

# A Transport Vision for the 'Centre of Slough'

## *Core Principles*

25<sup>th</sup> February Cabinet Report – Appendix A  
Slough Borough Council  
20<sup>th</sup> February 2019

# Notice

This document and its contents have been prepared and are intended solely as information for . and use in relation to the Transport Vision for the 'Centre of Slough': *Core Principles* commission.

Atkins Limited assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

## Document history

Revision	Purpose description	Origin-ated	Checked	Reviewed	Author-ised	Date
Rev 1.4	First draft for client review	GGH MG	JB	JB	GGH	14/12/18
Rev 2.1	Following comments received from SBC	GGH	MG	JB	GGH	20/12/18
Rev 2.2	Following second round of comments from SBC	MG	GGH	GGH	GGH	09/01/19
Rev 3_1	Additional comments from SBC/LS	MG	JB	GGH	GGH	14/02/19
Rev 3_2	Final revisions prior to issue.	MG	JB	GGH	GGH	20/02/19

## Client signoff

Client	Slough Borough Council
Project	Transport Vision for the 'Centre of Slough' <i>Core Principles</i>
Job number	5167809

# Contents

Chapter	Page
<b>1. Introduction</b>	<b>1</b>
1.1. Background	1
1.2. Next steps	2
1.3. Supporting the Local Plan	2
1.4. Capitalising on Heathrow Airport's expansion	3
1.5. Beyond the Local Plan	3
1.6. Document structure	3
<b>2. Summary of the transport vision</b>	<b>4</b>
2.1. A 'once in a generation' opportunity	4
2.2. Embracing opportunity	4
2.3. Overcoming challenges	5
2.4. The ambition supported by the transport vision	6
2.5. The transport vision: key principles	6
2.6. The transport vision: key aspects	7
<b>3. Public transport</b>	<b>8</b>
3.1. Introduction	8
3.2. Mass rapid transit	8
3.3. Other bus services	14
3.4. Mobility as a Service (MaaS)	16
<b>4. Walking and cycling</b>	<b>17</b>
4.1. The vision for walking and cycling	17
4.2. Key interventions	17
<b>5. The highway network</b>	<b>19</b>
5.1. Introduction	19
5.2. Northern gateway	20
<b>6. Parking supply</b>	<b>20</b>
6.1. Introduction	20
6.2. Public parking	21
6.3. Electric vehicle and car club parking	23
6.4. Park and Ride	23
6.5. Private parking supply	25

# A transport vision for the centre of Slough

*Core principles*

# 1. Introduction

## 1.1. Background

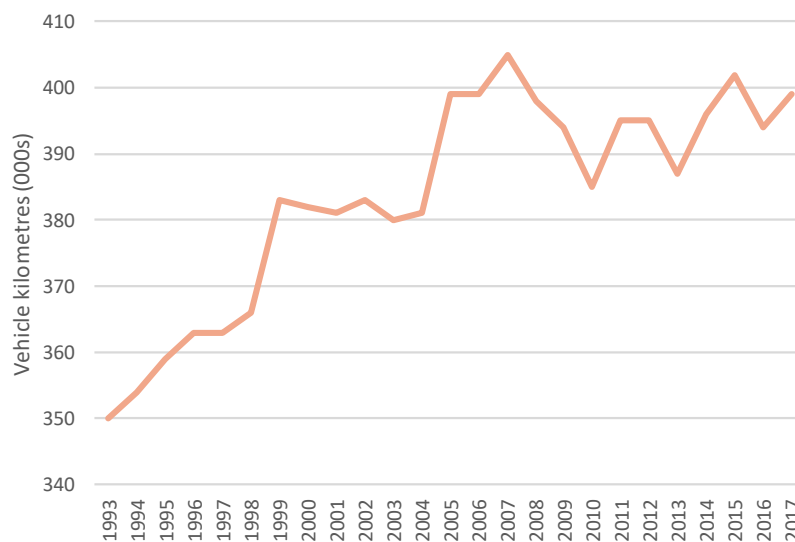
In early 2018, Slough Borough Council’s Executive Member for Planning and Transport requested that work commence on a new transport-led vision for the centre of Slough which could guide development and regeneration to 2040 and beyond.

Since February 2018, a working group comprising Council officers; transport consultants, Atkins; and architecture practice, bblur, have been working on the transport vision. This document sets out the core principles of the vision based on the technical work and stakeholder engagement which has taken place in the interim. As such it provides important inputs into the review of the Local Plan and the Centre of Slough Development Strategy (see below).

The brief was to develop an ambitious transport vision to support a town fit for the 21<sup>st</sup> Century, one which would improve the quality of life of those living in, working in, and visiting the Borough, and which would support the creation of a stronger, more sustainable and viable centre of Slough.

However, the amount of traffic in the Borough (excluding trunk roads such as the M4) has grown by 15% since the mid-1990s (see Figure 1.1). Slough’s road network is under significant pressure, particularly at peak times, resulting in congestion and air quality issues. In 2011 the Council estimated that congestion was adding 8% to the average journey time, costing Slough £34 million per annum in lost time alone, with additional economic impacts. Recent trends suggest that congestion could worsen by a further 15-20% by 2027 due to rising car ownership residents and jobs, and spread to the inter-peak period <sup>1</sup>.

**Figure 1.1 – Motorised traffic in Slough (excludes trunk roads) 1993-2017**



Source: Department for Transport

Current peak period congestion, and potentially worsening of congestion throughout the day, is a serious threat to achieving the vision for a forward-looking, 21<sup>st</sup> Century Slough. It is also a threat to achieving the scale of growth proposed in the Local Plan Review. Without addressing the demand for travel by car, and the resulting congestion:

<sup>1</sup> Slough Local Plan Review – Draft Transport Strategy (January 2016)

- the ability to improve the quality of the urban realm is severely limited;
- there will not be sufficient capacity for movement, or sufficient connectivity to and from the centre of Slough; and
- inward investment by existing businesses and developers will be suppressed.

Many of the core principles set out in this document are therefore intended to reverse current trends in car use by providing a step-change in alternatives, defining a low-car urban core and, over time reducing the attractiveness of car travel to or from the centre of Slough. These principles are set out in the remainder of this document.

## 1.2. Next steps

The vision presented here is the ‘end point’ of what is likely to be a 20-year journey. Significant further technical work will be required to test these principles and the phasing of delivery of the different components to achieve the ‘end point’ of the transport vision and the objectives of the Centre of Slough Transport Strategy. This will be an iterative process including development of Slough’s highway model, testing scenarios, and developing options, including working on joint projects with neighbouring authorities.

The timing of delivery will be dependent on the pace of regeneration in the centre of Slough, as well as availability of resources and support from third parties (such as land owners and neighbouring authorities). The speed at which travel behaviour changes, will also be a determinant of timescales, not least because attractive alternatives to the car must be provided before measures which deter car use can be implemented.

The technical work will also need to consider how the proposed transport led regeneration can be delivered through the Local Plan process. This process will need to consider all factors that are necessary in order to deliver good quality and sustainable development.

An indicative timeline, showing when delivery of key elements of the vision could occur, is provided in Appendix A.

## 1.3. Supporting the Local Plan

The Council is currently reviewing of Slough’s Local Plan, and preparing a Centre of Slough Development Strategy. The Local Plan review includes development of an emerging preferred Spatial Strategy as presented to the Planning Committee on 1st November 2017. The overall strategy for the Review of the Local Plan is to deliver balanced cohesive growth which meets local needs as far as possible given all of the constraints to development. In order to achieve this the Spatial Strategy has the following key elements:

- **Delivering** major comprehensive redevelopment within the “Centre of Slough”.
- **Selecting** other key locations for appropriate development.
- **Protecting** the built and natural environment of Slough including the suburbs.
- **Accommodating** the proposed third runway at Heathrow and mitigating its impact.
- **Promoting** the northern expansion of Slough in the form of a “Garden Suburb”.

The Spatial Strategy includes options for comprehensive redevelopment of the ‘centre of Slough’ (an area larger than the defined town centre) which retains a core shopping area and central business district in support of the target of providing land for 15,000 new jobs across the Borough.

In terms of new homes, the Spatial Strategy seeks to meet housing needs within the Borough or as close as possible to where the needs arise within a balanced housing

market. In order to achieve this it is proposed to concentrate high density residential growth in the centre of Slough which is the most accessible location within the Borough.

It is also proposed to have a northern expansion of Slough in the form of a Garden Suburb within Green Belt in South Bucks and, to some extent developing in existing urban centres such as Langley. The Northern Expansion will be required due to the limits on the capacity in the Centre of Slough and in other existing urban centres; and in order to provide a balanced housing market with a range of properties.

The draft Transport Strategy for the Borough, prepared in support of the Local Plan Issues & Options Consultation, has been an important consideration in developing the centre of Slough transport vision. The transport vision presented here will be incorporated in the Centre of Slough Development Strategy and the Local Plan.

Phased delivery of the components of the vision will provide the public transport connectivity and capacity critical to ensuring that Slough is able to take full advantage of the anticipated growth in jobs and homes; and to achieve the objectives of the Local Plan including revitalising the centre of Slough as a commercial, leisure and retail centre.

