to the present day. A key component of the museum's strategy is to nurture partnerships across other museums, universities and communities. They hope to reinvigorate research into their stored collections in partnership with the University of Reading.

13.3.5. In a similar fashion to Shinfield Studios, the completion of BM_ARC has taken a number of years, from being granted planning permission in 2019 to opening in 2024. A key driver for the new facility is the capacity

BM_ARC required and their partnership with the University of Reading. Previously only around 80,000 artefacts were displayed to the public at the British Museum in London. This amounted to roughly 1% of the institution's 8 million strong collection of objects. BM_ARC's new facility now provides the physical room for artefacts to be displayed together in "assemblages". Representatives of BM_ARC emphasised that the University of Reading was a key research partner and that, "[BM_ARC] would want to become a real part of the local community and share [their] rich research collection with a range of community groups and organisations through [their] outreach programmes". These partnerships illustrate the influence of proximity and relationships with the University of Reading on major research institutes and the attractiveness of the region.

Figure 13.3 The British Museum Archaeological Research Facility

Source: The British Museum, 2024

13.4. Conclusion

13.4.1. Both the Natural History Museum and the BM_ARC will act as key anchors for the arts and heritage sector in the LGV and impact the economy through GVA, employment, skills and wellbeing, as well as impacting the community through placemaking and reflection.

14. Climate Change and Sustainability

14.1. Introduction and Summary

14.1.1. The purpose of this section is to illustrate the opportunity to embed sustainability within the LGV and to accommodate occupiers and infrastructure relevant to addressing climate change in the LGV and the TVSP in particular. Climate change necessitates innovative solutions that prioritise environmental stewardship. Both WBC, though the policies in the LPU, and the University of Reading, through its global climate change leadership, are razor focussed on addressing climate change. This creates fertile ground to attract companies and organisations in the sector.

Figure 14.1 Climate Change and Sustainability Summary Statistics

1.5 billion solar panels were produced in 2022 (Sunsave)	**Over 40%** Of energy in the UK is renewable energy (Uswitch)
60,000 people Were internally displaced in the UK due to storm and flooding across 2012-2023 (Statista)	**3.3% of GDP** Is expected to be lost by 2060 due to climate change (Statista)
47% decrease Observed in UK Greenhouse Gas (GHG) emissions since 2000 (Statista)	**26.7%** Of the UK's energy comes from wind (Uswitch)

14.1.2. The sector encompasses a broad range of activities, from renewable energy initiatives to sustainable urban planning, all aimed at reducing carbon footprints and promoting resilience. By embedding sustainability we can create spaces that not only meet current needs but also foster long-term ecological balance and community well-being. Whilst there are existing buildings and planned developments in the LGV which have embedded sustainability in their design, the LGV needs to continue this trend to align with the goals of WBC and the UK.

14.2. Sectorial Outlook and Growth Drivers

14.2.1. Within this section, we discuss our progress in combating climate change in a national context.

14.2.2. New building developments across the UK continue to intertwine sustainability solutions within their projects, with the UK Government committed to reaching net zero emissions by 2050. Progression in design and technology has supported the global drive to net zero with the emergence of CleanTech and ClimateTech. Global investment to transition to low-carbon energy increased by 17% in 2023, reaching to a record $1.8 trillion[29].

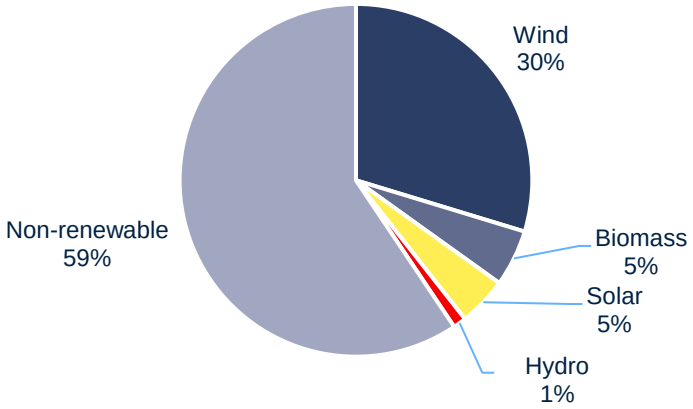
14.2.3. For many companies climate change has become a top priority, influencing their decisions regarding suppliers and partners. This shift is driving the growth of sustainable businesses, as organisations increasingly seek out suppliers that align with their environmental values. Certifications like the 'B Corp

[29] *Statista, July 2024*

Certification' are being pursued by thousands of businesses as a means to demonstrate their commitment to sustainability and social responsibility. These certifications not only signify commitment to a sustainable future but also communicate their social and environmental impact to stakeholders.

