

SURREY COUNTY COUNCIL**LOCAL COMMITTEE (REIGATE & BANSTEAD)****SURREY****DATE: 17 September 2018****LEAD OFFICER: Neil McClure, Transport Strategy Project Manager, Transport Policy****SUBJECT: A23 Three Arch Road Junction
(Greater Redhill Sustainable Transport Package)****DIVISION: Salfords & Sidlow****SUMMARY OF ISSUE:**

The junction of the A23 with Three Arch Road and Maple Road Junction occupies a crucial location on the strategic road network.

The junction lies on the A23 which is a non-primary A-road linking London to Brighton. Locally this section of the A23 connects Redhill town centre to the north and Horley, Gatwick and Crawley to the south. These areas link key areas of housing and economic growth within the County and in the wider Gatwick area.

Importantly East Surrey Hospital is also located close to the junction off of Three Arch Road, serving as the region's main Accident and Emergency department.

Currently however the junction suffers from major congestion, particularly during am and pm peak hours. This consequently results in severe traffic delays for all road users. Of particular concern is the detrimental impact this has on people's ability to get to places of work, to our major towns, to Gatwick and also to key community facilities such as East Surrey Hospital.

Major improvements are required at the junction in order to improve capacity now and support future growth within the region, including the growth associated with new development as part of the Horley Master Plan and the wider Gatwick Diamond region. Measures are also required at this junction to improve safety for cyclists and pedestrians, and to provide improved reliability for local bus services.

The County Council, in partnership with Reigate and Banstead Borough Council, through the Greater Redhill Project Board, therefore commissioned a major study to develop a number of feasibility options into how capacity and sustainable travel could be improved at the junction.

The output of this work has been the development of a preferred preliminary design for a scheme that achieves major improvements to this important junction.

The Greater Redhill Sustainable Transport Package (STP) Members Task Group has supported and agreed that this scheme is taken forward.

The purpose of this report is to update all members of Local Committee with regard to the preliminary design; its estimated costs and benefits; and to seek authority to progress the scheme to the next stage.

RECOMMENDATIONS:

The Local Committee (Reigate & Banstead) is asked to:

- Agree the Redhill STP Member Task Group recommendation to proceed with the preferred scheme option and to progress to detailed design stage and public consultation.
- Note that the next steps will involve:
 - An application being made to the Planning Inspectorate on behalf of the Secretary of State for Environment, Food and Rural Affairs to deregister the necessary common land at the junction and to offer equivalent exchange land.
 - The acquisition of land at the Maple Road allotment site from Reigate and Banstead Borough Council.
 - Applications being made to secure additional funding to enable the delivery of the scheme.
- Delegate authority to the Area Highways Manager in consultation with the Chairman, Vice Chairman, Transport Strategy Project Manager and Electoral Division Member covered by the scheme to agree the consultation material.

REASONS FOR RECOMMENDATIONS:

1. Capacity improvements are needed at the junction to allow for current and expected increased future traffic volumes to operate effectively along the A23 corridor and through the junction with Three Arch Road and Maple Road.
2. Sustainable transport improvements are required at this junction to provide safer routes for cyclists and pedestrians travelling through the junction.
3. Improved traffic flow through the junction combined with measures to provide bus priority are needed to make bus travel in the area more reliable and attractive in order to increase passenger numbers, and provide a quality alternative to using the car.
4. Capacity and sustainable travel improvements to the junction are required for improved emergency and visitor access to East Surrey Hospital.
5. Further work is required to develop the scheme and associated costs; this includes identifying the extent of ground utility stats that will be affected by the proposed works, providing a plan for any displaced local parking, undertaking the process for common land exchange and proposed way forward, and developing a programme with provisional timescales for scheme delivery.
6. Holding a consultation with Council Members, stakeholders, local residents and businesses, and other members of the public will assist the development of a final detailed scheme design.

7. A number of possible funding sources have been identified for the anticipated costs of constructing this scheme. Greater detail and refinement of scheme costs is needed before a business case bid can be prepared to secure the full funding necessary for the scheme.