## 1.4. Capitalising on Heathrow Airport's expansion

The Spatial Strategy takes account of the proposed expansion of Heathrow Airport, and proposes the release of land in Poyle and Colnbrook for airport related development. Heathrow's expansion is a significant opportunity for Slough in terms of growth and infrastructure investment and the principles set out in the Spatial Strategy have recently been developed into a land use plan for the Colnbrook and Poyle area.

## 1.5. Beyond the Local Plan

The transport vision covers the period up to 2040 and beyond; which is a longer time period than the Review of the Local Plan which goes to 2036. It assumes that the expansion of Heathrow and the Northern Expansion of Slough will take place and that key infrastructure such as the Western Rail Link to Heathrow will be provided.

The Review of the Local Plan is already promoting the large scale redevelopment and regeneration of the Centre of Slough. The implementation of the public transport-led vision will help to facilitate this and could enable more development to take place in the longer term.

The scale of development will, however, have to be tested, not just in terms of transport capacity, but also to assess what the overall sustainable capacity of the centre could be in social, economic and environmental terms.

In the short term it may be necessary to introduce some safeguarding for elements of the transport vision. Beyond this major development will have to be phased to ensure that the necessary infrastructure is in place which will require appropriate contributions towards the funding of public transport and other transport related infrastructure.

Further details as to how the proposed transport led regeneration set out in this vision will be taken on board in the Review of the Local Plan will be set out in the "Centre of Slough Development Strategy" which is currently being prepared.

## 1.6. Document structure

The remainder of this document is structured as follows:

- Chapter 2: a summary of the transport vision, and its core principles.
- Chapters 3 to 6: details on the four main aspects of the transport vision and how it can be achieved (walking & cycling, public transport, highways, and parking).

## 2. Summary of the transport vision

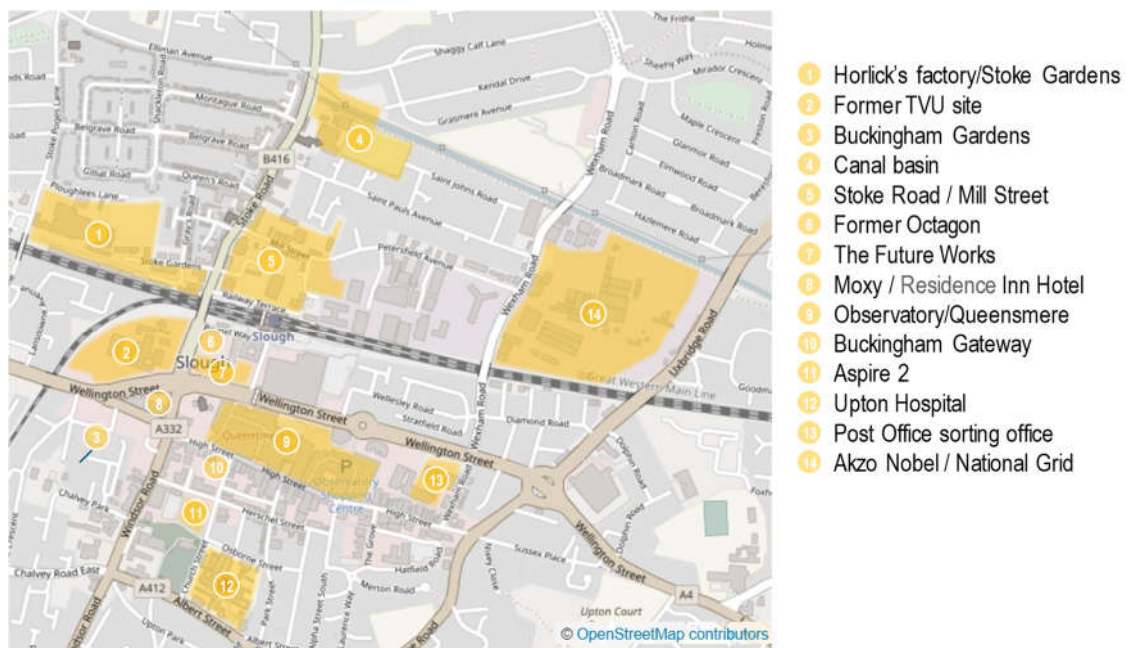
### 2.1. A 'once in a generation' opportunity

Slough is a success story; the most productive town in the UK, with a burgeoning population and excellent strategic location. In recent years, investment in transport infrastructure and the public realm has begun to transform the town. Alongside this, private sector investment in new commercial and residential developments is growing.

This is only the beginning. Proposals for the redevelopment of several key sites in the centre of Slough, the expansion of Heathrow, and proposals for new strategic transport infrastructure offer a once in a generation opportunity to transform Slough, and in particular the 'Centre of Slough'.

At the time of publication, large parts of the centre of Slough have been earmarked for redevelopment, as shown in Figure 2.1. This land is under the control of a relatively small number of owners, including the Council, substantially increasing the potential to ensure that development across these sites is coordinated to deliver high quality design, form and function.

**Figure 2.1 - Key development sites in the centre of Slough**



In this context, planning and enabling high quality, integrated transport networks to, from and within the centre of Slough is a particular opportunity. This transport vision sets out the aspirations for those networks.

### 2.2. Embracing opportunity

Over the coming decade, Slough is due to benefit from significant improvements in its connectivity, particularly public transport connectivity:

- Elizabeth Line services are due to commence in December 2019 serving Burnham and Langley stations as well as Slough. These services will offer faster, more frequent journeys, and more capacity, including direct services to central London.
- The Western Rail Link to Heathrow (WRLth), due for completion in 2028, will enable direct rail services from Slough to Heathrow Airport with a journey time of just six to seven minutes.

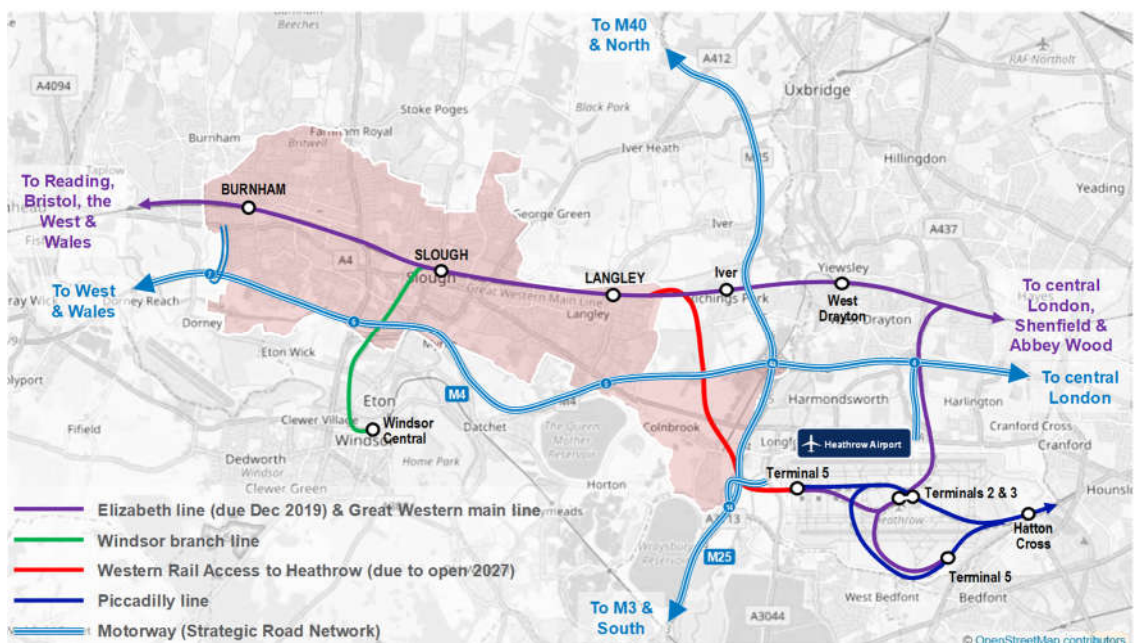


- Other infrastructure and service improvements are also anticipated as part of the Heathrow Airport expansion, including extension of Phase 2 the Slough Mass Rapid Transit (SMaRT) bus priority scheme east of the centre of Slough via the A4 to the airport, including a Park & Ride site near M4 Junction 5.

Major changes to the Strategic Road Network and local road network in the vicinity of the airport, including in Slough, are also planned. The M4 is currently being upgraded to ‘smart motorway’ standard between Junctions 3 and 12. When complete, this will relieve congestion and improve safety and resilience on the M4, which should take pressure off the A4 through Slough which is the official diversionary route when there are incidents on the M4.

The transport vision presented in this document seeks to maximise the potential offered by these improvements in strategic connectivity to support and enable redevelopment of the centre of Slough, improving opportunity for those living in the Borough, and making Slough a more attractive place to live, work, rest and stay.

