Briefing Note
Bus Service Improvement Plan – Bus Lane scheme update
October 2023

Reading Borough Council has been awarded over £26m funding from Central Government to improve bus services in the borough ,which is the third highest funding award (per head of population) in the country. This funding is a result of the ambitious plans set out within our Bus Service Improvement Plan (BSIP), which includes a range of initiative including cheaper and simpler fares, enhanced services and new infrastructure to prioritise buses on key routes.

The BSIP is a sub-strategy and core element of our emerging Reading Transport Strategy, which sets a vision to make Reading a greener and healthier town by providing better sustainable travel choices, including buses. The transport strategy also contributes towards the vision of a net zero carbon Reading by 2023, as set out in the Reading Climate Emergency Strategy.

Reading already has an extensive bus network which is well used by residents and visitors. However, bus services do suffer from delays as a result of traffic congestion, particularly at peak times, therefore there is a need to introduce greater priority for buses on key routes to improve services for local residents.

The proposed bus lanes included within this briefing note are:

- A329 Oxford Road – outbound bus lane between Zinzan Street and George Street
- A329 Oxford Road – outbound bus lane between Pangbourne Street and Norcot Junction
- A4 Bath Road – outbound bus lane from Circuit Lane to Granville Road
- A327 Southampton Street – inbound bus lane from Pell Street to The Oracle roundabout
- A4 London Road - inbound bus lane between Sidmouth Street and London Street
- A4 London Road – inbound bus lane between Liverpool Road and Cemetery Junction

The main benefits we are seeking to achieve from these proposals are to make travelling by bus in Reading easier, cheaper, quicker and more reliable. If more people choose to travel by bus this will result in reduced caron emissions, better air quality, and improved health and wellbeing. Bus services, including community transport and school services, provide vital access to opportunities such as education, training, employment, essential services including healthcare and social events. These proposals seek to maximise opportunities to provide bus priority on key routes, whilst recognising that car trips are still required for some journeys and therefore minimising the impact of these schemes on general traffic flows where feasible.

An informal consultation seeking views on the initial bus lane proposals was run from 19th May to 16th June. Plans and information were available on the RBC Consultation webpage, allowing members of the public to show their level of support and to comment on the proposed schemes. Feedback and comments have been assessed and any amendments incorporated into the designs.

Due to limited road space in Reading, it is acknowledged that some of the proposals will have an impact on traffic flows and further traffic modelling has been undertaken and is detailed below. All schemes are initial designs at this stage and if the scheme is taken forward will be subject to more detailed design work and road safety audits which may necessitate further design changes.

One of the main areas of feedback to the informal consultation was the use of the bus lanes by private hire vehicles and motorcycles. Unfortunately due to the timescales associated with the funding of the BSIP schemes, these suggestions could not be taken forward at this time as this would require an RBC policy review, including surveys and safety assessments, prior to a recommendation being brought forward to Committee. The Council acknowledges the views of the consultees regarding these two matters and commits to undertaking a full review of the merits of these vehicles using bus lanes in Reading.

The purpose of this briefing note is to provide an update on the scheme designs, traffic modelling undertaken and any other relevant information.

Proposed Bus Lane 1 – A329 Oxford Road – outbound bus lane between Zinzan Street and George Street

Initial Proposal:

The proposal is for an outbound bus, taxi and cycle lane using space from existing hatching and some limited kerb alignments and lane alterations. This will enable buses on route 15/15a, 16, 17. 143 to Dee Park, Calcot, Tilehurst, Purley and Pangbourne to avoid being delayed by queuing traffic before and after the Bedford Road traffic lights. This bus lane will be used by up to approx. 15 buses an hour and will also provide a useable cycle space out of the general traffic.

The ability to turn right out of Eaton Place to Oxford Road is proposed, to avoid the trend for rat-running of traffic avoiding the queue on Chatham Street. Some changes to existing on-street parking or loading arrangements are planned with the bus lane finishing after George Street. The on-street parking outside 197-199 Oxford Road will be relocated approximately 60m east of its current location.

The scheme is also being developed to ensure consistency with the public realm improvements being proposed as part of the High Street Heritage Action Zone initiative.