14.2.4. Global spending on clean energy technology this year is expected to be double the amount being directed towards fossil fuels[30]. To support the move to net-zero the UK has adopted a variety of renewable energy types including wind, biomass, solar and hydro. However there is still margin for more progress in increasing levels of renewable sources as non-renewable energy remains the predominant energy source.

Figure 14.2 Proportions of UK Energy Between Non-Renewable and Renewable Energy



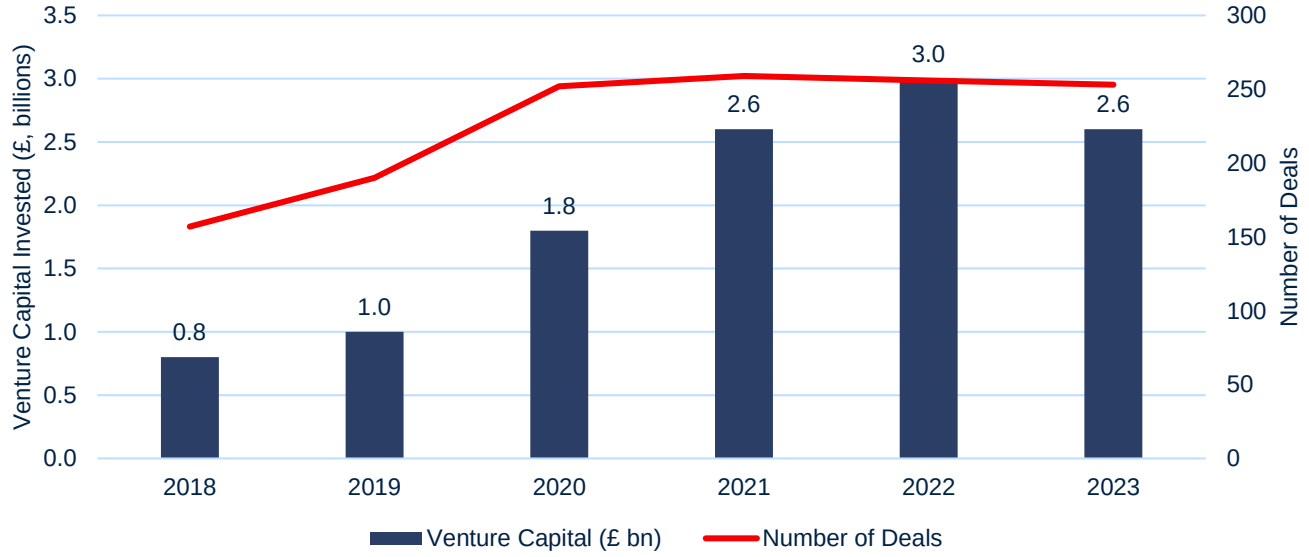
Source: USwitch (Data as of April 2024)

14.2.5. The impact of introducing more renewable energy resources is significant. Solar Energy UK report that, *'…if the UK achieves 40GW of solar capacity by 2030, solar could meet 15% of the UK's annual power needs'*. Even in the winter months the technology remains effective. Generation of solar power is also reliable, as the timing of sunrise and sunset is known for each day, therefore the energy generated can be forecasted using available daylight hours.

14.2.6. As well as the supply of clean energy on the UK grid, the collective efforts of innovative companies are key to bring to the UK towards its net-zero goals. For example CleanTech for UK is an initiative to support the next generation of CleanTech innovators and are a coalition of accelerators, venture capital, growth investors and alternative asset platforms. Their 2023 report *'Charting the Progress'* illustrates that the UK's VC market into CleanTech remained resilient in 2023 with the sector attracting £2.6bn of investment.