**Figure 2.2 – Strategic connectivity improvements**

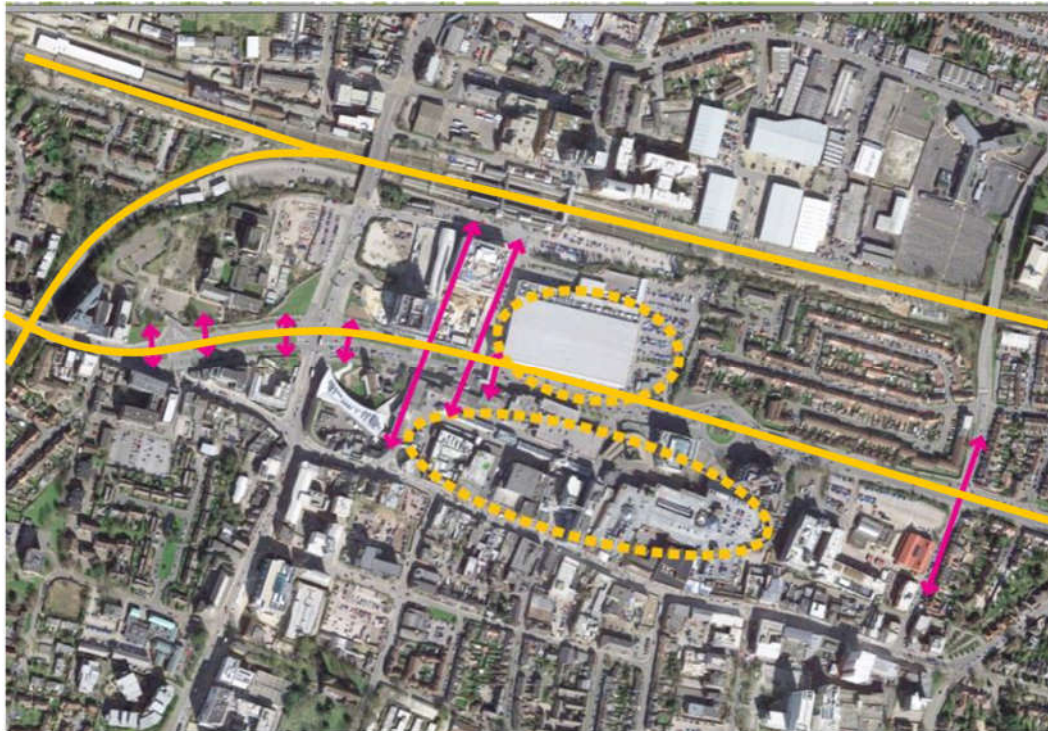


### 2.3. Overcoming challenges

As well as harnessing new opportunities, the transport vision for the centre of Slough looks to address the challenges facing it today. Most importantly, the transport vision seeks to deal with the problems of congestion through a significant reduction in traffic volumes in parts of the centre of Slough. This would bring benefits in terms of local air quality, road safety and the quality of the urban realm. Improved journey times for buses and more space for pedestrians and cyclists would also result.

Movement across the centre of Slough between the north and south are currently constrained, particularly for pedestrians. Wellington Street is a major barrier to a safe and pleasant walk between the station and the shopping centres, whilst the shopping centres themselves, and the large Tesco store, also act as barriers to movement. For both those on foot and in vehicles, the railway lines to the north and west of the centre of Slough also act as a barrier to movement to and from the surrounding suburbs.

Figure 2.3 – Barriers to north-south movement



## 2.4. The ambition supported by the transport vision

The ambition for the centre of Slough is to exploit the once in a generation opportunities described above, to:

- Create a world class town where people want to: work, live and visit.
- Reconnect the centre of Slough with the rest of the borough with public transport-led regeneration.
- Provide a walkable high quality urban centre with green spaces and streets.
- Attract and support more leading global businesses.

## 2.5. The transport vision: key principles

Transport is key to achieving the ambition for the centre of Slough. Achievement of the transport vision will:

- Make public transport the dominant mode of travel to and from the centre of Slough and the rest of the Borough and beyond.
- Provide the capacity for movement to and from the centre of Slough, in the form of a high quality, reliable, high capacity public transport network, which enables a higher scale of development.
- Maximise the benefits of enhanced strategic public transport connectivity to London, Heathrow Airport and the wider Thames Valley.
- Make walking and cycling to and from the centre of Slough an attractive option, and greatly improve the permeability of the centre of Slough for pedestrians.
- Create an attractive environment in which people are put first in terms of movement and use of space for interaction, creating safe, healthy and vibrant urban spaces which encourage people to live, work and relax locally.
- Use the high quality design of transport infrastructure to enhance the quality of the public realm.

- Significantly reduce the dominance of the car as a mode of travel to, from and through the centre of Slough.
- Minimise the impacts of roads, parking and motorised vehicles on the urban realm and on people, including improved air quality and road safety.

At the heart of the transport vision is the creation of a low-car environment in much of the centre in Slough. This is critical to ensuring quality of space, managing congestion and providing sufficient access and egress capacity for the centre of Slough to function effectively. It is also necessary for creating an attractive, healthy and vibrant urban core.

Working towards a low car centre of Slough will build directly upon the successes and experience of the Local Sustainable Transport Fund and current Access Fund delivery.

## 2.6. The transport vision: key aspects

Since February 2018, Atkins, with Council officers and bblur, has considered a wide range of potential interventions to achieve the key principles of the transport vision set out above. These have been refined and developed during 2018, resulting in the proposals presented in the following four chapters.

Each chapter describes the transport vision in terms of one of the four key aspects encompassing the options developed. They are:

- A high quality **public transport** network, the core component being a Borough-wide mass transit system.
- High quality **walking and cycling** routes to and from the centre of Slough, and pedestrian environments within the centre.
- Provision of public and private **parking supply**, including the role of park and ride. Further work is required on determining what car parking is considered to be sufficient for commercial and residential developments.

## 3. Public transport

### 3.1. Introduction

Ensuring that a high proportion of trips to and from the centre of Slough are made by modes other than the car is critical to achieving growth and regeneration by providing the accessibility and capacity needed. Providing a high quality, high capacity public transport system is central to achieving this goal.

The vision for public transport in the Borough is for an integrated network which:

- Is affordable for passengers, and commercially viable for the Council and operators.
- Provides a realistic alternative to car journeys, for at least the last leg of the journey to/from the centre of Slough (including the use of park and ride).
- Improves connectivity locally, between the suburbs and the centre of Slough and to the main employment centres and local centres within the Borough.
- Improves public transport connectivity from across the Borough to key destinations outside Slough such as Windsor, Buckinghamshire, Uxbridge and Heathrow Airport.
- Provides efficient interchanges with rail services at Slough station.
- Enables and encourages significant growth in population and employment in the centre of Slough.
- Enables the northern expansion of Slough to be sustainable in terms of minimising the number of car trips associated with the development.
- Contributes towards improving the public realm.
- Contributes towards improving the image and reputation of Slough as a sustainable town fit for the 21<sup>st</sup> Century.

### 3.2. Mass rapid transit

#### 3.2.1. Introduction

The Council has delivered Phase 1 of the Slough Mass Rapid Transit (SMaRT) scheme between Slough Trading Estate and the centre of Slough. A second phase is planned which would continue delivery east of the centre of Slough via the A4 London Road to M4 Junction 5 and beyond, possibly to Heathrow Airport.

The SMaRT programme will provide substantially improved priority to buses running along the east-west A4 corridor, resulting in quicker and more reliable services.

During 2018, **a more ambitious vision for mass rapid transit** has emerged which responds to, and enables, substantial growth in the centre of Slough at levels at least as high as those set out in the Local Plan Review. That vision is described in the remainder of this chapter.

#### 3.2.2. Key features

The vision is for a Borough-wide network of infrastructure that provides 100% segregation of MRT vehicles from general traffic, thereby providing speed and reliability of journey times as well as higher ride quality than conventional buses. Within the centre of Slough, the network may include sections where vehicles run through pedestrian areas, as is common in many continental European cities.

Fixed-track segregated systems have been shown to boost investor confidence in the towns and cities in which they have been implemented. Given the ambition for growth in the centre of Slough and the northern expansion, this is an important



advantage of the MRT network as proposed compared to buses running on the existing highway network.

The network will also enable conventional buses to and from destinations not served by MRT to use the segregated infrastructure for part of their journey, before ‘turning off’ the network onto the existing highway network. By so doing, the benefits enabled by the network will be maximised.

The vision is for high quality MRT stops with sufficient spacing to allow for reasonably average speeds, but which provide sufficient accessibility to the areas served by the network. Like many modern MRT systems in the UK, ticketing would be at-stop, online or via mobile app. The network would be consistently branded, with ‘tube map style’ information and real-time information at-stop and online.

### 3.2.3. Choice of technology

At this point no decision has been made about the preferred technology to be employed. Regardless of the technology chosen, journeys must be quick, reliable, comfortable and of generally high quality if the transport vision of a high non-car mode share is to be achieved.

There is a range of technology available included tram-like bus, very light tram and light rapid transit (LRT)/tram. Examples of each include:

- Light rapid transit (LRT): Nottingham Express Tram, Croydon Tramlink.
- Tram-like bus: Belfast ‘Glider’; the proposed SPRINT network in the West Midlands. Examples of guided busways include Luton – Dunstable, Cambridgeshire and Leigh – Salford.
- Very light tram: the system under development by Coventry City Council.