The proposed bus lane would increase benefits to buses and cycles. With revised entry and exit arrangements to Waylen Street and Zinzan Street additional parking spaces on these roads could be created and access for pedestrians across these roads made much easier. Cyclists using Oxford Road would be encouraged to cycle in the new bus/taxi/cycle lane rather than use the congested pavements as many currently do.

Updates to proposal:

The existing right turn hatched areas into Russell Street and Waylen Street have been removed to create enough space to allow an advisory cycle lane to be installed on the north side of Oxford Road between Trinity Place and Eaton Place. This will provide a safe space for cyclists out of the main traffic lane. Enhancements to the north/south cycle movements at the crossing between Prospect Street and George Street to include an upgrade to modern standard to incorporate nearside display facilities.

Proposed Bus Lane 2 – A329 Oxford Road – outbound bus lane between Pangbourne Street and Norcot Junction

Initial proposal:

There is currently an inbound bus lane from the edge of Winslet Place to Tidmarsh Street, however the majority of traffic queueing in this area is outbound towards Norcot roundabout. Therefore, the proposal is for a new outbound bus lane which would replace the existing inbound one to remove buses, taxis and cycles from this westbound traffic congestion.

The new bus lane would be used by routes 16,17,143 to Purley, Pangbourne and Tilehurst with up to 10 buses an hour currently. All current traffic movements would continue to be available and relocation of the existing bus stop immediately west of Grovelands Road to a new location slightly further west into the new bus lane will make traffic flow after the traffic lights easier. Traffic islands and signals would be remodelled to continue to offer all current pedestrian crossing access.

Updates to proposal:

The existing central island adjacent to the entrance to the petrol station will be reduced in width to accommodate two westbound lanes on the approach to the roundabout. The existing uncontrolled crossing at the entrance to the petrol station forecourt will be upgraded with tactile paving, as will the uncontrolled crossing at the entrance to the retail park.

Proposed Bus Lane 3 – A4 Bath Road - outbound bus lane from Circuit Lane to Granville Road

Initial proposal:
The proposal is for an outbound bus, taxi and cycle lane using space from existing hatching and some kerb realignment on the south side of Bath Road. It is proposed to extend the new bus lane past Honey End Lane junction to end at Granville Road giving westbound buses relief from traffic queueing for Honey End Lane and Burghfield Road. This will benefit 4 existing buses an hour on routes 1,2/2a to Calcot, Theale, Burghfield, Mortimer and Newbury and provide a basis for future bus developments to west Reading.

Existing crossing points for pedestrian access to Prospect Park will be retained and the new bus lane will provide cyclists with an option for westbound journeys rather than crossing to the north side existing shared use pedestrian and cycle path.

Updates to proposal:

No updates to scheme since last consultation.

Proposed Bus Lane 4 - A327 Southampton Street – inbound bus lane from Pell Street to The Oracle roundabout

Initial proposal:

The proposal is for the reallocation of one traffic lane from north of Pell Street to just before the Oracle roundabout to provide a dedicated inbound bus/taxi/cycle lane, linking to the existing bus lanes on Southampton Street and Bridge Street. Provision of this bus lane would enable people travelling to the town centre by bus/taxi to avoid the congestion generated by cars travelling to town centre car parks. This is particularly the case with busy shopping days such as Saturdays and school holidays/Christmas, which currently results in delayed buses and lost or cancelled journeys.

The current layout on Southampton Street enables conflicting movements to take place and provides no safe route for cyclists other than the shared use pavement on the east side. Confident cyclists will be able to use the bus and cycle lane which will provide a shared safe space before the traffic light pinch point at the roundabout approach which will be widened slightly within the constrained highway boundary.

It is proposed that the bus lane would be located in the current left hand lane, whilst allowing traffic for the IDR west to join this lane to turn left. Traffic for the IDR east and the Oracle car parks will use the middle and right hand lanes, thus avoiding conflicts of movement. Up to around 15 buses an hour from South Reading and Coley Park will benefit from this bus lane on routes 5,6/6a and 11.