1. INTRODUCTION AND BACKGROUND:

- 1.1 Surrey County Council secured funding from the Coast to Capital Local Enterprise Partnership (C2C LEP) for the Redhill Sustainable Transport Package (STP) to improve sustainable travel options and related transport improvements in the greater Redhill area. The STP will make travelling by bike, bus, on foot and connecting with rail, safer, easier and faster.
- 1.2 Central to the package of transport measures designed to deliver the aims and objectives of the Redhill STP is the A23 corridor linking Redhill and Reigate to Horley and Gatwick. This includes the A23 junction with Three Arch Road and Maple Road, providing direct access to East Surrey Hospital.
- 1.3 The A23 corridor and junction with Three Arch Road and Maple Road is a crucial location on the strategic highway network. Currently however the junction suffers from major congestion, particularly during am and pm peak hours. This consequently results in severe traffic delays for all road users.
- 1.4 Of particular concern is the detrimental impact this has on people's ability to get to places of work, to our major towns, to Gatwick and also to key community facilities.
- 1.5 It is recognised that major improvements are required at the junction in order to improve capacity now and support future growth within the region, including the growth associated with new development as part of the Horley Master Plan and the wider Gatwick Diamond region.
- 1.6 The junction is a key emergency route to and from East Surrey (ES) Hospital. During peak times, long delays back in to ES Hospital and prevent vehicles from exiting and create issues for ambulance access. Queuing traffic has also been observed with mounting the pavement to manoeuvre around stationary vehicles which is a safety issue for pedestrians. Issues at this site are exacerbated by a narrow railway bridge.
- 1.7 Congestion at the junction also causes delay to bus services, affecting journey time reliability on key routes including the 100, 315, 400, 420, 430, 435, 424, 460 which all serve East Surrey Hospital
- 1.8 The junction is also a key crossing point for pedestrians, cyclists and bus users including local residents and people needing to access ES Hospital. The junction connects to the recently constructed shared pedestrian and cycle path along the A23 heading south from the junction towards Horley. A further link has recently been constructed along Woodhatch Rd where cyclists and pedestrians can use Maple Road to access the A23 shared path via Three Arch Junction. Further work is now required to improve facilities and safety for pedestrians, cyclists and bus users travelling through the A23 Three Arch junction and onto connecting routes.

ITEM 9

- 1.9 To resolve the issues at this junction a feasibility study was commissioned to collect data, assess different options and provide a recommended option to take forward. The options were presented to the Redhill STP Member Task Group who agreed to take forward the preferred option. The Committee are now asked to consider approving officers to work on the next steps of developing this scheme further.

2. PREFERRED SCHEME :

- 2.1 Annex A provides the outline design drawing of the scheme. The main elements of the preferred scheme will encompass the following:
- Extension of the left turn flare on the A23 Horley Road North arm by 40 metres to increase the stacking capacity.
 - Revision of the priority on the Three Arch Road gyratory to give priority to westbound traffic on Three Arch Road. This will prevent vehicles using the gyratory to 'rat-run'.
 - Kerb re-alignment at the westbound bus stop on Three Arch Road to allow vehicles to pass stationary buses and prevent vehicles mounting the kerb.
 - Widening of the westbound carriageway on Three Arch Road to provide a three-lane approach to the junction.
 - Extension of the existing "No waiting at any time" restriction on the A23 Horley Road South arm to increase capacity at the junction.
 - Widening of the carriageway to provide two northbound ahead lanes and a right turn ghost island at the centre of the junction.
 - Providing an on-carriageway cycle route between the existing toucan crossing on Three Arch Road and approximately 15 metres east of the westbound bus stop.
 - Providing a shared footway / cycleway on the southern footway of Three Arch Road linking the on-carriageway cycle route on Three Arch Road with the shared footway / cycleway on the A23.
 - Upgrading and re-aligning the existing uncontrolled crossings on Three Arch Road to toucan crossings.
 - Upgrading the existing controlled crossing on the A23 South arm to a toucan crossing.
 - Provision of intelligent bus priority at the traffic signals.
- 2.2 The preferred scheme will provide major benefits, including:

Reduced congestion and traffic delays

- 2.2.1 The results of the traffic modelling indicate that the preferred scheme will provide major journey time savings and a reduction of queues at the A23 / Three Arch Road junction.
- 2.2.2 The modelling shows that there would be a 50% reduction in journey times at the junction during peak periods compared to doing nothing.

