

East Reading Mass Rapid Transit Scheme

Transport Statement Addendum

On behalf of **Reading Borough Council, Highways and Transport Department**



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For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved
1	18/10/2017	Updated to include WBC comments and further detail of scheme benefits	DH	SM	SM
2	01/11/2017	Updated based on RBC comments	DH	SM	SM
3	09/04/2018	Updated in response to RBC comments	DH	SM	SM

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Drawings

28791-5523-003B	– Napier Road Junction Visibility Splays
28791-5523-004A	– Napier Road Junction Swept Path Analysis
28791-5523-005A	– Napier Road Junction Pedestrian/Cycle Crossing
28791-5523-007B	– Tesco Car Park Alterations
28791-2009-CIV-006A	– Longitudinal Section and Typical Cross Section

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1 Introduction

1.1 Planning Application

- 1.1.1 A full planning application (No.171108) for the East Reading Mass Rapid Transit Scheme (East MRT) was submitted to Reading Borough Council (RBC) on 4th July 2017. The application is for *“Construction of a segregated fast-track public transport, pedestrian and cycle bridge and viaduct, comprising concrete bridge structure with a river span of 59.5m and a land span of 316m, supported by concrete columns, steel beams and reinforced soil embankment, together with new footpath links and existing footpath alterations, replacement supermarket car parking provision, junction improvements and landscaping.”*
- 1.1.2 A Transport Statement (TS) was submitted as part of the application. This report provides further information and clarification on the proposals regarding transport matters.

1.2 Report Structure

- 1.2.1 The report is divided into eight sections as follows:

Section 2: East Reading MRT Scheme Overview

- 1.2.2 This section provides a summary of the scheme and further details on public transport services that could potentially use the route.

Section 3: RBC Highways Comments

- 1.2.3 Comments in response to the TS were received from the RBC Transport Development Control Manager (TDCM) via email on 9th August 2017, requesting additional information to support the application. The comments are included in **Appendix A**. Version 2 of this report was issued in response to these comments. Following this, the RBC TDCM requested some further detail on the 11th December 2017, these comments are also included in **Appendix A** and addressed in this version of the report.
- 1.2.4 This section sets out each of the comments (received on 9th August and 11th December)) made by the RBC TDCM and a response providing further clarity to address them. The RBC comments are provided in grey italics. Comments have been grouped together when they cover a similar subject and a combined response is set out.

Section 4: WBC Highways Comments

- 1.2.5 Wokingham Borough Council (WBC) Highways provided comments on the 27th July 2017 requesting further information. These comments were updated and issued to PBA on the 22nd September 2017, a copy of these updated comments is included in **Appendix D**. The WBC comments are provided in grey italics.

Section 5: Off-Site Scheme Update

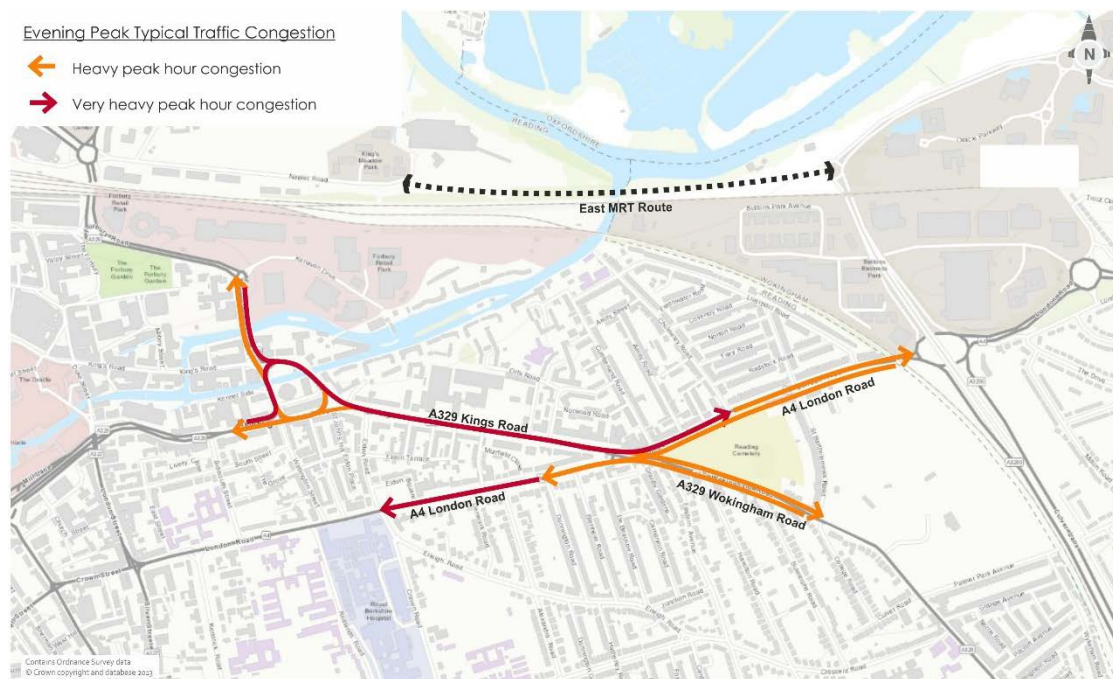
- 1.2.6 This section sets out an update to the off-site works on Napier Road.

2 East Reading MRT Scheme Overview

2.1 Current Situation for Travel into Reading from the East

- 2.1.1 The A4 London Road is the main corridor into Reading from the east, from the A4 and A3290, see **Figure 2.1** which illustrates the location and existing traffic conditions. The existing traffic conditions have been informed by on site observations, on line typical traffic data and traffic surveys.

Figure 2.1: Location Plan and London Road Existing Traffic Conditions



- 2.1.2 The A4 London Road is heavily constrained comprising two narrow lanes for traffic travelling towards central Reading and a single narrow lane exiting towards the A3290, and onto junction 10 of M4. The daily traffic flows have not fluctuated markedly over the last eight years and the daily profile of the traffic flows show peak spreading with traffic only reducing between 10:00–12:00 then gradually increasing towards an extended evening peak period. This, alongside the observed queues indicate that the corridor is operating at, or over capacity during the majority of the day. The queues can reach 300 – 550 vehicles exiting Reading in the peak periods and between 60 – 200 vehicles entering Reading in the peak periods. Furthermore, the commuter shuttle bus services are full in the peak periods.
- 2.1.3 Journey times range from 7 to 24 minutes east bound, depending upon the time of day. For Westbound, the journey times range from 10 to 24 minutes. This shows there is currently significant variations in journey time due to congestion which will severely limit the potential for future growth on the corridor and the attractiveness of using public transport as opposed to the private car.
- 2.1.4 Public transport services are well used in east Reading and the commuter shuttle bus services are full in the peak periods. There is existing bus priority between Watlington Street gyratory and Cemetery Junction, however services suffer delays in the town centre and between Cemetery Junction and the A3290.

- 2.1.5 The A4 London Road does not provide adequate pedestrian and cycle facilities between and on the boundary of Reading and Wokingham Boroughs as the carriageway and footway are too narrow. The towpath provides a route, however natural surveillance is poor, surfacing is poor in places, it is narrow in places, it includes a stepped bridge where cyclists have to dismount and is shared by pedestrians. The route also follows the River Thames to northern destinations in the town centre, rather than into the centre.
- 2.1.6 In total, the corridor supports some 75,000 people movements per day to key areas of economic activity such as Thames Valley Park immediately to the east (8000 jobs) and central Reading (over 50,000 jobs). As well as supporting current employment, a further 190,500sqm of employment is planned in the Town Centre and 35,000sqm at IQ Winnersh and 5,300 homes at Kenavon Drive, Station Hill, former Cooper BMW site and Royal Mail sites plus a further 9,400 homes in Wokingham and west side of Bracknell.
- 2.1.7 Continued issues with congestion on the network will restrict economic growth and there is a risk that existing businesses would consider relocating out of the TVB area and possibly elsewhere in Europe.

2.2 Bus Use in Reading

- 2.2.1 Reading Borough Council has supported investment in public transport for a number of years, which has been further reinforced with significant investment from Reading Buses in prioritised customer service, new technologies and environmentally friending vehicles. Buses offer free wifi, on board charging for mobile devices, smart ticketing, real time rail information for buses that link with the rail network, audio and visual displays and GOS tracking for real time information.
- 2.2.2 Bus use in Reading has increased since 2010 by 24% against a back drop of national decline (-2% across England and 6% in South East). Few places have similarly bucked the long term trend of decline in bus use (Source: DfT Transport Statistics, Table BUS00110A).
- 2.2.3 Continued investment and improvement in bus services and infrastructure are essential to continue this trend and the East MRT scheme will further improve the situation for bus use in Reading and Wokingham Boroughs. If this investment is not made, then public transport will become less attractive, resulting in more car trips and subsequent congestion and air quality issues.