An additional element of the proposal is for a new bus/cycle lane in the current outside lane on the Oracle roundabout, leading directly to the Bridge Street bus/cycle lane. Lanes on the roundabout would be modified to accommodate the additional bus/cycle lane by taking a small amount off the central island and reducing lane widths slightly. Westbound lanes from The Oracle car park would be reduced from three to two allowing some greening of the south edge of the roundabout.

Updates to proposal:

Lane 1 on Southampton Street would remain a general traffic lane, however it would be left turn only onto the A329 for general traffic, whilst providing straight on access for Buses, connecting buses to the newly created nearside bus lane under the IDR. The middle lane would be ahead only and the right lane remain for right turning traffic. The carriageway under the IDR would widened to accommodate a nearside bus lane which would feed directly into the existing bus lane to the north of the roundabout. The existing carriageway adjacent to Evan’s cycles would be reduced and replaced with landscaping

Proposed Bus Lane 5 – A4 London Road – inbound bus lane between Sidmouth Street and London Street

Initial proposal:

The proposal is for a new inbound bus/taxi/cycle lane by re-using existing hatched areas of highway and reallocating much of the existing left turn lanes between Sidmouth Street and Kendrick Road and between Kendrick Road and London Street. This will enable buses 3/9/19's from the RBH and 21/21a from the University to make easier moves along London Road and into the existing London Street bus lane. The number of buses using the lane will be about 14 per hour and will also be useable by cyclists, taxis and emergency vehicles.

The existing eastbound bus lane from London Street to Kendrick Road would remain in place.

A new combined 'inbound' bus stop could be provided in the new westbound bus lane replacing the existing bus stop at the foot of Kendrick Road and the existing bus stop on London Road providing passengers with a much greater service from the combined bus stop.

Vehicles will continue to be able to turn into or out of Kendrick Road and Crown Place, to turn into East Street and to turn south onto Silver Street. The turn from London Road to Sidmouth Street will be unaffected. Detailed revisions to the junction at Kendrick Road will provide a safe crossing of both in and out flows at Kendrick Road instead of only one safe crossing at present.

Updates to proposal:

The existing buildout on the west corner of Sidmouth Street will be retained as it currently is, to enable traffic to clearly enter the two ahead lanes. A small amount of the corner of Kendrick Road and Silver Street has been removed to allow a larger radius for large vehicles to turn left.

Proposed Bus Lane 6 – A4 London Road – inbound bus lane between Liverpool Road and Cemetery Junction

Initial proposal:

The proposal is for one of the two existing inbound traffic lanes to be replaced with one inbound bus/taxi/cycle lane and one inbound general traffic lane. This will help speed up bus services 13/14 from Woodley, 127-9 and 850 from Twyford, Thames Valley Park shuttle buses, Rail-Air coaches from Heathrow, park and ride buses from Winnersh Triangle, and the new Hospital Park and Ride service from Thames Valley Park P&R to the Royal Berkshire Hospital.

A total of 18 buses an hour is likely to use this facility which will also be available for use by cyclists, taxis and by emergency vehicles travelling to the hospital. It is intended that the existing bus stops on London Road would continue to be served and the existing pedestrian crossings would be retained.

A key consideration for the design of this scheme will be the potential traffic congestion and road safety implications resulting from traffic waiting to turn right from London Road into the residential area of New Town, particularly traffic turning into the side roads at Liverpool Road and Cholmeley Road The scheme proposes a continuous bus lane for the length of London Road from the Liverpool Road to a point opposite Amity Road. It should be noted that the bus lane will need to end prior to each junction to allow traffic to merge safely before and after the junctions.

It should be noted that we are seeking feedback at an early stage of the scheme development process and further design work and road safety audits would need to be undertaken to develop the initial design if this scheme is taken forward, therefore the initial concept designs are subject to change.

Wokingham Borough Council also has longer-term plans to introduce bus priority measures on this corridor, and it is an aspiration in their revised BSIP. Wokingham Borough Council are actively seeking funding to support these shared aspirations.

Updates to proposal:
No updates to scheme since last consultation, although opportunities to include measures to enhance the urban environment and further improve air quality, such as through additional planting, will be explored.