The advantages and disadvantages of each are summarised in Table 3.1 below, including estimates of capital and operating costs.

**Table 3.1 – Technology options for MRT in Slough**

System characteristic	Tram-like bus	Very light tram	LRT/tram
Attractiveness to passengers	High	Not known	High
Power supply	Diesel / gas / diesel-electric hybrid; battery-electric	Battery-electric	Overhead electrification
Vehicle accessibility	High	High	High
Capacity per vehicle (passengers)	100	70-80	200
Operating costs (per route km per annum)	£400,000	Not known	£700,000
Capital costs (per route km)	£5m	£7m	£26m
Typical number of passengers / route km	0.2m	Not known	0.4m – 0.5m

Further detailed investigation into the choice of technology, as well as potential MRT alignments is now required. Of particular interest will be undertaking further research into the passenger response to different technologies and potential system costs including land acquisition.

### 3.2.4. MRT network

An indicative MRT network for Slough is shown in Figure 3.1, including proposed stop locations. The figure also shows the key development sites in the centre of Slough and the proposed northern expansion area (in yellow). The alignments shown are indicative, pending more detailed work on alignments being undertaken by the Council.

The network, as shown in Figure 3.1, is approximately 30 route kilometres in length, equivalent to the Nottingham Express Transit network. The solid coloured lines in Figure 3.1 represent fully-segregated parts of the network, or where vehicles would share space with pedestrians. Services could operate across one or more of the corridors shown.

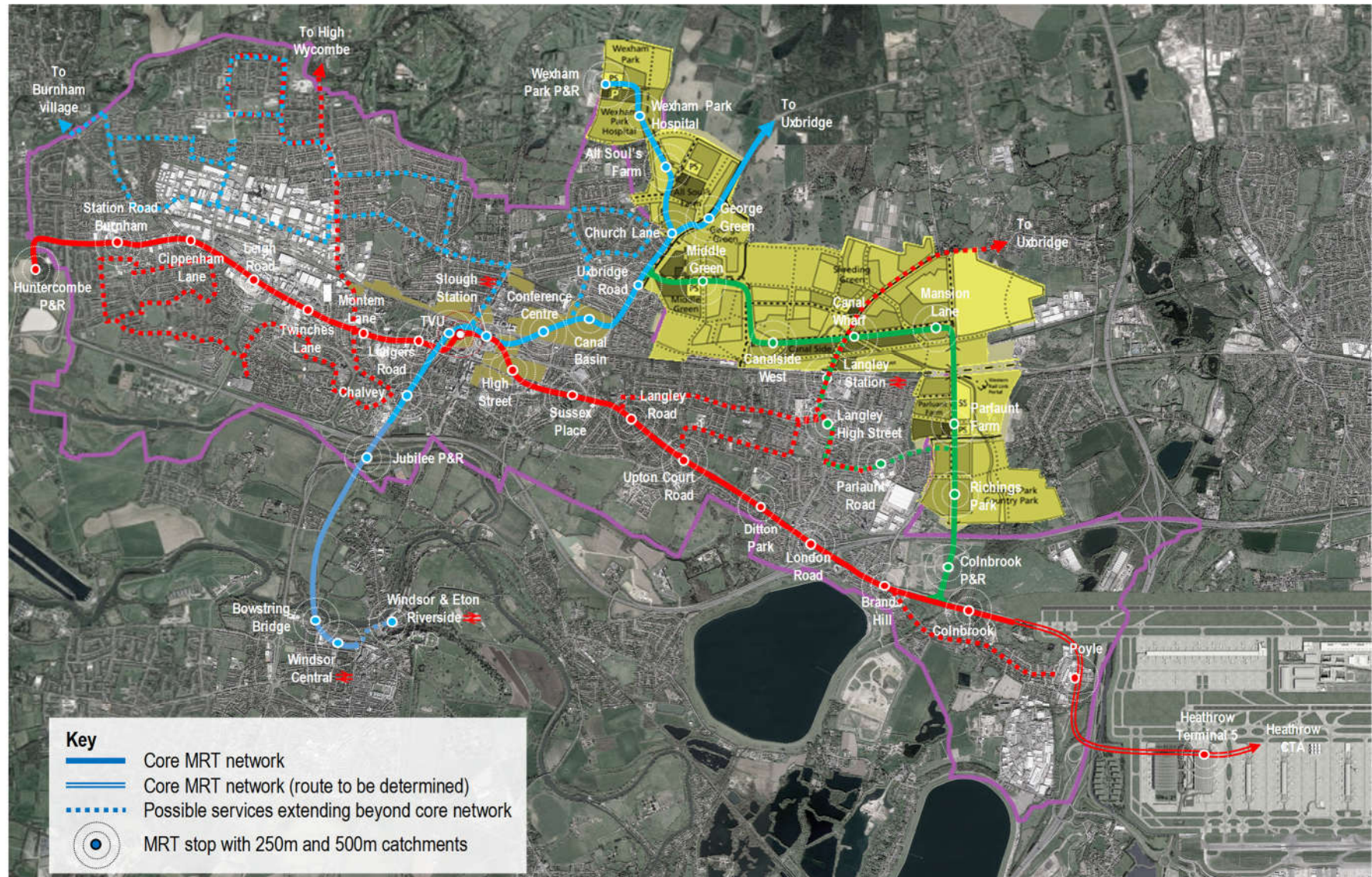
The corridors as shown are:

- **An east-west spine** (the red corridor) running broadly along the A4 corridor. In the west, the MRT would serve a park and ride site in the Huntercombe area before passing Slough Trading Estate. To the east of Tuns Lane, the MRT would run on the current eastbound (northern) carriageway of the A4 into the centre of Slough. Having crossed over the Windsor Branch line bridge, the route runs through the former TVU site before reaching the main entrance to Slough station. From here, the corridor continues through the centre of Slough and via Sussex Place onto the A4 London Road. Having crossed the M4 at Junction 5, the route then serves a park and ride site and the Poyle/Colnbrook area before terminating at Heathrow Airport. The exact alignment into Heathrow is dependent on the final plans for the third runway and is therefore subject to change. The dotted red lines indicate potential for services to ‘turn off’ the MRT infrastructure to serve locations such as Britwell and Langley Road.
- A **north-south spine** (the blue corridor). The southern part of the blue corridor is a conversion of the existing heavy rail line to Windsor to MRT. Within Windsor there may be potential for off-road continuation of services beyond Windsor Central station (indicated by the dotted line). North of Windsor, the route would serve a new park and ride site on the Jubilee river before passing behind the former TVU site and reaching Slough station (potentially for interchange with east-west services). From here, the route continues north via the Akzo Nobel /National Grid development site to Uxbridge Road. At Church Lane services would divide, with some running to Wexham Park Hospital and the remainder to Uxbridge town centre.
- A spine route serving the proposed **northern expansion** of Slough (the green line). The route runs from Uxbridge Road and Middle Green through the densest part of the proposed development and close to Langley station. Turning south, the corridor crosses the canal and railway, serving more residential development before crossing the M4 on a new structure and reaching the park and ride site near M5 Junction 5. Service options include running between Wexham Park Hospital and Heathrow Airport, and between the M4 Junction 5 park and ride site and Slough Trading Estate.

Figure 3.1 also shows how bus services to other destinations within and beyond Slough could use part of the core MRT network before moving off the network and completing journeys on the existing road network. As such, the MRT network would form the core of a ‘hub and spoke’ public transport network.



Figure 3.1 – Indicative Slough MRT network



### 3.2.5. Capital and operating costs

Delivery of an MRT as described here will be challenging and will require very significant funding. The indicative capital cost of the network (including vehicles and depot) is between £180 million (for tram-like guided bus) and £980 million (for full LRT). These costings assume use of the existing highway network both inside and outside Slough, other than routing through the TVU site and possibly also other developments. These prices are based on typical per-kilometre costs and exclude land costs and risk (typically 40% at this stage) but make an allowance for utilities diversion. Due to the very early stage of costing, these costs could vary by +50% / - 30%.

The Council will need to open discussions with the Department for Transport, Network Rail, land owners, Heathrow Airport and other potential funding contributors as soon as possible.

Annual operating costs for the whole network are estimated to be between £16 million (tram-like bus) and £26 million (LRT) based on current prices. This includes the costs associated with operating the Windsor branch line, to the net operating costs (after the current cost of operating the branch line are removed) will be lower than this figure.

Further details on capital and operating costs are available in a separate technical note.

Capital and operating of the park and ride sites have not yet been estimated. However, any additional MRT/park & ride demand and revenue which would occur due to limiting of parking supply in the centre of Slough has also not been estimated.

### 3.2.6. Demand, revenue and funding

Initial estimates of demand for the MRT service have been derived based on current bus and rail patronage, current highway trips and potential development scenarios. To derive these estimates, a large number of assumptions have been made about trip rates, mode share, Park & Ride capture, revenue per passenger and so on. These demand estimates should therefore be treated with caution; further technical work is required to provide greater certainty.