2.3 Wider Transport Strategy

- 2.3.1 This scheme is a long-established element of RBC's strategy to deliver sustainable economic growth and housing for Reading and Wokingham Boroughs. It is included in RBC's Corporate Plan, Core Strategy and Local Transport Plan.
- 2.3.2 The scheme is also identified in WBC's Core Strategy, Managing Development Delivery, Local Plan, and Local Transport Plan; and TVB LEP's Strategic Economic Plan. **Figure 2.2** shows Reading's public transport strategy to provide significantly improved radial and orbital MRT routes. **Figures 2.3 to 2.7** are extracts from RBC Core Strategy and Local Transport Plan illustrating the East MRT. **Figure 2.8** is an extract from WBC's online proposals map showing safeguarded land for Strategic Transport Network and Road Infrastructure.

Figure 2.2: Reading Borough Council Public Transport Strategy

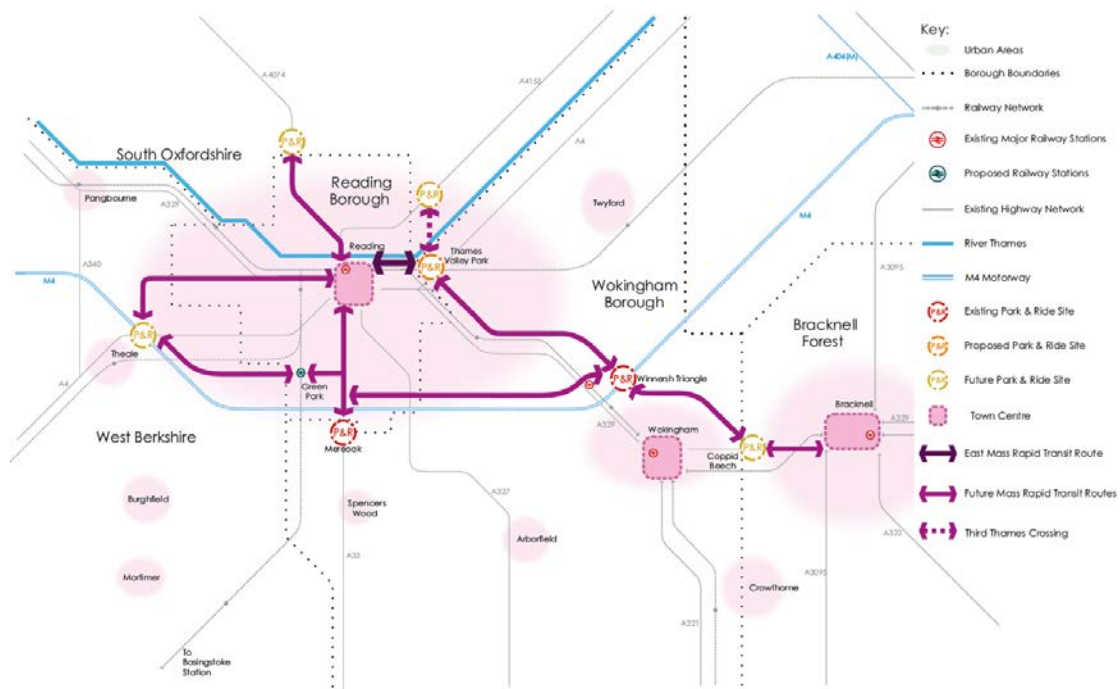


Figure 2.3: RBC Local Development Framework, Core Strategy (Page 64)

Figure 7.1:
Transport
Connections
and Strategy
(Source: Local
Transport Plan)

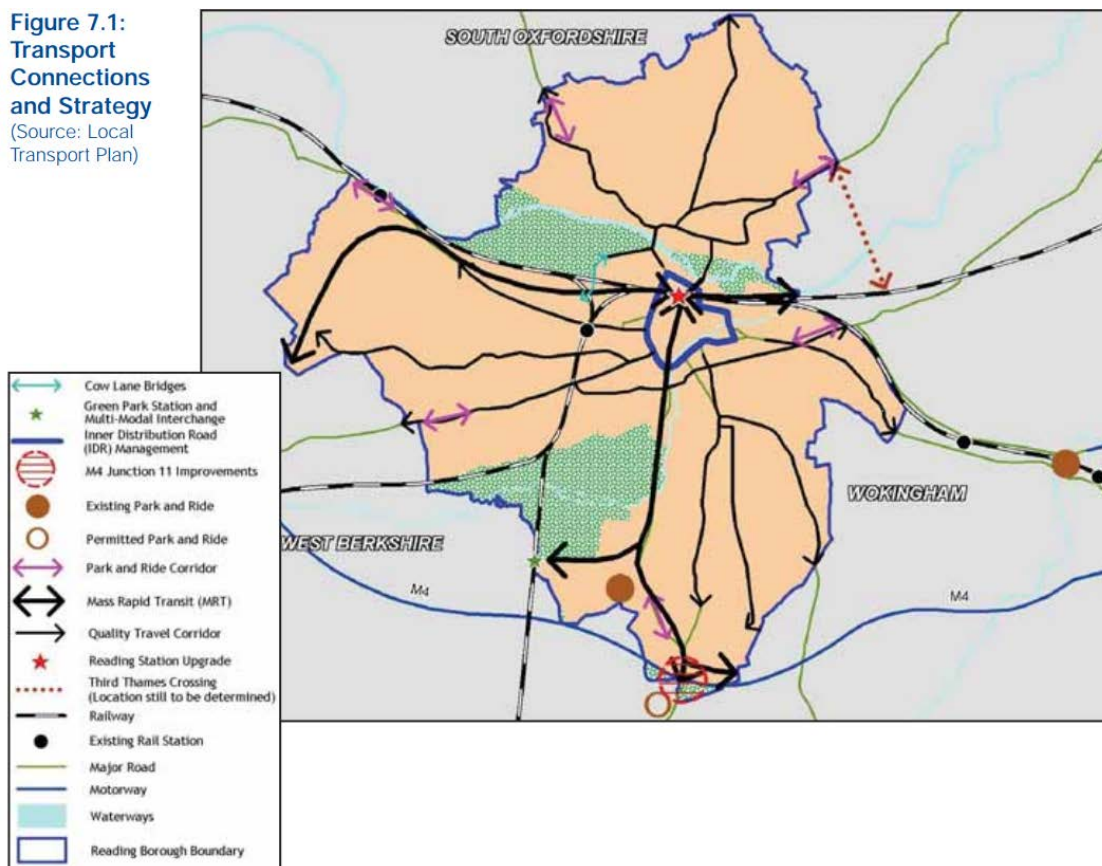


Figure 2.4: RBC Local Transport Plan (2006 - 2011) (Page 8) and RBC Local Transport Plan (2011 to 2026) Public Transport Strategy (Page 54)

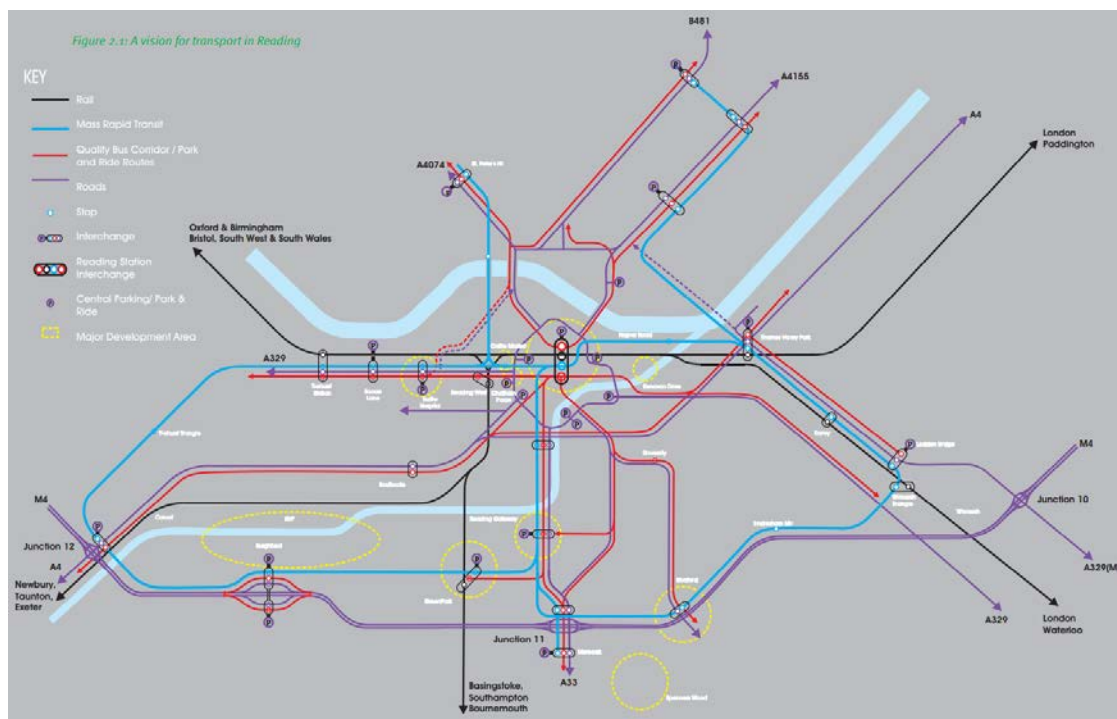


Figure 2.5: RBC Local Transport Plan (2006 - 2011) (Page 71)