Traffic modelling

Traffic modelling has been undertaken on the London Road schemes to assess the capacity impacts of introducing bus lanes. A review of the existing conditions shows that bus services are subjected to significant delay and reliability issues along this corridor. Around 45 two-way bus services operate along this route.

LinSig software, with the Reading Transport Model (RTM) traffic flow data, has been used to create a model of the corridor to test the impact of the bus lanes.

The Reading Transport Model (RTM) is a highway network model which has been developed using SATURN software. The model consists of an AM peak hour model (08:00 to 09:00), an average inter peak hour mode (10:00 to 16:00) and a PM peak hour model (17:00 to 18:00). The model has fiver user classes comprising of car commute, car employer business, car other, Light Good Vehicles (LGV) and Heavy Goods Vehicles (HGV). The model has a base year of 2015 and future years of 2021 and 2031.

This is a fixed matrix highway model and will only seek to reroute the traffic, and not consider mode shift or peak spreading. This will demonstrate the worst-case impact of the schemes with all traffic reassigning or queuing. This worst-case scenario is considered unlikely.

LinSig was used as a tool to optimise the traffic signals, but also understand the scale of any capacity reductions, as a result of the reallocation of road space for bus priority. This would provide an indication of the level of traffic which would not be able to travel through the corridor within the peak hour.

London Road – Liverpool Road to Amity Street:

It has been determined that the westbound traffic flows would need to reduce by 18% (approx. 260 vehicles) in the AM peak hour and by 19% (approx. 220 vehicles) in the PM peak hour, in order to mitigate the impacts of introducing bus lanes.

The purpose of introducing this bus lanes, is to provide reliable bus services from east of Reading and support the growth of sustainable transport modes. The results indicate that if the number of vehicles on the road does not decrease, then the introduction of the bus lanes, could potentially result in an increase in westbound general traffic queues, and in particular impact traffic entering Reading from outside the borough.

It should be noted that the effects of Liverpool Road and other access points and driveways cannot be accurately modelled, as the traffic flows are not known, however it is expected that this will be consistent with the existing conditions and right turning traffic into the driveways can cause intermittent delays on the corridor.

London Road – Sidmouth Street to London Street:

It has been determined that the west bound traffic flows would need to be reduced by 10% (approx. 350 vehicles) in the AM peak hour and by 8% (approx. 300 vehicles) in the PM peak hour, in order to mitigate the impacts of introducing bus lanes.

The results indicate that if the number of vehicles on the road does not decrease, then the introduction of the bus lanes, could potentially result in an increase in westbound general traffic queues, particularly at the approach to London Street/Crown Street,

The proposals are expected to significantly decrease bus journey times and reliability within the corridor. The bus lanes may help to reduce bus journey times to off-peak speeds, which are around 5 minutes quicker.

Southampton Street:

A full traffic survey has been commissioned, and the results will be included here once available.

However as the scheme does not remove any existing capacity from the oracle roundabout, we do not expect any material impacts on traffic movements.

Oxford Road/Bedford Road:

Localised detailed junction modelling has been completed in Linsig software for the existing and proposed junction layouts to assess the changes in operational performance.

The existing junction operates within its capacity and the observed queue length survey results highly a significant amount of reserve capacity currently at the junction.

Using the existing modelling as a baseline, a revised model has been generated to reflect the highway changes being proposed at the junction. The proposed layout model utilises the same modelling parameters as the existing junction with the exception of the flare lengths being reduced on the approach to the junction.

The proposed layout modelling results show that the junction would continue to operate within capacity. The reduction in the approach lane capacity still allows for the queue lengths to be within the maximum theoretical capacity.

Given the amount of reserve capacity in the existing junction, the proposed bus improvement alterations to this junction would not have a material impact on the highway network performance.

Oxford Road / Norcot Road

Video surveys were carried out to observe the right turn lane at the retail park. Detailed modelling was not deemed necessary at this stage, but evidence collected supports the Councils view that the proposed (slightly shortened) arrangements should continue to operate in a similar manner to the current road layout.