The initial demand estimates are for between 7 and 11 million MRT passengers per annum by 2040 if there is no significant development in the centre of Slough, much of this abstracted from existing rail and bus services. The Berkshire Strategic Housing Market Assessment (SHMA) 2016 projected a need for an additional 20,000 new homes in Slough between 2013 and 2026. Therefore, based on medium (5,000 residential units / 250,000 m<sup>2</sup> commercial) and high (10,000 residential units / 500,000 m<sup>2</sup> commercial) hypothetical assumptions about growth in central Slough, forecast patronage by 2040 could be 11 to 24 million passengers per annum (see Figure 3.2).

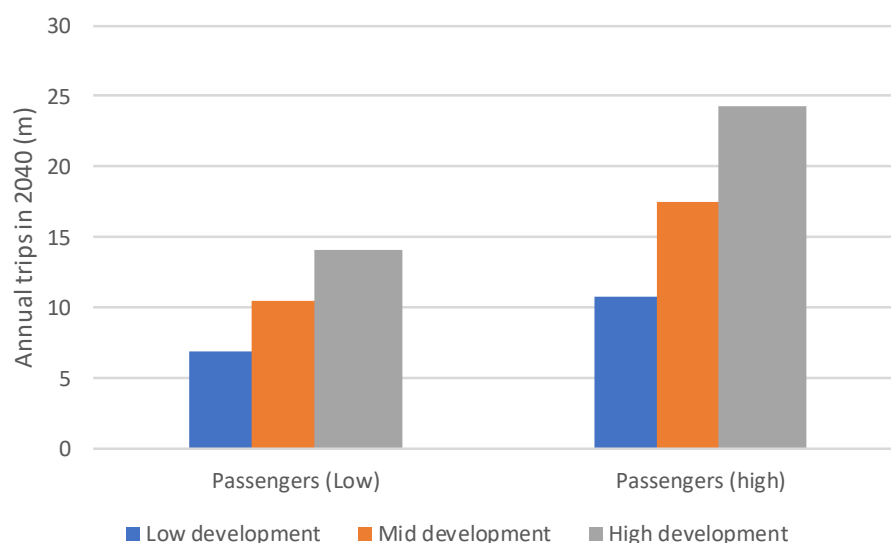
At this level of demand, the MRT could make a significant contribution to the estimated operating costs. Clearly, the higher level of development scale/density drives additional MRT demand, thereby increasing the financial viability of an MRT network (as shown in Table 3.2). To enable these assessments to become more robust, the assumptions made about growth potential on a site by site basis will be reviewed and revised during the preparation of the Local Plan.



**Table 3.2 – Initial demand and revenue estimates on MRT**

Scenario	Low growth	Medium growth	High growth
Additional residential units in centre of Slough	0	5,000	10,000
Additional commercial floorspace in centre of Slough (m <sup>2</sup> )	0	250,000	500,000
Northern expansion residential units	7,500	7,500	7,500
<b>Estimated MRT passengers per annum (m)</b>	<b>7 – 11</b>	<b>11 – 18</b>	<b>14 – 24</b>
<b>Estimated MRT revenue per annum (m)</b>	<b>£15 - £24</b>	<b>£23 - £38</b>	<b>£30 - £53</b>

**Figure 3.2 – Initial demand estimates on MRT**



### 3.2.7. Delivery

Due to the cost implications, planning requirements and construction impacts, the MRT system would be delivered in a number of phases. For example, conversion of the Windsor Branch line may be one of the last elements to be delivered due to the complexity of the conversion; another being the final leg into Heathrow Airport. Other aspects of delivery will require agreement and funding support from developers (where the MRT passes through their sites).

However, some elements are much more within the gift of the Council to progress, and could be delivered much more quickly. In particular, the Council can begin work on ensuring active provision for a route through the former TVU site and seek temporary alignments through the centre of Slough pending development progressing.

### 3.2.8. Town centre routing options

Discussions on possible town centre MRT routing options are underway. Figure 3.3 shows various potential routes through the town centre for the east-west (red) and north-south (green route). The solid lines indicate the sections which are more likely to form part of the final alignments. The alternatives under consideration are:

- On the east-west (red) route, two options for temporary routes between Bath Road and Sussex Place:
  - a) Via the TVU site, railway station, Brunel Way, Wellington Street and Wexham Road. This has the advantage of directly serving the bus and

railway stations, and promoting the TVU site, but requires a new junction on Stoke Road south of the railway bridge and an alignment through the TVU site to be established early.

- b) Via the High Street. Potentially easier to deliver in engineering terms, but could cause more disruption to businesses during implementation, and have greater impact on traffic. This option would not serve rail and bus station users directly but would be very visible to town centre visitors.
- Opportunities for a final, more direct, route via town centre sites as they are re-developed to provide direct access to those sites and connect them to the bus and railway stations. Such a route could play an important role in supporting the vibrancy of the town centre.
- On the north-south (green) route, three options for temporary routes between Stoke Road and Uxbridge Road:
  - a) Via Stoke Road, Mill Street, Petersfield Avenue and the Akzo Nobel / National Grid (AN/NG) development site. This option could not tie-in with services to/from the Windsor Branch Line and the engineering feasibility is not yet proven. It would not serve key demand generators such as the stations and town centre, and requires securing a route through the AN/NG site.
  - b) Via the bus and railway stations, Brunel Way, Wellington Street, as a) above, then Wexham Road and the AN/NG site. This option could tie-in to the Windsor Branch Line and serves the stations and town centre, crossing of the Wexham Road railway bridge and a route through the AN/NG site.
  - c) Via the bus and railway stations, Brunel Way, Wellington Street, as a) above, then continuing on the A4 to Uxbridge Road. Similar to b) above but different engineering issues, associated with the Wellington Street/Uxbridge Road junction. Can be delivered without securing a route through the AN/NG site.
- Opportunities for a final route via a new crossing of the railway east of the station. This would be more direct and segregated, but requires a new structure across the Great Western Main Line. Good pedestrian links to the station would be vital to provide connectivity for those using this line to the town centre.
- Various options for routing of the MRT through the AN/NG site.

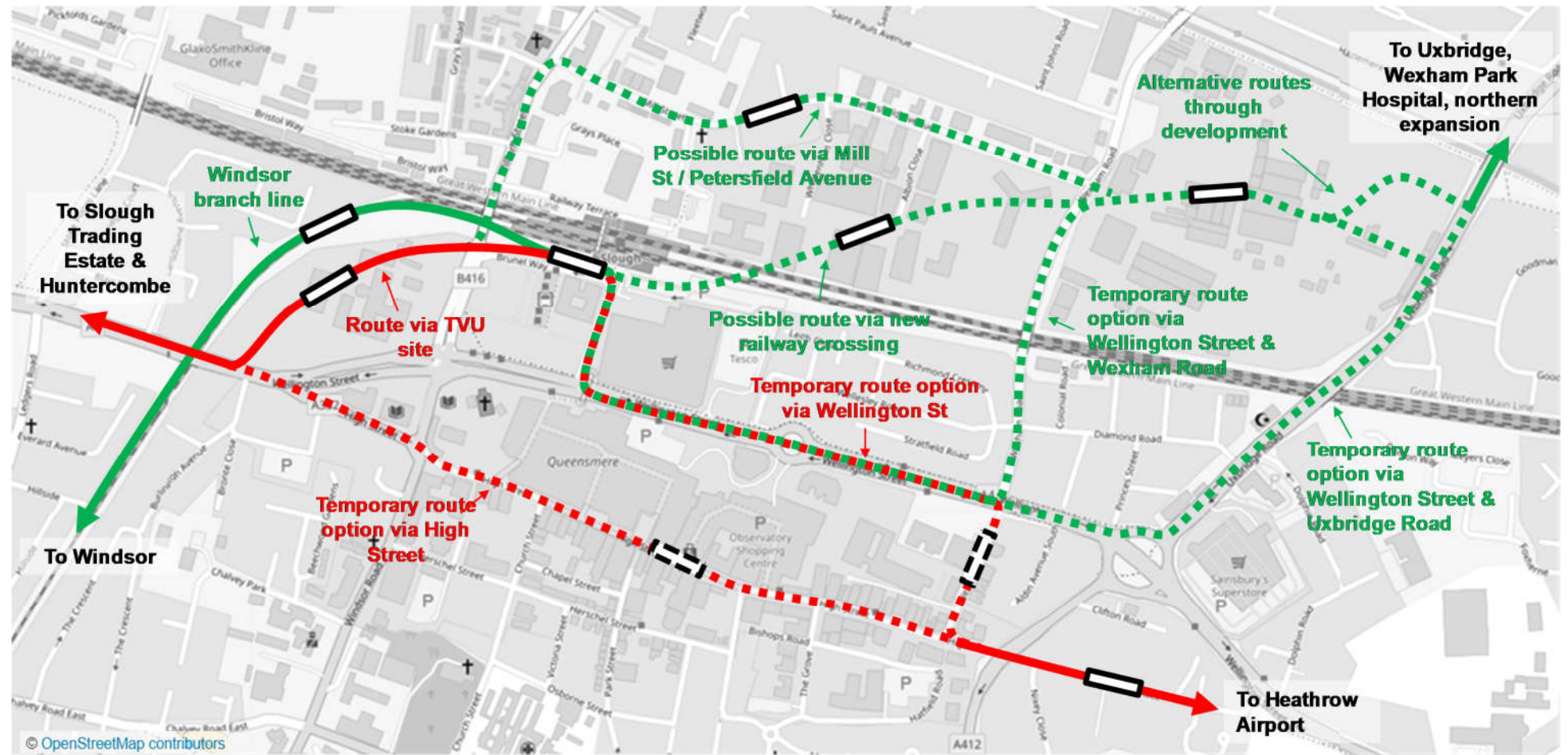
The Council is currently examining these options and whether they can be delivered without development first taking place. Consideration is also underway into how bus services could be introduced quickly on any safeguarded alignments ahead of conversion to MRT technology at a later date. Doing so would help establish the concept of MRT in Slough and build confidence amongst investors of commitment to the network and significant downstream investment.