[30] *IEA.org - Investment in clean energy this year is set to be twice the amount going to fossil fuels, June 2024.*

Figure 14.3 Total CleanTech Venture Capital Investment in the UK (2018-2023)



Source: CleanTech for UK, 2024

14.2.7. CleanTech for UK forecasts that the future sustainability trends will be in electrolysers, industrials and battery innovation. The scaling up of electrolysers is set to meet demand for green hydrogen. Electrolyser composition will become increasingly optimised to balance performance, cost and materials constrains. Within the industrials market the quick adoption of green steel and cement innovation is needed to address the high emitting construction sector. In conjunction battery innovation will continue to lower costs and enable faster role out of electric vehicles. Innovative solutions which are able to maintain or improve battery performance while also considering materials constraints are set to prove popular.

14.3. Activity in the Sub-Region and Relevance for the TVSP

14.3.1. Wokingham Borough Council committed to reach a carbon neutrality 2030 goal through their Climate Emergency Action Plan (CEAP). WBC has oriented the LPU towards achieving this goal.

14.3.2. The Climate Emergency Action Plan has 10 priority areas to tackle climate change[31]:

- Reduce carbon dioxide emissions from transport.
- Generate more renewable energy in the borough.
- Reduce carbon dioxide emissions from domestic and business property.
- Increase the levels of carbon sequestration in the borough through greening the environment.
- Engage with young people and support sustainable schools.
- Reduce waste sent to landfill.
- Utilise planning policies to minimise emissions from new developments
- Achieve sustainable procurement practices throughout the Council
- Encourage behaviour change.

[31] *Climate Emergency Action Plan – Wokingham Council*

- WBC to lead the way on carbon neutrality, by improving its own operations.

14.3.3. The priorities of Wokingham Borough also align with the University of Reading's strategy to become net zero carbon by 2030. The University of Reading is a world leader in climate science, and consistent with its overarching values, the University supports WBC's strategy to address the climate emergency. The University was recently ranked the number one university in the UK for sustainability in 2023/24 by the People & Planet University league table. The university undertakes carbon management through the use of solar panels, water source heat pumps, heat decarbonisation, compressor updates and in year energy saving. The University of Reading also manages biodiversity, sustainable development education, waste management and community engagement as components of their 2020-26 Environmental Sustainability Strategy.

14.3.4. Across the sub-region there are several notable climate companies that have received investment into their businesses which is set to stimulate their growth. Key deals completed across the sub-region[32] include:

- **Tepeo:** Based in Wokingham, Tepeo is a developer of a zero-emission boiler designed to heat the home which completed several early stage VC deals from 2020 to April 2024.
- **Terrafend:** Based in Maidenhead, Terrafend develops clean technology that removes hydrocarbon solvents, caustic solutions, and heated chemicals from manufacturing processes, enabling businesses to reduce risk, waste, and carbon footprints. Terrafend has raised over £17m since 2018.
- **Environmena Power Systems:** Based in Reading, Environmena is a provider of solar photovoltaic plants with a target of building 500 megawatts (MW) of generating assets by 2025. The company publicly reported that it will utilise its £270m of debt funding raised in December 2023 to grow its self-developed ground-mount solar pipeline to more than 2 gigawatts (GW) by 2025.
- **European Centre for Medium-Range Weather Forecasts (ECMWF)**: This was already identified in the Innovation and Technology chapter but bears repeating. The ECMWF will house one of the largest clusters of weather and climate scientists in the world.

14.3.5. There is a clear link between culture and heritage and climate change and sustainability. Both sectors have a shared commitment to preservation, striving to protect and sustain our cultural, historical, and environmental legacies for future generations. Within the LGV the new bespoke facility for the Natural History Museum has been designed to be a net-zero building in both construction and operation. Mace has been appointed as their contractor who confirm this site will be constructed with low environmental impact, using responsibly source materials and services. Nearby the newly constructed BM-ARC is an all-electric building with additional ecological measures such as nesting boxes, amphibian ladders in gulleys, badger gates and bat highways[33].