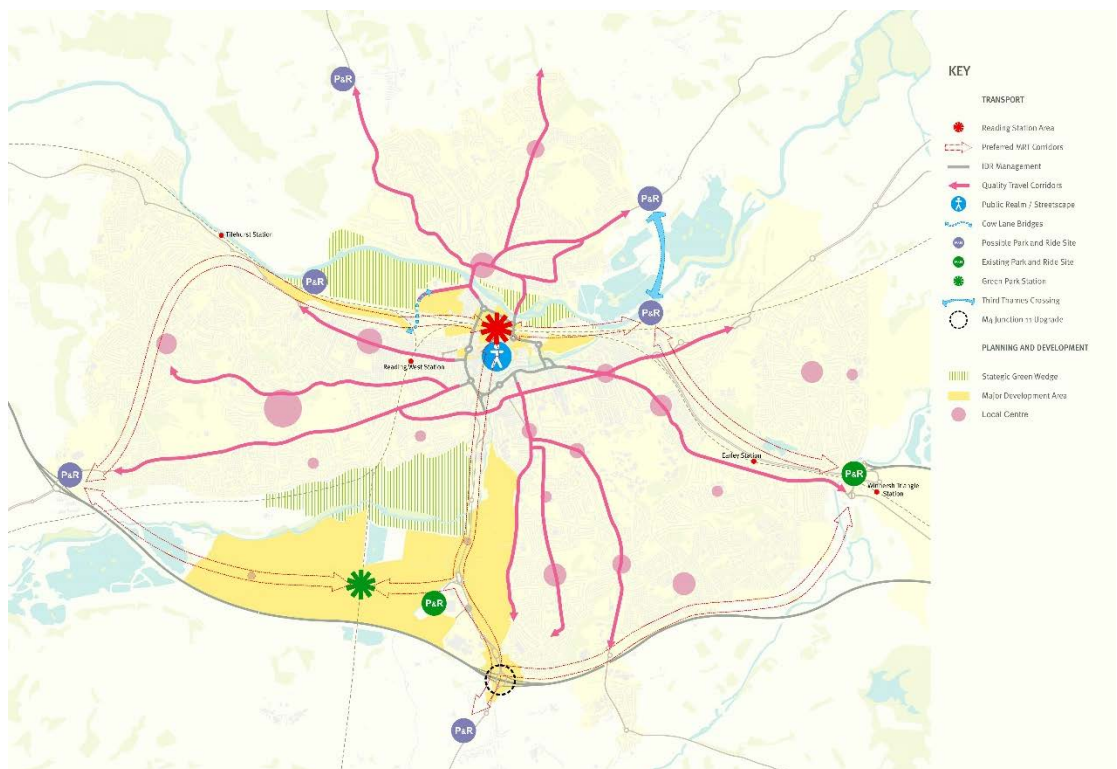
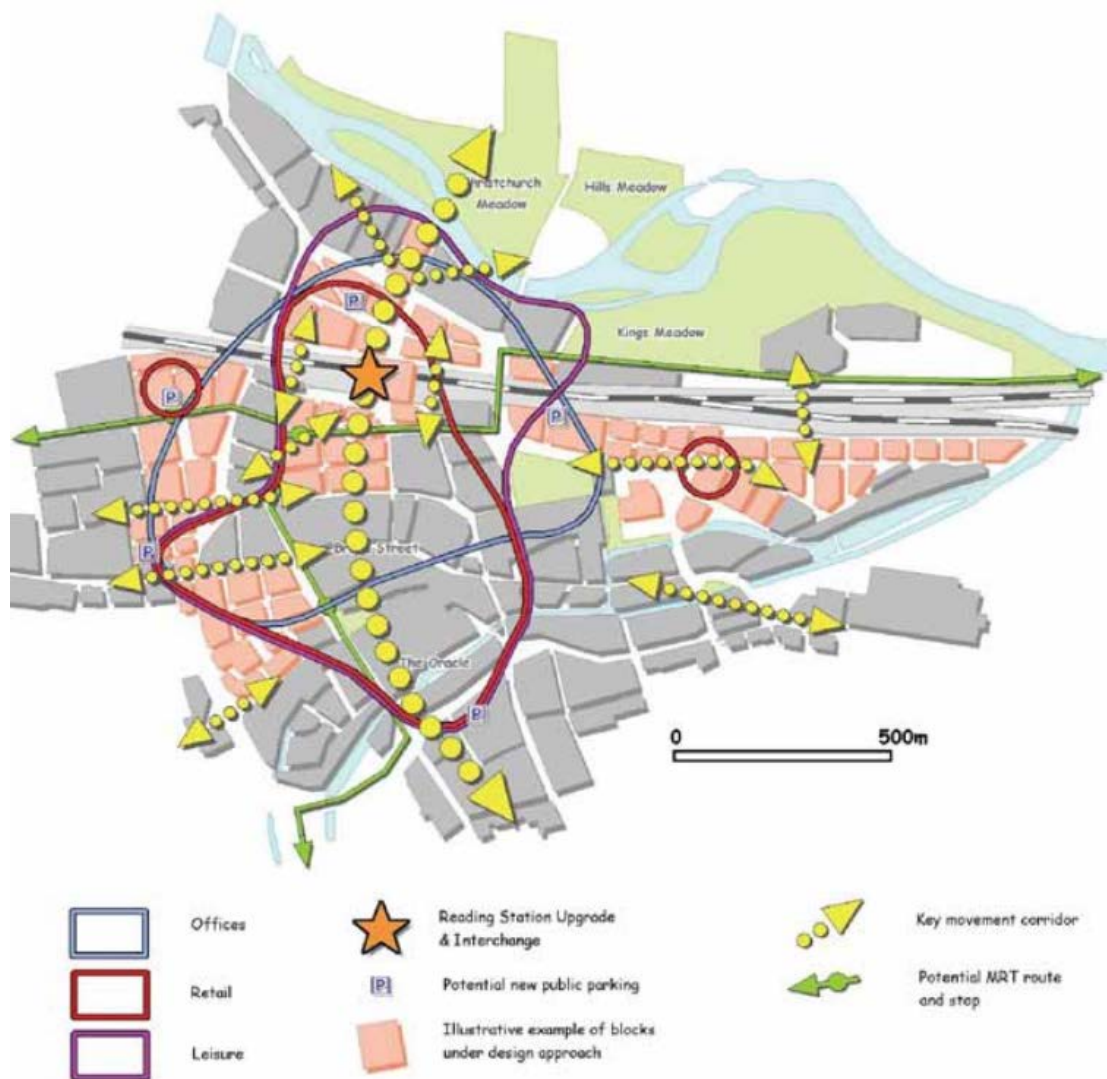


Figure 2.6: RBC Local Transport Plan (2006- 2011) (Page 79) and RBC Local Development Framework, Central Area Action Plan (Page 12)