### 3.3. Other bus services

As previously mentioned, the intention is that existing local bus services would be able to take advantage of the MRT infrastructure. This would maximise the investment by enabling buses to benefit from the journey time and punctuality benefits offered by the MRT infrastructure, extending the MRT benefits more widely to residents across Slough.

Key services that would be likely to benefit from the MRT infrastructure include those from Britwell, Langley, Colnbrook village and Cippenham.

Figure 3.3 – Options for MRT alignments in the centre of Slough



### 3.4. Mobility as a Service (MaaS)

MaaS is the integration of transportation services from public and private providers through a platform that creates and manages a complete journey from A to B. It puts users at the core of transport services, offering tailor made journeys based on individual needs and preferences.

Typically, such services are offered in urban areas which have a large demand base and a range of transport supply options. Within Slough, a MaaS service could offer:

- Access to updates to date and live public transport data, covering bus, mass transit, park and ride facilities and rail.
- Access to way finding information, including navigation between the bus and rail station and within the centre of Slough.
- Access to taxi or shared transport services.
- Features to incentivise sustainable travel habits – for example a complimentary drink at a local coffee shop if a user walks to work every day for a week.
- Provision of live parking availability data.

Therefore, MaaS has a potentially significant role in achieving the transport vision for the centre of Slough, and the public transport element in particular. Particular benefits could be:

- Encouraging the use of public transport, walking & cycling.
- Improving the perception and attractiveness of public transport services which serve the centre of Slough.
- Encouraging healthy and active lifestyles.
- Helping to relieve congestion in the centre of Slough by reducing demand for travel by car and by reducing the number of vehicles circling for a parking space.
- Improving local air quality through the reduction in the amount of private vehicles using the road network and reducing congestion (supporting the draft Low Emission Strategy 2018-2025).
- Collation of origin-destination data, which will help in understanding travel patterns within the town.

In the context of the transport vision, the Council should ensure that any new transport services (such as park and ride and mass transit) are developed in such a way that could be integrated with a wider transport offer – both physically and digitally.



## 4. Walking and cycling

### 4.1. The vision for walking and cycling

Walking and cycling should be a safe, enjoyable and realistic choice for short journeys to, from and within the Borough.

Over the last ten years, the Council has invested heavily in improved facilities for pedestrians and cyclists. This has been funded through the Local Transport Plan programme, the Government's Local Sustainable Transport Fund and developer contributions. Measures have included the Heart of Slough pedestrian environment, the Salt Hill cycle route, pedestrian crossing and lighting upgrades, Slough Cycle Hire and the Cycle Hub.

Building on this, our transport vision for the centre of Slough is to create a low-car environment where space for walking and cycling is prioritised over other forms of transport and to make walking within the centre of Slough pleasant, convenient and safe.

To minimise car trips, our transport vision is to deliver high quality walking and cycling connections to the centre of Slough, encouraging people to walk or cycle between the suburbs (including the northern expansion) and the centre (see Figure 4.1). These connections will build on the investment already made in the Borough.

**Figure 4.1 – Connecting the suburbs to the centre of Slough**



### 4.2. Key interventions

Achieving this transport vision requires a range of interventions within, and beyond, the centre of Slough. These are described below. Delivery of some of these measures will be dependent on development proceeding and discussions with land owners, whilst others are deliverable by the Council in the short to medium term.

The interventions envisaged in the centre of Slough include:

- Working with developers to increase the permeability of the centre of Slough through use of smaller blocks of development.
- Creation of a high quality public realm which encourages vibrant public spaces.
- Use of building layouts and streetscape design to encourage more instinctive wayfinding.
- Designing-in priority for pedestrians and cyclists along natural desire lines, such as between the station and shopping centre, and between the TVU site and the High Street.

- Creation of new eastern and western entrances to Slough station to bring much of the centre of Slough within a five minute walk.

The interventions to link the centre of Slough to the suburbs include:

- A northern gateway scheme along Stoke Road / William Street (see Chapter 5).
- Cycle super-highway style treatments on key radial corridors such as Uxbridge Road and Windsor Road.
- Creation of attractive walking routes, such as via Church Lane towards Herschel Park (making the most of Slough's heritage environments).
- High quality links to new developments (such as the former Horlick's factory).
- New connections to overcome severance features, such as new pedestrian and cycle crossings of the Great Western Main Line and Windsor Branch line.

# 5. The highway network

## 5.1. Introduction

Reducing dependence on cars as the mode of travel to and from the centre of Slough is important for a number of reasons, namely:

- The highway network is effectively at capacity approaching the centre of Slough at peak times. Additional trips associated with further development in the centre of Slough can only be accommodated if a much greater share of those trips use modes other than the car.
- To reduce the negative impacts of roads on the urban environment for pedestrians and cyclists in terms of reducing severance effects, improving safety and air quality.
- Improving the overall appearance of the centre of Slough and putting people first.
- Currently, a significant share of the centre of Slough is taken up by moving or parked motorised vehicles, as illustrated in Figure 5.1.

**Figure 5.1 – Land currently taken up by motorised vehicles**



Therefore, the transport vision seeks:

- A **significant shift of mode of travel from car** to public transport (see Chapter 3), walking and cycling (see Chapter 4) both for existing and new journeys.
- To create a **low-car zone** within the centre of Slough where the only motorised vehicles allowed in these areas are public transport vehicles.

Within the low car zone, the impact of moving or parked cars will be significantly reduced. In some areas this will mean removal of all motorised vehicles whilst in others it will mean limiting car use only to those vehicles accessing servicing and parking facilities. Where road space or parking is provided, it will be designed in

such a way as to minimise negative impacts on pedestrians and cyclists and to enhance rather than detract from the public realm.

## 5.2. Northern gateway

The transport vision includes major improvements to the northern gateway into the centre of Slough as shown in Figure 5.2.

**Figure 5.2 – A4 William Street/Stoke Road improvements**



William Street / Stoke Road is an important gateway to the centre of Slough from the north and is also an important bus corridor. The transport vision is for streetscape improvements to the corridor between Wellington Street and Elliman Avenue to provide a fitting approach to the centre of Slough. The scheme, currently under development, would significantly reduce the impact of cars, and improve conditions for pedestrians, cyclists and buses.

This will provide a much more attractive gateway to the regenerated centre of Slough. Detailed proposals for this section are also currently being developed.

# 6. Parking supply

## 6.1. Introduction

The key principles of the transport vision set out in Chapter 1 mean that management of the supply of public and private parking will be an important element of delivering the transport vision. In particular, the transport vision seeks to:

- Make non-car modes the dominant form of travel to and from the centre of Slough. Providing excessive amounts of parking will undermine this transport vision and overload the highway network. The total supply of parking in the centre of Slough must therefore be kept to a level which discourages use of the car, especially during peak periods.
- Reduce the impact of parked vehicles by reducing the visibility of parking in the urban core and reducing the amount of land occupied by car parks. Consolidation of public parking into fewer, larger car parks is therefore a key element of the transport vision.



- Locate car parks where they can be accessed whilst avoiding the low-car zone, for those vehicles which are driving into the centre of Slough.
- Keep as much parking as possible outside the urban core, by offering high quality park and ride sites.