Proportional Change in Journey Times per Vehicle by Direction in AM and PM Peak	
	Preferred scheme
Eastbound	33%
Westbound	74%
Northbound	33%
Southbound	26%
Average	50%

- 2.2.3 There would be significant improvements in journey times in the westbound direction on Three Arch Road, with an improvement of 74% during peak times. Journey times would reduce from 9mins to 2 mins 30 secs in the am peak and from 10 minutes to 2 mins 30 secs in the pm peak. There would also be a 33% saving in eastbound and northbound journey times from 9 minutes to 6 minutes and 15 minutes to 9 mins respectively. Southbound journey times would also see a 26% saving from 9 minutes to 6 mins 30 secs.

- 2.2.4 During the AM and PM peak hours queues would be greatly reduced. During the AM peak this would be most pronounced southbound with queue lengths reducing from 26 cars to just 1 and northbound from 53 to 13 vehicles.

AM Peak journey Times per Vehicle by Direction in Minutes		
AM Peak	Do nothing	Preferred Scheme
Eastbound	5 mins	3 mins
Westbound	9 mins	2.5 mins
Northbound	10 mins	4.5 mins
Southbound	4 mins	3.5 mins
Total	28 mins	13.5 mins

PM Peak journey Times per Vehicle by Direction in Minutes		
AM Peak	Do nothing	Preferred Scheme
Eastbound	4 mins	3 mins
Westbound	10 mins	2.5 mins
Northbound	5 mins	4.5 mins
Southbound	5 mins	3.5 mins
Total	24 mins	12.5 mins

ITEM 9

2.2.5 During the PM peak this would be also be most significant southbound with queue lengths reducing from 45 to 1 car and northbound from 30 vehicles to 7 vehicles.

AM Peak Queue Length (number of vehicles)		
	Do nothing	Preferred scheme
Eastbound	13	10
Westbound	16	6
Northbound	53	13
Southbound	26	1
Average	27	8

PM Peak Queue Length (number of vehicles)		
	Do nothing	Preferred scheme
Eastbound	9	7
Westbound	19	6
Northbound	30	7
Southbound	45	1
Average	26	5

Improved access to and from East Surrey Hospital

2.2.6 The results of the modelling provide a significant reduction in queue lengths on Three Arch Road (westbound direction) during both peak periods which would improve access routes to and from ES hospital.

Improved bus journey time reliability

2.2.7 The scheme would provide improved bus time reliability because of the high journey time savings and reduction of queues at the junction, in addition to provision for intelligent bus priority at the traffic signals for late running buses.

Improved cycling and walking provision

2.2.8 The scheme proposes a shared footway /cycleway on the southern side of Three Arch Road linking the proposed on-carriageway route to the shared footway/cycleway on the A23 southern arm, improving the existing provision for non-motorised users. The shared footway /cycleway will provide a safer route for pedestrians and cyclists that link to desire lines via the proposed toucan crossings.

2.8 To progress the scheme further will require more detailed work including:

- Information gathering including topographic and GPS surveys required to develop utility diversion costs and validate detail of design option.
- Land acquisition and common land exchange
- Securing additional funding
- Completing the detailed design

2.9 An anticipated provisional timeline is:

2018/19	Information gathering and commencement of common land deregistration and exchange
2019/20	Complete common land exchange, complete acquisition of allotment land, detailed design and funding applications
2020/21	Construction

3. OPTIONS:

3.1 Following identification by county and borough officers delivering the Redhill STP programme that the Three Arch Road Junction needed further feasibility to assess different scheme options, Atkins transport consultants were commissioned to produce a feasibility options study.

3.2 Atkins used information collected as part of the Greater Redhill STP project to inform this study, including a topographical survey, junction turning counts and a collision analysis. In addition to this, the following tasks were undertaken as part of this study:

- i. A review of land registry information;
- ii. Obtaining information on statutory utilities;
- iii. Site visits;
- iv. A meeting with a representative from East Surrey Hospital;
- v. A parking survey on the A23 South arm and Maple Road;
- vi. Journey time data; and
- vii. Junction turning counts and queue lengths at the Three Arch Road / Canada Avenue roundabout.

3.3 After obtaining information for analysing the existing situation, feasibility level design options were developed which included:

- Option 1: A signalised junction with widening on the southbound approach to the junction to provide a left turn slip lane onto Three Arch Road towards ES Hospital.
- Option 2a: A signalised junction with widening on Three Arch Road to allow for a three lane exit and widening on northbound exit arm to two lanes.
- **Option 2b (Preferred Scheme):** Widening on southbound approach to provide left turn slip lane into Three Arch Road, widening on Three Arch Road to provide three lane exit and widening on northbound exit arm to two lanes.
- Option 3: A roundabout in place of the signalised junction.
- Option 4: Do nothing option

3.4 The study identified Option 2b as the preferred scheme as this provides the greatest benefits to journey times, access to / from the hospital, improvements

ITEM 9

for pedestrians and cycles, journey time reliability for buses and the least impact on parking. The benefits of this scheme are set out above in section 2.