14.4. Conclusion

14.4.1. Adoption of sustainable solutions within the LGV is in alignment with Wokingham Borough Council's CEAP. Furthermore, climate and sustainability conscious businesses are likely to be attracted to the LGV development given the adoption on the CEAP (which includes EV infrastructure, climate education and

[32] *Pitchbook, 2024*

[33] *The Art Newspaper, 2024*

conscious procurement) as well as the surrounding activities of other sustainability conscious occupiers and innovators.

D. SUMMARY AND CONCLUSIONS

15. Summary & Conclusion

15.1.1. The primary focus of the report is to assess whether there is sufficient need for employment floorspace to justify an allocation of up to 100,000 square metres (sq m) of R&D floorspace across the E(g), B2 and B8 Use Classes for the expansion of the TVSP. The site's location; scale; property market performance ; institutional support; and its integration within a larger garden village attest to its ongoing commercial appeal and potential.

15.1.2. Whilst the council's planning policy provides a framework for the delivery of the TVSP's expansion, a key question is how the TVSP fits within the conclusions of the council's principal evidence base document, the 2023 Employment Land Needs Review. The evidence base document concludes that no new land is needed for offices and that there is strong demand for traditional industrial activities such as storage and logistics. And yet the policy aspirations for the TVSP envisions a scheme that wholly oriented towards R&D activities. Whilst this could suggest an inconsistency between the evidence base and policy aspirations, this report presents research that demonstrates the considerable growth opportunities that could be exploited through the expansion of the TVSP which is not substantially reflected in the evidence.

15.1.3. Further analysis of the council's evidence demonstrates that the need for an expanded TVSP is critical to WBC and the sub-region. Whilst the council's Topic Paper: Employment document (part of its evidence) confirms that the LPU allocates sufficient employment land to meet the minimum 18 ha of new land for employment identified in the 2023 Employment Land Needs Review, the LPU does not provide for the need for 53 ha of new employment land, even with the proposed expansion of the TVSP. This need for 53 ha is due to property market's historic supply constraints. The council's Topic Paper: Employment document cites two reasons for the LPU falling short of providing sufficient employment land:

- There is insufficient land being promoted by landowners in WBC and
- Other planning authorities in the county lack the capacity to meet WBC's need.

15.1.4. The lack of sufficient additional employment land capacity highlights the critical need for TVSP's expansion. The fact that there are no suitable alternatives is made clear in the council's evidence.

15.1.5. This report's analysis in chapter 4 assesses the high level economic and property market characteristics of the sub-region within which the TVSP is located. It analysed business activity and investment levels and considered the implications for the TVSP. The sub-region has a relatively high proportion of R&D jobs compared to the national level. Reading and Wokingham are leaders in this regard, compared to the other local authorities. The sub-region also attracts a notable level of both domestic and international inward investment. This is an indication that the proposition of an expanded the TVSP would be well-positioned to accommodate further growth in the R&D sector and to attract inward investment.

15.1.6. This report also reviews the traditional property market metrics for the sub-region to understand the supply-demand characteristics and consider its implications for TSVP. The findings of the high level property market analysis are broadly consistent with the council's own evidence. The analysis finds that demand for office floorspace is relatively muted and the vacancy rate has increased. However, the analysis does not take into account the specific activities and sector dynamics that could take place within the office sector and could be accommodated at the TVSP. Nor does it reflect that only 4% of total office stock is considered high quality. Once these factors are considered, there is a stronger case for offices at the TVSP.

15.1.7. Like the office sector, our assessment of the broad industrial market draws similar conclusions to the council's evidence. Demand for I&L premises is strong and logistics activity has been a key driver in the sub-region for well over a decade. The markets have generally been characterised by a shortage of suitable premises. However there are a range of other industrial activities in the area, including R&D, which are not fully reflected in the overall data. This includes the recent activity in the TVSP such as film studios and museum spaces which are housed in industrial premises. More of these types of activities could be accommodated at the TVSP.