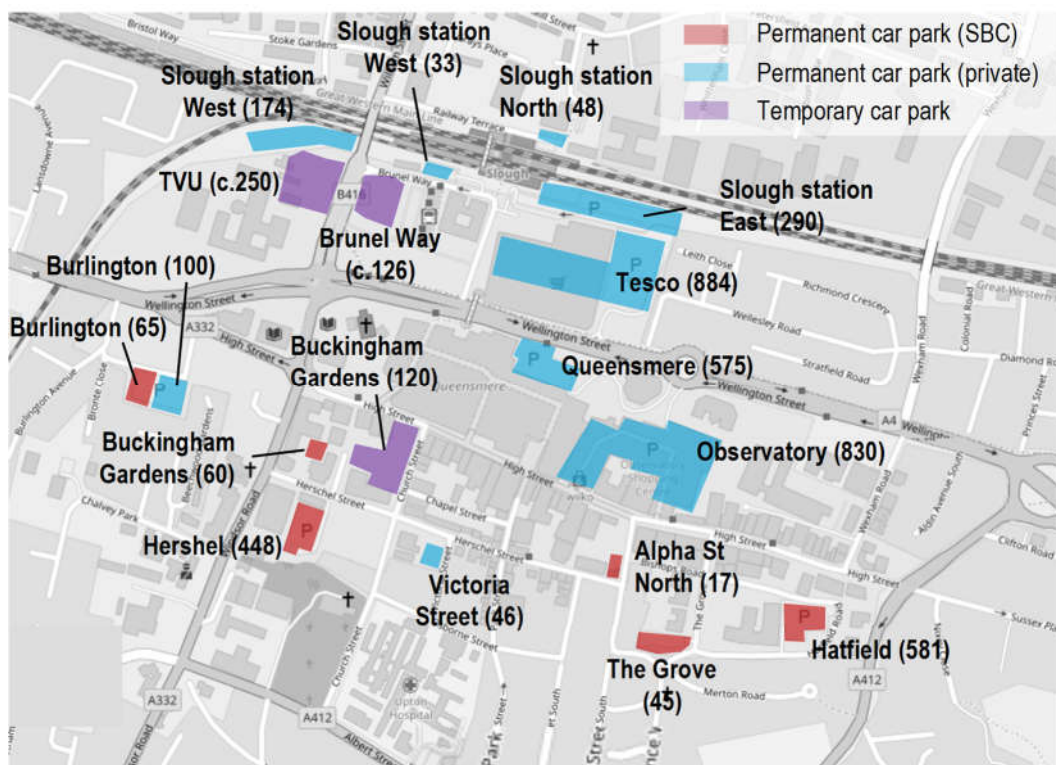
## 6.2. Public parking

### 6.2.1. Current situation

At present, there are approximately 5,100 public parking spaces in the centre of Slough, of which about 4,800 are available to shoppers. This is broadly consistent with the ceiling set for the town centre in the Town Centre Parking Strategy of 5,000 spaces.

This supply comprises a mix of multi-storey and surface car parks in Council or private ownership (including the Tesco store car park), and some temporary surface car parks. The locations of existing car parks are shown in Figure 6.1.

**Figure 6.1 – Existing car parks**



In total this is a relatively large number of spaces for the amount of retail floorspace in Slough. Having removed the station and TVU car parks from the total, there are approximately 75 spaces per 1,000 m<sup>2</sup> of net retail floorspace compared to 47 spaces in Guildford and 34 in Kingston-upon-Thames.

There are currently no park and ride sites serving Slough, although a park & ride site near M4 Junction 5 with c. 1,000 spaces is planned as part of SMaRT Phase 2.

### 6.2.2. Vision for public parking

The transport vision is to reduce the overall supply of public parking in the centre of Slough, and to provide a significant share of this supply at peripheral park and ride sites. The overall balance has yet to be determined. However, this is critical to achieving the key principles of the transport vision. In addition, the vision is to aggregate public parking into three primary locations on the edge of the low-car zone where they can be accessed without passing through the centre of Slough.

In terms of parking, within the centre of Slough, the transport vision will be achieved by:

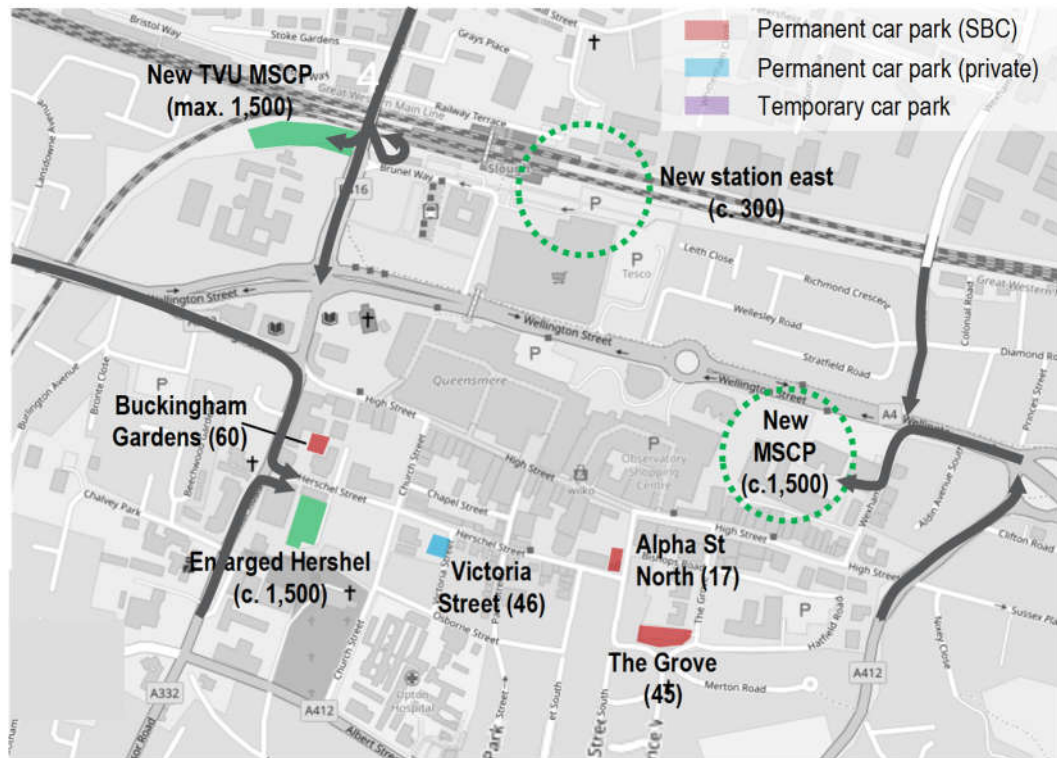
- Removal over time of the **temporary car parks** and other car parks earmarked for development (notably the Burlington car parks) which collectively account for over 800 spaces.
- Construction of a **new multi-storey car park** on the Network Rail land to the north of the **TVU site**. This will predominantly be used by rail passengers and by residents and employees within the TVU redevelopment. The car park can be up to 1,500 spaces.
- Construction of a **new multi-storey car park serving the east side of the urban core** to replace the existing multi-storey Observatory and Queensmere car parks as the shopping centre is redeveloped. This will also replace the Council's Hatfield car park and could have up to 1,500 spaces. This car park will be accessible from Wexham Road, the A4 (London Road), Uxbridge Road and Yew Tree Road.
- **Expansion of the Council's existing Herschel multi-storey car park** (subject to feasibility) serving the west side of the urban core with up to 1,500 spaces. This car park will be accessible from Windsor Road (and therefore M4 Junction 6), Stoke Road and the A4 (Bath Road). It is envisaged that new development between Herschel Street and the High Street will provide a high quality covered walking route between Herschel car park and the redeveloped shopping area.
- **Replacement of the eastern station car park** with a similar-sized car park on the same site, and closure of the small Railway Terrace car park to the north of the station.
- **As and when the Tesco site is redeveloped, the public parking on this site will not be replaced.** The extent to which the Tesco car park is used by centre of Slough visitors and shoppers is unknown at this time. This needs to be more fully understood and taken into account when determining the appropriate level of parking to be provided elsewhere in the centre of Slough.

Should all three new car parks have 1,500 spaces each, and assuming that 955 of the spaces in the new TVU car park are for private use, the above would result in a total of 4,400 public spaces in the centre of Slough as shown in Figure 6.2. The exact locations of the new car parks have yet to be determined and will ultimately be agreed through collaborative dialogue with developers, including the owners of the shopping centres.

The Local Plan will identify the location and phasing of the provision of the new framework for the provision of car parking within the Centre of Slough. Priority will be given to reviewing how additional parking can be provided off Windsor Road to expand the provision made by the Council-owned Herschel car park. Temporary use of the TVU site for surface parking during expansion of Herschel car park may be an option to reduce impacts on existing customers. Delivery of new car parks elsewhere is dependent on redevelopment of the TVU site and shopping centres.

All new parking supply should be built to high standards of design and security, offering a consistently high quality parking experience across the centre of Slough.

Figure 6.2 – Centre of Slough public parking vision



### 6.3. Electric vehicle and car club parking

Electric vehicles offer a significant opportunity to improve local air quality and reduce carbon emissions. Whilst the plug-in hybrids and electric vehicles make up a small share of the total fleet (5.9% in 2018<sup>2</sup>) this is expected to grow; the Government has stated a desire to end the sale of new conventional petrol and diesel cars and vans by 2040. Slough is at the forefront of this growth, with nearly 4,500 ultra-low emission vehicles registered in 2017, the third-highest number amongst English local authorities.

The number of people using car clubs is also rising quickly. More than 250,000 people in the UK are members of shared-use car clubs such as Zipcar, albeit currently mainly in large cities. Car clubs allow members to use and pay for vehicles on an hour by hour basis. Vehicles are collected and returned to various locations (typically on street). Members benefit from avoiding the need to buy, tax, insure or maintain their own car.

Electric vehicles and car clubs have the potential in the medium to long-term to reduce the air quality impacts of car travel, and reduce the need for parking in the centre of Slough. To encourage greater take up of both, the transport vision is to provide dedicated, potentially lower-tariff, parking supply within car parks for electric and car club vehicles.