- 3.5 The options were presented to the Redhill STP Member Task Group on 12 October 2017, and further on 16 July 2018 after the final report was completed by Atkins including a recommendation to proceed with scheme option 2B. The Task Group agreed with the recommendation and to support taking scheme 2B forward.

4. CONSULTATIONS:

- 4.1 **Greater Redhill STP:** Between 19 June and 31 July 2015, consultation was carried out where stakeholders were asked for their views on the full Greater Redhill STP scheme proposals to help the development of the scheme into the next more detailed stage of design.
- 4.2 A proposal to provide sustainable transport improvements to the A23 Three Arch Road junction was included within this consultation.
- 4.3 As well as a questionnaire survey, a public exhibition was held at the East Surrey Hospital on Thursday 9 July and Saturday 11 July 2015. The results of the consultation can be found at the following location on Surrey County Councils website;
- https://www.surreycc.gov.uk/__data/assets/pdf_file/0010/84925/Greater_redhill_stp_public_engagement_analysis_report.pdf
- 4.4 Detailed public consultation was also undertaken in the preparation of the Horley Master plan as part of the plan making process for the Borough's 2005 Local Plan.
- 4.5 Three Arch Road Junction is included within the Forward Programme of the Reigate & Banstead Local Transport Strategy. This has recently been revised which included a 6 week public consultation on both the revised strategy and forward programme.
- 4.6 As part of the work conducted by Atkins to develop the feasibility design for this scheme, consultation with key staff at ES Hospital has been undertaken to further inform the scheme requirements.
- 4.7 The scheme has been developed in consultation with the Greater Redhill STP Project Board including Surrey County Council and Reigate & Banstead Borough Council Officers. The Project Board includes representation from all relevant service areas for example Local Highways, Road Safety, Passenger Transport, Transport Development Planning and Cycling.
- 4.8 The scheme has also been developed in consultation with the Redhill STP Member Task Group. The options Atkins investigated for the feasibility study were presented to the Member Task Group on 12 Oct 2017 and 16 July 2018 including a recommendation to proceed with scheme option 2B. The Task Group agreed with the recommendation and to support taking scheme 2B forward.
- 4.9 This report seeks approval from Committee to hold further consultation on the scheme which has been agreed to take forward. This would include consultation

with Council Members, stakeholders, local residents and businesses, and other members of the public after further work on the scheme design has been completed. The feedback gathered via the consultation will help inform the development of a final detailed scheme design

- 4.10 The Borough Council's Executive Member for Property and Acquisitions has been consulted about the acquisition of allotment land and provided in principle agreement.

5. FINANCIAL AND VALUE FOR MONEY IMPLICATIONS:

- 5.1 The estimated scheme cost is between £2.8 – £3.3m including allowances for contingency, risk and optimism bias.
- 5.2 A business case will be required in order to submit a bid for funding including an economic appraisal which will evaluate the scheme benefits and value for money (BCR). The business case will also include the Financial and Economic case for the scheme, and will be subject to Surrey CC Investment Panel approval and section 151 Officer sign-off.
- 5.3 The preferred scheme has potential allocated match funding from a variety of sources, including Reigate and Banstead CIL and Horley Master Plan Section 106 developer funding.
- 5.4 Further funding will be required to deliver this scheme. More detailed work is therefore required to secure appropriate funding sources.

6. EQUALITIES AND DIVERSITY IMPLICATIONS:

- 6.1 It is an objective of Surrey Highways to treat all users of the public highway equally and with understanding. The needs of all road users are considered as part of the design process for highway schemes.

7. LOCALISM:

- 7.1 The package of measures being delivered under the Greater Redhill STP, which include the main A23 corridor and junction with Three Arch Road and Maple Road, aims to deliver sustainable and public transport measures to improve accessibility, encourage its use and improve safety.