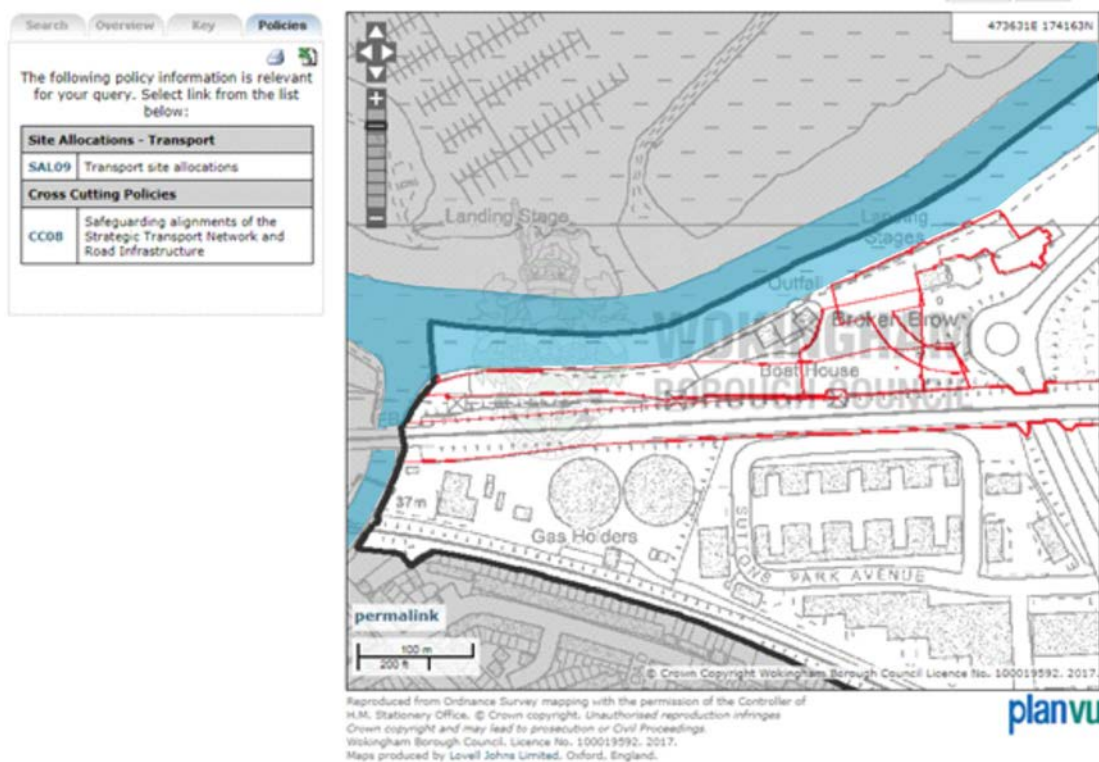
Figure 6.13: Central Area Transport and Development
(Co ordinated with Local Development Framework)

Figure 2.7: RBC Local Development Framework, Central Area Action Plan (Page 18)



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Figure 2.8: Extract from WBC Online Proposals Map – Safeguarded Land



Source: <http://www.planvu.co.uk/wbc>

2.3.3 The policy relating to the East MRT Scheme in Figure 2.8 is:

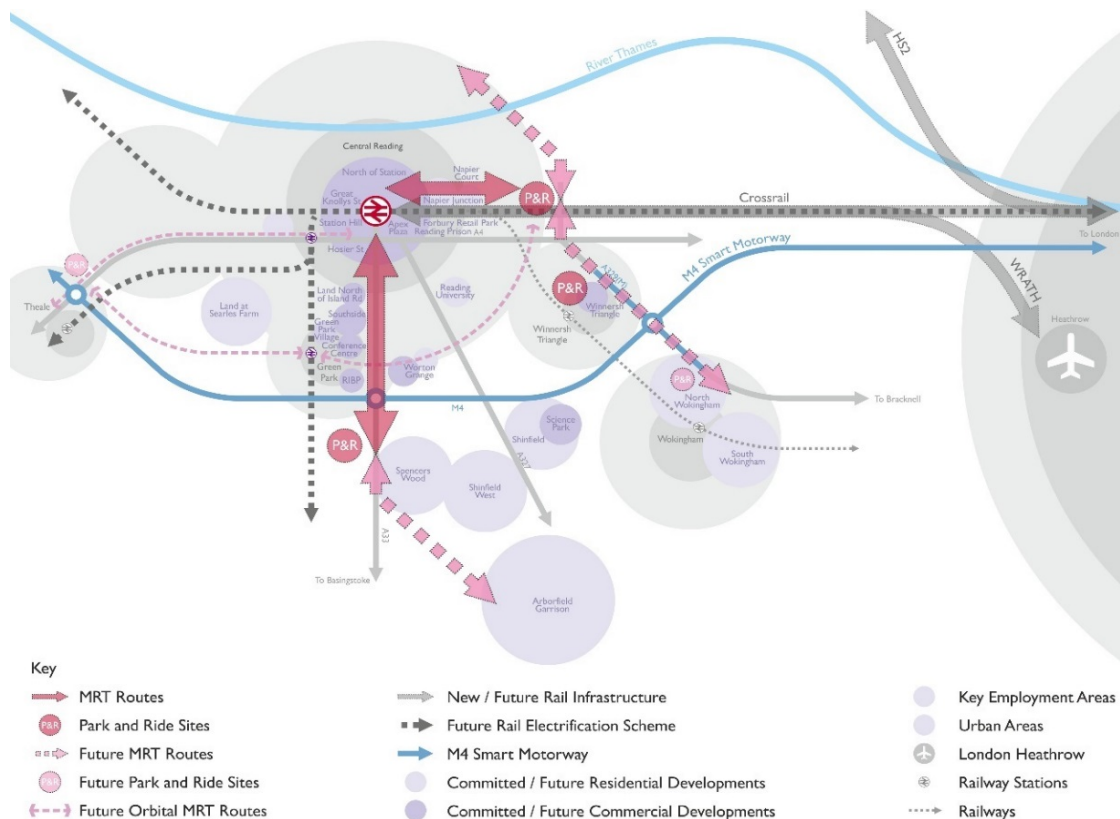
- Policy CC08: Safeguarding alignments of the Strategic Transport Network & Road Infrastructure.
 - Routes required for the improvement of the Strategic Transport Network and for other transport related schemes indicated on the Policies Map or listed in Appendix 3 of the MDD will be protected and safeguarded. Proposals for development which would compromise the implementation of these routes would not be supported.

- MDD Appendix 3: Strategic Transport Network and Road Infrastructure - Safeguarded Land and Protected Road/Railway Lines
 - i. Measures to improve cross Thames travel (policy CP10 (1))
 - iv. High quality express bus services or mass rapid transit along the A4 and A329 corridors (CP10(10)). This project is dependent on Reading Borough Council's 'Cross-town Link6'.
 - v. Crossrail (CP10(16)).
 - c) Provide a Park & Ride near the Coppid Beech roundabout on the A329 in Wokingham (CP10(5))
 - j) Improvements to the quality and frequency of public transport services along any part of the network (CP10(19))
 - k) Improvements to increase the use of bicycles, including cycle paths (CP10(20))
 - l) Enhancements to footpath and cycle networks to improve access to services and facilities (CP10(21))

2.4 Future Connections to Strategic Transport Networks

- 2.4.1 This eastern section will form part of a longer term MRT network for the Thames Valley or operate as a standalone MRT route. The link also provides future opportunity to link to a Third Thames Crossing to provide MRT to a P&R north of the River Thames.
- 2.4.2 Reading is planned to benefit from significant investment in the following strategic networks (see **Figure 2.9**):
- Crossrail, which is planned to start running in 2018 and is reported to be generating the most homes of all the new rail lines;
 - The Western Rail Access to Heathrow (WRAtH) will provide direct access to Heathrow Airport from Reading and is planned to be completed in 2021;
 - HS2, which should be completed in the next decade, will reduce journey times from London to Birmingham to 49 minutes, making it easier to commute from Britain's second city to the capital. London's rail commuter network will then encompass Brighton, in the south, Southend, in the east, Reading, in the west, and Birmingham, to the north; and
 - M4 Junctions 3-12: Smart Motorway.
- 2.4.3 The East MRT scheme will improve accessibility to these strategic transport networks, allowing residents from existing and planned development living to the east of Reading to reach the rail services and Reading town centre, or visitors arriving from the motorway to use the P&R at TVP or Winnersh into Reading town centre.