### 6.4. Park and Ride

#### 6.4.1. Vision for park and ride

Provision of park and ride sites around Slough is critical to encouraging use of non-car modes for the 'last mile' of journeys, thereby reducing the impact of cars on the centre of Slough. The transport vision is for a ring of sites around Slough, intercepting car trips before they reach the most congested and sensitive parts of the Borough's road network.

<sup>2</sup> SMMT Electric & Alternatively-Fuelled Vehicles Registrations (2018) Available at: <https://www.smmt.co.uk/2018/11/october-ev-registrations/> Accessed December 2018



The sites will be linked to the centre of Slough by direct services on the proposed MRT network (see Chapter 3). As such, park and ride can offer competitive journey times compared to 'car only' journeys and be competitive financially by offering lower cost, or free, parking.

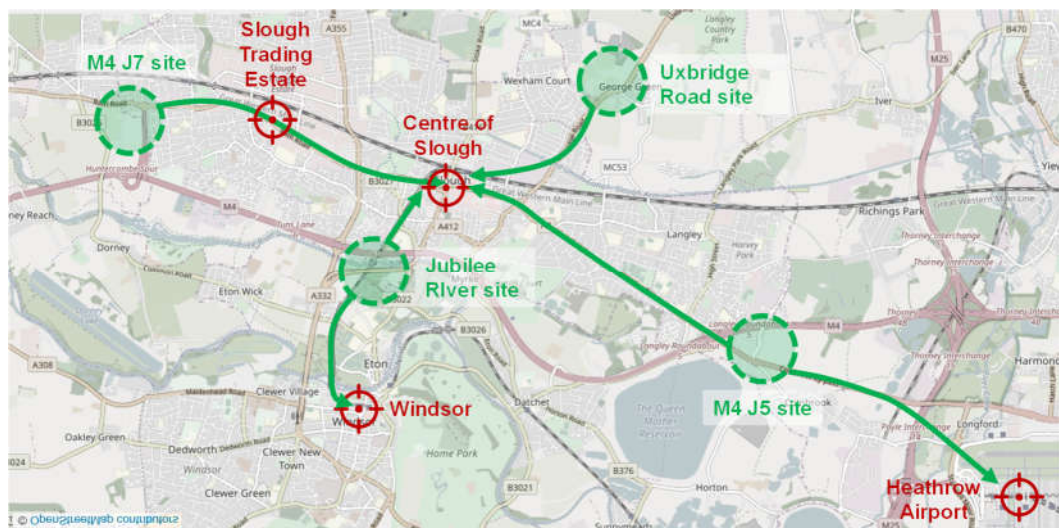
MRT services will also link the park and ride sites, directly or via an interchange, to Wexham Park Hospital, Slough Trading Estate and the northern expansion area, when built. Further, a site to the south of Slough would serve Windsor as well as Slough; whilst a site to the east of Slough could act as an attractive short/medium stay car park for Heathrow Airport.

### 6.4.2. Shortlisted sites

Technical work during 2018 identified a long list of 27 potential park and ride sites around Slough. Based on consideration of the maximum size of each site, their feasibility, access arrangements, connections to the centre of Slough and estimated demand, the four best-performing sites have been included in the transport vision. The sites are shown in Figure 6.3, and include:

- A site to the west of Slough to the north of M4 Junction 7 with up to 2,000 spaces. The site would be directly linked via MRT services to Slough Trading Estate and the centre of Slough, therefore being particularly attractive to commuters during peak periods as well as evening and weekend visitors to the centre of Slough. Initial demand estimate (base year): 105-180,000 cars per annum.
- A site to the north-east of Slough on the Uxbridge Road corridor of up to 2,000 spaces. The site would be directly linked via the proposed MRT network to the centre of Slough as well as Windsor, and with one interchange to Slough Trading Estate. Initial demand estimate (base year): 120-230,000 cars per annum.
- A site to the east of Slough south of M4 Junction 5 of up to 1,600 spaces. The site would be directly linked by MRT to the centre of Slough and Slough Trading Estate with direct services also to Heathrow Airport (route dependent on third runway planning). Prior to redevelopment in the centre of Slough the demand for this site may be relatively low (estimated 20-40,000 cars per annum).
- A site to the south of Slough on the Jubilee River of up to 900 spaces. The site would be directly linked to Slough and Windsor town centres via the proposed MRT network (a conversion of the existing heavy rail branch line). Initial demand estimate (base year): 60-100,000 cars per annum.

Figure 6.3 – Park and ride site locations and key destinations directly served



## 6.5. Private parking supply

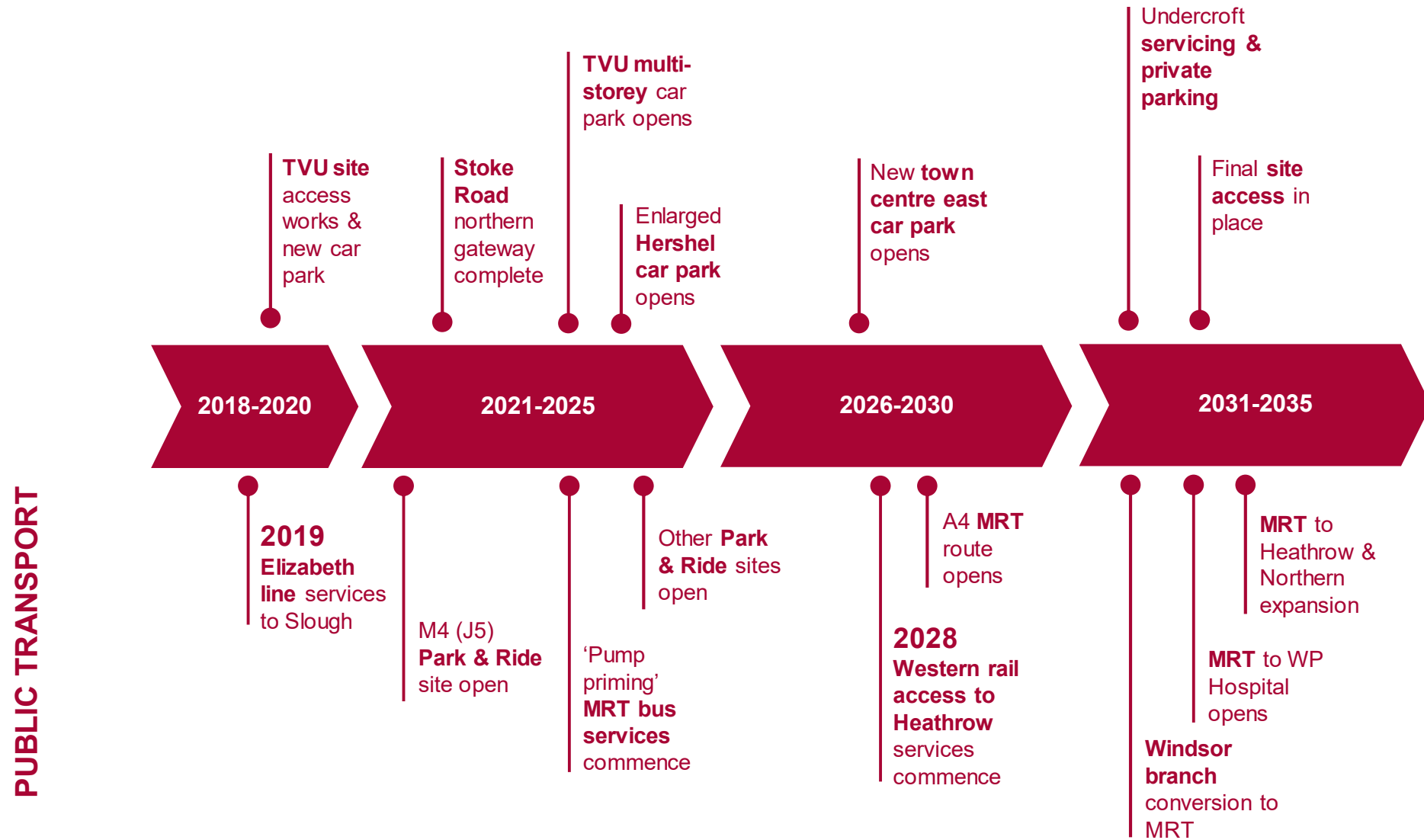
At the heart of the vision is a low-car urban core where the negative impacts of moving and stationary vehicles are minimised. However, this ambition must be balanced against the need to ensure that residents, workers and visitors can easily travel to and from the centre of Slough, and the commercial viability of potential developments.

A phased approach is therefore required whereby the amount of private parking in relation to the amount of homes and commercial floorspace is gradually reduced to a level which ultimately achieves our vision. However this can phased reduction in standards can only be achieved as viable non-car alternatives, such as Western Access to Heathrow and the proposed MRT services, are delivered.

As part of the next phase of technical work, parking standards in the centre of Slough will be reviewed and a phasing strategy proposed. As development comes forward, the Council will also look at innovative options whereby the use of private parking stock can be flexed over time.

# Appendix A – Indicative Timeline

Figure A.1 - Indicative timeline



Atkins Limited  
The Axis  
10 Holliday Street  
Birmingham  
B1 1TF