8. OTHER IMPLICATIONS:

Area assessed:	Direct Implications:
Crime and Disorder	Improve access to rail stations and other passenger transport interchange facilities, and reduce the fear of crime and disorder.
Sustainability (including Climate Change and Carbon Emissions)	Set out below
Corporate Parenting/Looked After Children	No significant implications arising from this report

Safeguarding responsibilities for vulnerable children and adults	No significant implications arising from this report
Public Health	Set out below.

8.1 Sustainability and Public Health implications

Improvements to Three Arch Junction will provide increased capacity and improved access for emergency vehicles, patients and visitors to East Surrey Hospital for health and A&E treatments within the Surrey and Sussex Healthcare NHS Trust.

Increased walking and cycling, where it replaces motorised forms of transport such as the car, will improve air quality and reduce carbon emission levels, which is a key objective of the Surrey LTP. Passenger transport and modal shift from the car to buses/rail are a further key objective of the Surrey LTP.

Transport is responsible for one third of carbon emission in Surrey. Surrey's Local Transport Plan has a target to reduce carbon emissions from (non-motorway) transport by 10% (absolute emissions) by 2020, increasing to 25% reduction by 2035 from 2007 baseline of 2,114k tonnes.

Increased walking and cycling has a positive impact on the health of a person. The NHS identifies cycling as an activity which provides significant health benefits. The Surrey Health and Well-being Strategy have identified obesity as one of the priority public health challenges.

It could be that increased levels of walking cycling and bus usage to and around the area will have a positive effect on the local retail economy as some recent studies suggesting that these groups actually spend more on a trip into a town than a motorist.

A well-managed highway network can contribute to reduction in crime and disorder.

9. CONCLUSION AND RECOMMENDATIONS:

9.1 The scheme will deliver significant benefits including major capacity improvements, improved journey time reliability, better access to the hospital, and improvements for safety and sustainable travel.

9.2 **The Local Committee (Reigate & Banstead) is asked to:**

- Agree the Redhill STP Member Task Group recommendation to proceed with the preferred scheme option and to progress to detailed design stage and public consultation.
- Note that the next steps will involve:
 - An application being made to the Planning Inspectorate on behalf of the Secretary of State for Environment, Food and Rural Affairs to deregister the necessary common land at the junction and to offer equivalent exchange land.

- The acquisition of land at the Maple Road allotment site from Reigate and Banstead Borough Council.
- Applications being made to secure additional funding to enable the delivery of the scheme.
- Delegate authority to the Area Highways Manager in consultation with the Chairman, Vice Chairman, Transport Strategy Project Manager and Electoral Division Member covered by the scheme to agree the consultation material.

10. WHAT HAPPENS NEXT:

- 10.1 If members of the committee approve the A23 junction scheme design to be taken forward, Officers will progress work to refine scheme costs and identify all other scheme requirements and identify funding sources for delivery of this scheme.
- 10.2 If the proposed delegated authority route is agreed by members of the committee the consultation material on the scheme will be produced with suitable publicity events planned.
- 10.3 Regular reporting and updates will be provided to the Redhill STP Member Task Group who will continue to oversee this work as part of the next phase of the Redhill STP project.
- 10.4 Regular updates will be provided to the Local Committee, through the Local Area Highways report. A standalone report will be brought to a later Local Committee for decision after scheme consultation is complete. This will provide Members with a report on the consultation responses and analysis, and set out the final detail scheme design and proposed funding route.
- 10.5 The revised priority arrangements on the Three Arch Road gyratory to give priority to westbound traffic on Three Arch Road, as identified within the scheme benefits section 2.1 above, requires minor revisions to lining at the junction. These changes will prevent vehicles using the gyratory to 'rat-run' and impeding emergency and other vehicle access to/from the hospital. In consultation with ES hospital this has been agreed to take forward now as a dedicated scheme item for delivery by the Local Highways team. Local Highways team have engaged contractors to undertake this work.

Contact Officer: Neil McClure
 Job title: Transport Strategy Project Manager, Transport Policy, Surrey County Council
 Contact number 03456 009 009

Consulted:
 See section 4 of this report.

Annexes:
 Annex A - Outline design for preferred scheme option

Sources/background papers:

- Surrey County Council Major Schemes project web page
www.surreycc.gov.uk/redhillstp

www.surreycc.gov.uk/reigateandbanstead

ITEM 9

- <https://www.surreycc.gov.uk/roads-and-transport/roads-and-transport-policies-plans-and-consultations/major-transport-projects/reigate-and-banstead-major-transport-schemes>