Figure 2.9: Strategic Transport Networks and Connections



2.5 Economic Growth in Reading and the Wider Area

- 2.5.1 Growth in Reading and the wider area is planned to continue over the coming years, with more housing and investment in employment opportunities.
- 2.5.2 A growing town must be supported by good transport links, to provide urban connectivity and access to wider strategic networks. Reading's transport links are suffering from the highest levels of congestion outside of London (source: Department for Transport statistics, Table CGN0206b, September 2015) with limited public transport alternative that avoids the congestion. Reading Borough Council (RBC) has made significant headway in delivering its transport strategy (set out in the last three Local Transport Plans), which has been identified to support planned growth, but significant work is still needed. Junction 11 on the M4 has benefitted from capacity increases and bus priority. Reading Station has been improved to remove the rail bottleneck and facilities upgraded to support the capacity increases. Park and Ride sites have been delivered at Mere Oak and Winnersh, with another planned at Thames Valley Park. Cycle routes have been delivered along London Road, Wokingham Road, A33, and across the River Thames via a new foot/cycle bridge. Pinch point schemes have relieved bottlenecks.
- 2.5.3 Ernst and Young compiled a report which suggested that economic growth in Reading was predicted to be higher than anywhere else in the UK. Reading however remains one of the most congested towns/cities outside of London (Source: Inrix 2016 Traffic Scorecard). A step-change is needed to provide connectivity, capacity upgrades and encourage sustainable travel to allow this potential economic growth to be achieved.

2.6 Scheme Summary

Overview

- 2.6.1 The East MRT scheme is a segregated fast track public transport, pedestrian and cycle route that will support enhanced accessibility and continued sustainable growth in Reading, Wokingham Borough and the wider area. It would provide a new dedicated public transport link from central Reading to existing residential and employment areas to the east and south-east of Reading, including Thames Valley Park (TVP), Woodley, Winnersh and Wokingham.
- 2.6.2 The purpose of the scheme is to improve access to and from Reading eastwards for buses, pedestrians and cyclists. This will help relieve the forecast increase in travel demand along the heavily congested A4 corridor, which provides access to existing residential employment and educational sites, as well as Reading town centre, Reading railway station and substantial planned development in Wokingham Borough and Reading town centre.
- 2.6.3 The scheme will provide urban connectivity and access to wider strategic transport networks.
- 2.6.4 The East MRT Scheme will help to facilitate the coming economic growth, through providing high quality public transport that will be an attractive alternative to the private car and assist in the continued growth in sustainable transport use within Reading.
- 2.6.5 Delivery of significant capacity and reliability enhancements to support sustainable travel to/from eastern and central areas of Reading will inevitably support future growth, through modal shift and alleviating congestion and increasing capacity in the transport network. This improved capacity will assist in unlocking housing development already committed in Reading and Wokingham boroughs, improvement of accessibility will act as a catalyst for improving the vibrancy of the town centre and the reliability of the network will encourage employers to locate here.

Walk and Cycle

- 2.6.6 The scheme will provide a fast track and dedicated cycle and pedestrian route directly into the centre of Reading from the A4 to the east of Reading. It will also connect Thames Valley Park with Reading town centre and railway station including the Ready Bike Cycle Hire scheme located either end of the route.
- 2.6.7 The scheme connects into existing walking and cycling routes and local areas providing a high-quality alternative to current routes which is lit, avoids areas of flood risk and benefits from natural surveillance of the regular bus services and surveillance from CCTV. It also provides an alternative crossing of the River Kennet for towpath users, avoiding the stepped Horseshoe bridge.

Figure 2.10: Walking Routes

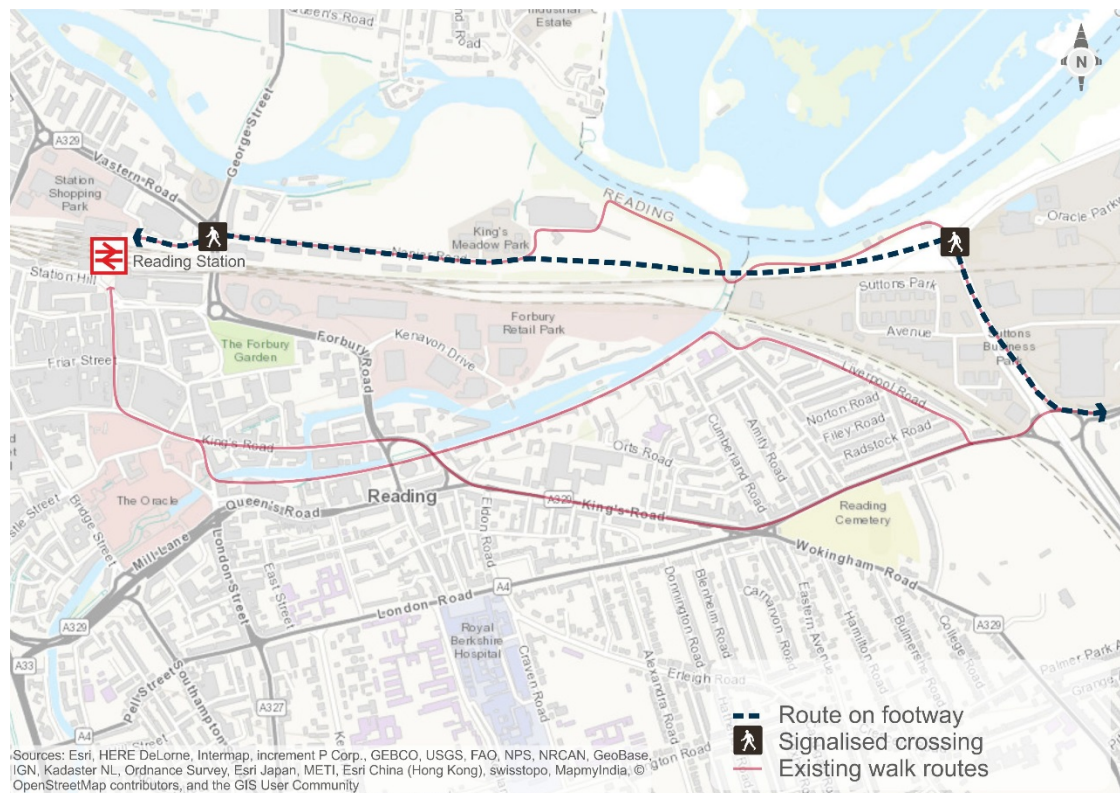
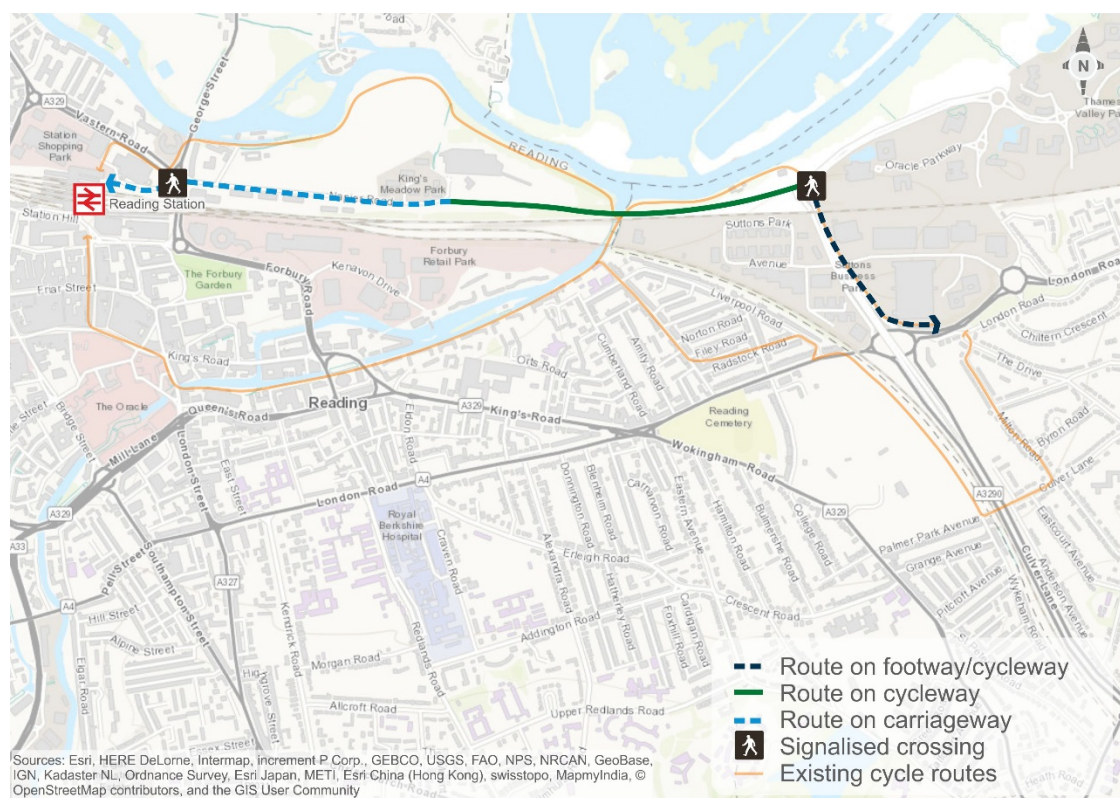


Figure 2.11: Cycling Routes



Public Transport

- 2.6.8 The East MRT Scheme will provide significant benefits in the form of improved journey times and enhanced reliability to public transport services using the route to/from central Reading and existing residential and employment areas to the east and south-east of Reading, including Thames Valley Park (TVP), Woodley, Winnersh and Wokingham.