15.1.8. To demonstrate that the need for the TVSP is greater than the high level property market would suggest, we investigated key growth sectors that are generating economic value internationally, domestically and even within the sub-region. These activities could form part of new development at an extension to the TVSP given its scale, accessibility and location. We expect these sectors to continue to grow if the right real estate premises are in place to meet demand:

- ***Industrial and Logistics (I&L):*** This sector has an extensive range of R&D applications from logistics solutions; mid-tech facilities housing hybrid lab and office configurations; and advanced/light manufacturing to develop a variety of research-based applications.
- ***Film and Media:*** The growth in film/HETV production, streaming and content from the expanding creative economy is generating further demand for production space.
- ***Life Sciences:*** The surrounding parks and the wider 'golden triangle' (Oxford, Cambridge and London) lacks enough suitable lab supply.
- ***Innovation and Technology:*** Reading has a high density of technology businesses, including Microsoft, Three, Oracle, Symantec and Huawei. This foundation, combined with the exponential growth of investment and product development in the technology sector, will add to demand for more suitable spaces. This can range from offices with a strong amenity offering to dry labs.
- ***Culture and Heritage:*** The newly built British Museum Archaeological Research Collection and upcoming Natural History Museum, with strong ties to University of Reading, illustrate the university's strength and attractiveness as an anchor to other research and educational institutes.
- ***Climate Change and Sustainability:*** There is a need to embed sustainable solutions that is aligned to the Climate Emergency Action Plan goals of Wokingham Borough Council and the UK's overall net-zero plans. There is a large gap in the generation and utilisation of renewable sources.

15.1.9. The overriding conclusion of the assessment of the council's evidence, the sub-regional analysis, and the review of the growth sectors is that the expansion of the TVSP is critical to the local and sub-regional economy. The council's own evidence demonstrates that even with an expanded TVSP, not enough employment land is available to fully meet its requirements. In addition, future demand for employment premises will be driven by a combination of traditional sources and new, innovative and unanticipated economic activities and sectors, some representing new inward investment. These opportunities are not fully accounted for in the council's evidence. To ensure that such requirements can be accommodated in the sub-region, the TVSP extension represents the best opportunity. As the council's evidence demonstrates, there are no satisfactory alternatives to the provision of new employment than an expanded TVSP.

Appendix 1: Abbreviations

3D	Three dimensional
AI	Artificial intelligence
B2B	Business to business
BCO	British Council for Offices
BFI	British Film Institute
BM_ARC	British Museum Archaeological Research facility
Bn	Billion
CAGR	Compound annual growth rate
CEAP	Climate Emergency Action Plan
CEBR	Centre for Economics and Business Research
DCMS	Department for Digital, Culture, Media and Sport (DCMS)
DPD	Development Plan Document
DSIT	Department for Science, Innovation and Technology
ECMWF	European Centre for Medium-Range Weather Forecasts
ELS	Employment Land Study
EPC	Energy Performance Certificate
ESG	Environment, social and governance
FDI	Foreign direct investment
FEMA	Functional Economic Market Area
GIA	Gross Internal Area
GMP	Good manufacturing practice
GVA	Gross value added
GW	Gigawatt
ha	Hectares
HELLA	Housing and Economic Land Availability Assessment
HETV	High end television
I&L	Industry and logistics
LB	London Borough
LBL	London Borough of Lewisham
LGV	Loddon Valley Garden Village
LPU	Local Plan Update
m	Million
MEES	Minimum Energy Efficiency Standards
MW	Megawatt
NHS	National Health Service
NIA	Net Internal Area
NPPF	National Planning Policy Framework
ONS	Office for National Statistics
OQC	Oxford Quantum Circuits
Over-the-Top	OTT
PMA	Property market area
PTAL	Public Transport Accessibility Level
PV	Photovoltaic
Q	Quarter

R&D	Research and development
SMEs	Small and medium sized enterprises
Sq ft	Square feet
Sq m	Square metre
TfL	Transport for London
TMT	Technology, media and telecommunications
TVSP	Thames Valley Science (and Innovation) Park
UK	United Kingdom
UKREiiF	UK Real Estate Investment & Infrastructure Forum
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States (of America)
VC	Venture capital
WBC	Wokingham Borough Council
YTD	Year to date