2.7 Bus Service Details

- 2.7.1 A workshop was facilitated with Reading Buses following submission of the planning application to review the original assumptions regarding the bus services which might use the East MRT Scheme. RailAir and TVP have also been consulted regarding the use of the route. It has been confirmed that the following assumptions regarding the bus services that might benefit from the East MRT Scheme are reasonable:

- Winnersh Park and Ride
- TVP Shuttle
- RailAir
- TVP Park and Ride
- New Service to Woodley
- Service 4/X4 to Reading, Wokingham and Bracknell

- 2.7.2 The scheme will result in faster, more reliable public transport services with significantly increased levels of capacity. This means that extra services could be provided on the corridor.

- 2.7.3 Other services such as the 850 or 126-129 could also switch to use the East MRT Scheme as well as support the provision of new services in the future, but these have been assumed to remain on London Road. It is expected that services 13 and 14 and two TVP services an hour would stay on London Road.

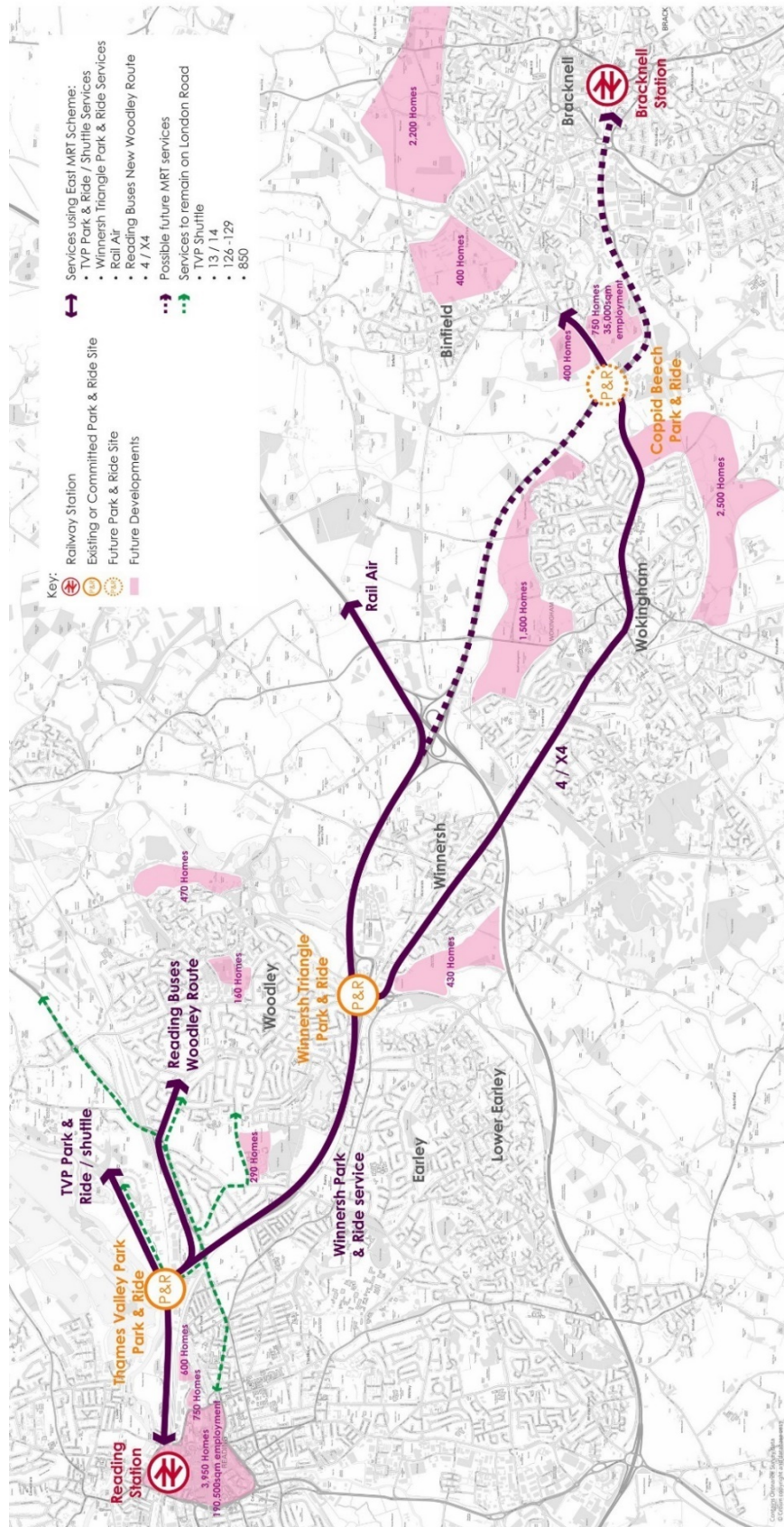
- 2.7.4 The routes are illustrated in **Figure 2.12**.

Queue Surveys

- 2.7.5 A queue survey of westbound traffic along Napier Road from Tesco to Reading Bridge Roundabout was undertaken on Thursday 21st, Saturday 23rd and Sunday 24th of September 2017. The survey has been analysed to understand if the bus lane proposed on the approach to the roundabout will be inaccessible to buses whilst queuing traffic clears.

- 2.7.6 The results show that the buses, on a relatively busy day, will be delayed by on average for approximately 2 minutes for around 2% of a weekday (0700 to 1900), 5% of a Saturday (0700 to 1900) and 1.5% of a Sunday (0700 to 1900). Land is safeguarded in the Local Plan to extend the bus lane along Napier Road to the East MRT Scheme to enable MRT/buses to bypass queuing traffic.

Figure 2.12: Bus Services That Could Use East MRT Scheme



2.8 Business Case

- 2.8.1 A Business Case has been prepared to consider five different cases, Strategic, Economic, Financial, Commercial and Management.
- 2.8.2 The methodology has been agreed with the Thames Valley Berkshire Local Enterprise Partnership's (TVBLEP) independent auditor. The Business Case does not consider the future potential of the route, in terms of:
- Further services using the route (beyond those assumed, as outlined in section 2.7);
 - The ability to connect into a future MRT network and associated increase in demand;
 - Any increase in demand to access Crossrail services; and
 - Development sites being identified in the emerging Local Plans in RBC, WBC and South Oxfordshire District County (SODC).
- 2.8.3 Potential increases in cycle use and bus patronage due to the East MRT Scheme have been estimated to inform the Business Case. This work has shown that the East MRT could increase levels in cycling by 114 new trips per day based on timesaving and improved cycling facilities utilising DfT TAG UNIT A5.1. The demand modelling undertaken to inform the business case shows that the East MRT Scheme will lead to an increase in public transport patronage by up to 15%.
- 2.8.4 Even with the limitations bullet pointed above, the Business Case demonstrates a high value for money. The Business Case shows that the East MRT Scheme is supported by a robust case for change that fits with wider public policy objectives (strategic case), demonstrates value for money (economic case), is commercially viable (commercial case), is financially affordable (financial case) and is achievable (management case).

2.9 Summary of Benefits of the East MRT Scheme

Wider Benefits

- Delivers a fundamental element of the wider sustainable transport strategy for Reading and the Thames Valley, enabling a public transport corridor on the Reading – Wokingham – Bracknell corridor and in north Reading linked to the proposed Third Thames crossing;
- Meets the policy/infrastructure requirements in Reading and Wokingham's Local Plans to enable the planned levels of economic growth and housing delivery; and
- Increases public transport accessibility and affordability, resulting in improved social equality and decreased levels of isolation for the most vulnerable in society.

Walking and Cycling

- Provides a faster route option and enhanced user experience for people walking and cycling from the A4 London Road/A3290 roundabout to Reading Railway Station and town centre offering:
 - lighting and low gradient,
 - adjacent to low trafficked carriageway offering regular natural surveillance from regular bus services,

- alternative crossing of the River Kennet Mouth for towpath users to avoid the stepped Horseshoe Bridge,
- alternative route to avoid flood risk areas;
- Promotes healthy living, well-being and active lifestyles by providing enhanced opportunities for walking and cycling;
- Increases levels in cycling of 114 new trips/day, (based on work to inform the Business Case, specifically, cycling increases based on timesaving and improved facilities utilising DFT TAG UNIT A5.1).
- Improves pedestrian and cyclist safety through the provision of a fast track and dedicated cycle and pedestrian route directly into the centre of Reading; and
- Connects the cycle hire schemes at Thames Valley Park to the central areas of Reading.

Public Transport

- Increases public transport patronage by up to 15% (based on the demand modelling undertaken to inform the Business Case)
- Significantly increases capacity for accessing (and leaving) Reading town centre and Reading Railway Station;
- Significantly improves public transport connectivity between Reading and Wokingham Boroughs;
- Provides opportunity to facilitate future bus services east of Reading towards Wokingham and Bracknell and the potential TVP P&R at Coppid Beech; and
- Reduces journey times and improves reliability for public transport services using the East MRT Scheme.

Highway

- Eases forecast congestion and rat-running in the eastern parts of Reading;
- Accommodates two right turning buses at the proposed East MRT Scheme and Napier Road junction which is predicted to operate well within capacity causing minimal to no delays to traffic accessing and egressing Tesco;
- Causes minimal delays to existing traffic at the Napier Road approach to Reading Bridge roundabout due to off-site improvements; and
- Accommodates bus movements at the Thames Valley Park Drive / A3290 roundabout.

3 RBC Comments

3.1 Model Assessment

RBC Comments

The application proposals claim that the MRT will relieve the forecast increase in travel demand, the Reading Transport Model has been used to understand the potential traffic impacts the East MRT Scheme may have on the local highway network surrounding the site. Traffic flows for the following scenarios were used:

- *Baseline – Existing highway network with traffic growth to 2021 and committed developments plus TVP P&R*
- *Proposed Scheme - Existing highway network with traffic growth to 2021 and committed developments plus TVP Park and Ride and East MRT Scheme*

I am happy the assessment undertaken would be acceptable.

It has been stated that the Scheme results in reductions of between 1% and 3% across some of the eastern area roads. The modelling demonstrates that the scheme would release traffic constrained in entering the network, ease forecast congestion and reduce rat-running.

However, no data / evidence has been provided to confirm this. Additional information should therefore be provided from the model assessment to ensure that the proposal will reduce the traffic congestion in East Reading as claimed.

PBA Response

- 3.1.1 It should be noted that the modelling was undertaken to inform the Business Case and therefore provides a conservative assessment of the benefits for the preparation of a robust Business Case. It is expected that the East MRT will attract a greater level of patronage than tested, particularly in relation to providing access to the future Crossrail services. Furthermore, East MRT will provide a catalyst for the delivery of further Park & Ride schemes, attract bus operators to offer fast track bus services along the A329M and enable further phases of the wider planned MRT network and/or Third Thames Crossing.
- 3.1.2 The traffic flows along the eastern A4 corridor into and out of Reading are high throughout the day, with queues and delays building during the peak periods. This congestion is forecast to increase, as a result of committed and planned development both within Reading Borough and Wokingham Borough. It should be highlighted that the periods of congestion are likely to extend, but this is not assessed.
- 3.1.3 Drivers switching to use the bus services on the East MRT scheme will relieve the forecast congestion which will in turn allow 'rat running' vehicles to return to the main A4 corridor, benefiting residential streets.
- 3.1.4 The following outputs from the tests undertaken using the Reading Transport Model (RTM) are included in **Appendix B**:
- Vehicle flow* on links in 2021 AM Peak hour 0800 to 0900;
 - Vehicle flow* on links in 2021 with MRT AM Peak hour 0800 to 0900;
 - Difference in vehicle flows* between 2021 AM and 2021 AM plus MRT;

- Vehicle flow* on links in 2021 PM Peak hour 1700 to 1800;
- Vehicle flow* on links in 2021 with MRT PM Peak hour 1700 to 1800; and
- Difference in vehicle flows* between 2021 PM and 2021 PM plus MRT.

*Actual flows output from the model

- 3.1.5 The difference flow plots for the AM peak hour show that traffic flows are forecast to reduce on the residential streets in the east side of Reading, such as Erleigh Road, Crescent Road and Culver Lane with an increase in traffic on London Road. These reductions are likely to be as a result of people switching to use the bus/MRT into Reading with the introduction of the East MRT scheme. The shift to bus/MRT will allow people currently “rat-running” along residential streets, travelling from the east side of Reading to the town centre, to shift to back on the A4 (a main radial route into Reading).
- 3.1.6 Some reductions are shown in central Reading on Forbury Road and Kings Road in the AM peak hour. This is likely to be as a result of people switching their mode of travel into Reading from private car to bus as a result of the East MRT scheme.
- 3.1.7 The PM difference flow plots show some reductions on residential streets, the A4 and the IDR due to the East MRT scheme.

3.2 Pedestrian / Cycle Survey

RBC Comments

An assessment has been undertaken of the pedestrian / cyclist movements along the existing towpath to identify its current use. The survey data included at Appendix A of the Transport Statement provides the numerical information but no schematic diagram has been provided to demonstrate the locations of these surveys especially as one of the survey locations deals with three routes. This should therefore be clarified.

PBA Response

- 3.2.1 Location plans of the surveys are included in **Appendix C**.

3.3 MRT Route Detail

RBC Comments

Traffic Signals

The East MRT Scheme has been designed as an 11.5m wide corridor comprising a 6.5m two-way carriageway, 3m two-way cycle lane and a 2m footway. The link narrows at the proposed bridge over the River Kennet at the Thames/Kennet confluence. The bridge has been designed at 8.5m wide comprising a 3.5m one way carriageway, 3m two-way cycle lane and a 2m footway. Shuttle working will operate with a signal/indicator system to allow bus progress between the stop lines 190m apart. The proposed design complies with National standards however further clarity should be provided on what measures would be provided should the signal/indicator system fail especially given the distance between the signals.

There is an SGN valve at the western edge of the Thames Valley Park, Park & Ride, Phase 1A of the scheme retains the valve and in Phase 1B the value will be relocated. The Phase 1A scheme includes a one-way section of 3.5m wide carriageway with signal/indicators either end approximately 100m apart, and a shared footway / cycleway that narrows to 2.5m at the pinch point. The Phase 1B scheme mirrors the permitted Thames Valley Park, Park & Ride scheme with a 7.3m carriageway and 3.0m shared footway / cycleway. Again this is deemed acceptable as it complies with National standards however as above what measures would be provided should the signal/indicator system fail and when are the triggers for phase 1B to be implemented.

Route Gradient

None of the submitted drawings identify the gradients of the proposed route and these should be submitted.

PBA Response

Traffic Signals

- 3.3.1 Each stop line will be controlled by a primary and secondary signal/indicator. To reduce the possibility of the signal/indicators failing over the bridge, the primary and secondary signal/indicators, both located on the nearside of the carriageway, will be powered through different electrical feeds. Therefore, if one were to fail, the other should still be operational. In the very unlikely event that both electrical feeds fail, outbound buses will divert to use the A4 Kings Road and London Road until the signal/indicators are operational.
- 3.3.2 Phase 1B will commence when funding is secured and utility diversions are completed. Phase 1B could be delivered immediately with construction of the scheme, therefore with this scenario the shuttle working section at the eastern pinch point (adjacent to the gas value) will not be delivered.
- 3.3.3 If Phase 1A is constructed initially, both stop lines will be controlled by a primary and secondary signal/indicator which will be powered through different electrical feeds. Therefore, if one were to fail, the other should still be operational. In the very unlikely event that both electrical feeds fail, outbound buses will divert to use the A4 Kings Road and London Road until the signal/indicators are operational.
- 3.3.4 It is intended that replacement signal indicators would be stored by the RBC maintenance team, so in the event of signal failure the indicators can be replaced relatively swiftly.

Route Gradient

- 3.3.5 **Drawing 28791/2009/CIV/006A** illustrates the proposed route gradients. From the proposed bridge over the River Kennet the route is at a gradient of 1:21 to the west and 1:42 to the east.

3.4 East MRT Scheme / Napier Road Junction

RBC Comments

Visibility Splays and Vehicle Swept Paths

The East MRT Scheme proposed junction with Napier Road has been designed to maintain the priority route to Tesco. Manual for Streets (MfS) visibility requirements have been met however no drawings have been provided to demonstrate that these visibility requirements can be achieved.

A right turn filter lane accommodating two buses has been provided for the right turn from Napier Road into the East MRT Scheme following consultation with Tesco. However as per the visibility requirements tracking diagrams have not been provided for buses entering and exiting the MRT route at Napier Road, these should be provided.

Junction Options

It has been stated that accommodating swept paths and visibility has resulted in a relatively wide bell mouth resulting in the need for a splitter island. However, it should be illustrating why other access designs have been discounted as the junction would appear over engineered for what has been stated within the Transport Statement as accommodating just 30 bus trips an hour.

Pedestrian Crossing

Westbound cyclists travel along the segregated cycle way and into the shared footway / cycleway up to the junction with Napier Road. At this point cyclists will cross the eastbound carriageway to a central island where they then exit onto the westbound carriageway and access Napier Road via the priority junction. However this pedestrian cycle crossing would be in addition to the zebra crossing located 70m to the east. Could a tiger crossing be provided as per diagram 1001.5 of the TSRGD instead of the two separate crossing facilities and a shared path be provided on the southern side of the carriageway (it is noted that it is already 3m in width for a distance of 50m) until a suitable time where cyclists can merge with the bus lane.

Footway to Napier Road

This proposed route would appear to be blocked by an electricity pylon which is located where the existing footway on the southern side of Napier Road ends and none of the submitted drawings / information clearly identifies where the proposed footway would tie in to the existing part of the pedestrian network. An amended drawing should therefore be submitted fully illustrating the where this tie in occurs and what implications this would have for the electricity pylon.

PBA Response

Visibility Splays and Vehicle Swept Paths

- 3.4.1 The visibility splays and vehicle swept paths are shown on **Drawing 28791/5523/003B** and **Drawing 28791/5523/004A** respectively.

Junction Options

3.4.2 The junction has been designed based on the following design principles,

- The eastbound carriageway is located to allow two buses to wait in the ghost island right turn lane on Napier Road. This was requested by Tesco to minimise the risk of right turning buses causing any delay to traffic accessing Tesco.
- The westbound carriageway alignment provides a smooth transition for MRT/buses from the East MRT scheme to Napier Road. A priority junction without splitter island would result in a sharper turn for MRT/buses accessing Napier Road.
- The design deters private vehicles from accessing the East MRT scheme instead of turning left to enter Tesco. It is considered that a more traditional two-way junction without separation may increase the risk of private vehicles wrongly accessing the East MRT scheme.
- The splitter island provides a waiting space for cyclists travelling westbound. This leads to cyclists only having to cross one direction of traffic at a time to reach the give way line at the western end of the east MRT scheme and travel onto Napier Road. This provides a safer crossing option than having to navigate two directions of traffic simultaneously.
- Provision of good quality landscaping areas.

3.4.3 Based on the above design principles, the proposed design is considered appropriate and not over engineered.

Pedestrian Crossing

3.4.4 A tiger crossing option has been reviewed and compared against the proposed scheme, illustrated on **Drawing 28791/5523/005A**.

3.4.5 Whilst both options provide the required movements for pedestrians and cyclists, the proposed scheme is considered the preferred option due to fewer potential conflict areas for pedestrians and cyclists.

3.4.6 The proposed scheme results in one potential conflict area whereas the tiger crossing option results in three areas, all of which are closer to the carriageway than the proposed option.

Footway to Napier Road

3.4.7 It has been agreed that the pylon is to be removed and the cables relocated underground. **Drawing 28791/5523/003B** shows where the proposed footway from the East MRT scheme ties into the Napier Road footway.

3.5 Impact to Tesco Car Park

RBC Comments

The proposals result in an alteration to the adjacent Tesco Car Park Layout however no information / drawing has been submitted confirming the existing car park layout and how the proposed changes will affect the number of spaces within the car park. If the proposal results in the loss of parking a car park accumulation survey must be provided to establish that a loss of parking is acceptable.

The proposed car park design also does not comply with the required standards as a substantial number are not provided with the required forecourt depth of 6m. A revised drawing must be submitted illustrating all parking spaces to comply with standards.

PBA Response

- 3.5.1 **Drawing 28791/5523/007B** illustrates the existing and proposed car park layouts, with appropriate aisle width for manoeuvring out of the spaces. The proposed layout results in the loss of 30 spaces to the Tesco car park. This reduction in spaces is only approximately 4% of the overall provision of approximately 800 parking spaces. This slight reduction is considered insignificant and should not warrant a full parking accumulation survey of the car park.

4 WBC Comments

This link should not open until the park and ride is in operation to ensure that the best advantage of both schemes can be achieved.

- 4.1.1 The East MRT Scheme is complementary to the proposed TVP Park and Ride, however it will also provide benefit to pedestrians, cyclists and public transport users as a standalone scheme. The delivery of the link will not be determined by the delivery programme of the Park and Ride.

Highways welcome the new walking and cycling route which would give a direct route between Thames Valley Park and Reading. These routes are lit which is also welcome. However, clarification is required on whether these routes would have CCTV to increase the perception of safety.

- 4.1.2 CCTV will be installed along the route.

Highways welcome the use of camera technology to control the use of this bus only link. However, highways are concerned with the use of physical barriers if the camera technology fails to deter illegal use of this link. If in the end physical barriers have to be used, a maintenance strategy would need to be in place to ensure that these barriers continue to operate.

- 4.1.3 Camera technology will be used to control the illegal use of the East MRT Scheme, alongside appropriate signage and coloured surfacing. It is believed that cameras will successfully control access. There are current examples of this technology being successful in Reading such as Friar Street and Kennet Island. However, if this approach fails to appropriately control access then physical barriers will be installed such as sump breaker and/or rising bollards. A maintenance strategy would be put in place in the unlikely event that rising bollards are required (these are successfully used in other places such as Crawley for regular Fastway services).

In theory the introduction of a MRT type link segregated from traffic would reduce the journey time for bus passengers using the service. However, it is unclear from Table 5.3 in Appendix 8.1 (Transport Statement) what the journey time savings are. In addition no modelling information has been provided to support these results.

- 4.1.4 The original TA submitted contained a typo in Table 5.3 which was updated and issued to WBC on 11th July 2017. For ease, the forecast journey times and savings based upon the assumptions set out in the TA are summarised in Table 5.3 of the TA are copied below.

TA Table 5.3: Public Transport Journey Time Summary With and Without East MRT Scheme

Journey Time (Seconds)	Morning Peak Period		Evening Peak Period	
	Station Inbound	Station Outbound	Station Inbound	Station Outbound
Existing	752	1068	901	1003
Future	358	278	327	290
Journey Time Saving	394	790	574	713

- 4.1.5 Journey time route plots from the Reading Transport Model are included in **Appendix E**.

There is no evidence submitted that the modelling of the junctions have been validated.

- 4.1.6 As set out in the TA, Reading Bridge roundabout often suffers from peak hour congestion due to upstream junctions operating over capacity and blocking back through the roundabout. Due to this blocking back, the junction cannot be fully validated when modelling in isolation. However, the relative effects of the proposed bus lane and pedestrian crossing improvement on traffic at the junction has been tested. The Napier Road / East MRT Scheme Junction is a proposed junction therefore cannot be validated.

Highways would need to see details of the construction of this route, however this can be conditioned. A brief construction management plan has been submitted. There is no mention of construction pounds are their locations nor banksmen to control access/egress for deliveries. A primary route has been mentioned, an assessment of a secondary route will be required.

- 4.1.7 The TA includes a section that sets out the principles for construction activity. Further details will be agreed in a more detailed Construction Management Plan prepared by the selected Contractor that will be secured via condition.

Whilst introduction of a MRT service has the potential to enable the current services to be improved, the assessment would need to concentrate on the benefits to the existing services.

It has been assumed that Winnersh Park and Ride, TVP commuter service and the Rail Air Coach from Reading to Heathrow could use this link. However, these services do offer a limited stopping service along London Road/Kings Road. The removal of these services could lead to increase use of the remaining services and would need to be included in any assessment of benefits.

Indeed the local stopping services are mentioned in the transport statement but no assessment has been carried out as passenger usage of these services is not available. This assessment would need to be carried out as there could be disbenefits to these services due to the removal of Winnersh Park and Ride.

- 4.1.8 See **Section 2** for further information of the scheme.

5 Off-Site Scheme Update

- 5.1.1 Since the submission of the planning application on 4th July 2017 a planning application for the Former Cooper Reading BMW site has been permitted by RBC on 23rd November 2017. The application includes details of the bus lane and pedestrian crossing on the Napier Road approach to Reading Bridge Roundabout, adjacent to the site. This scheme has been agreed between PBA and RBC and updates the scheme included in the previous East MRT Transport Statement, Drawing 28791-5501-029. The updated scheme is included in **Appendix F**.