A23 Network Resilience

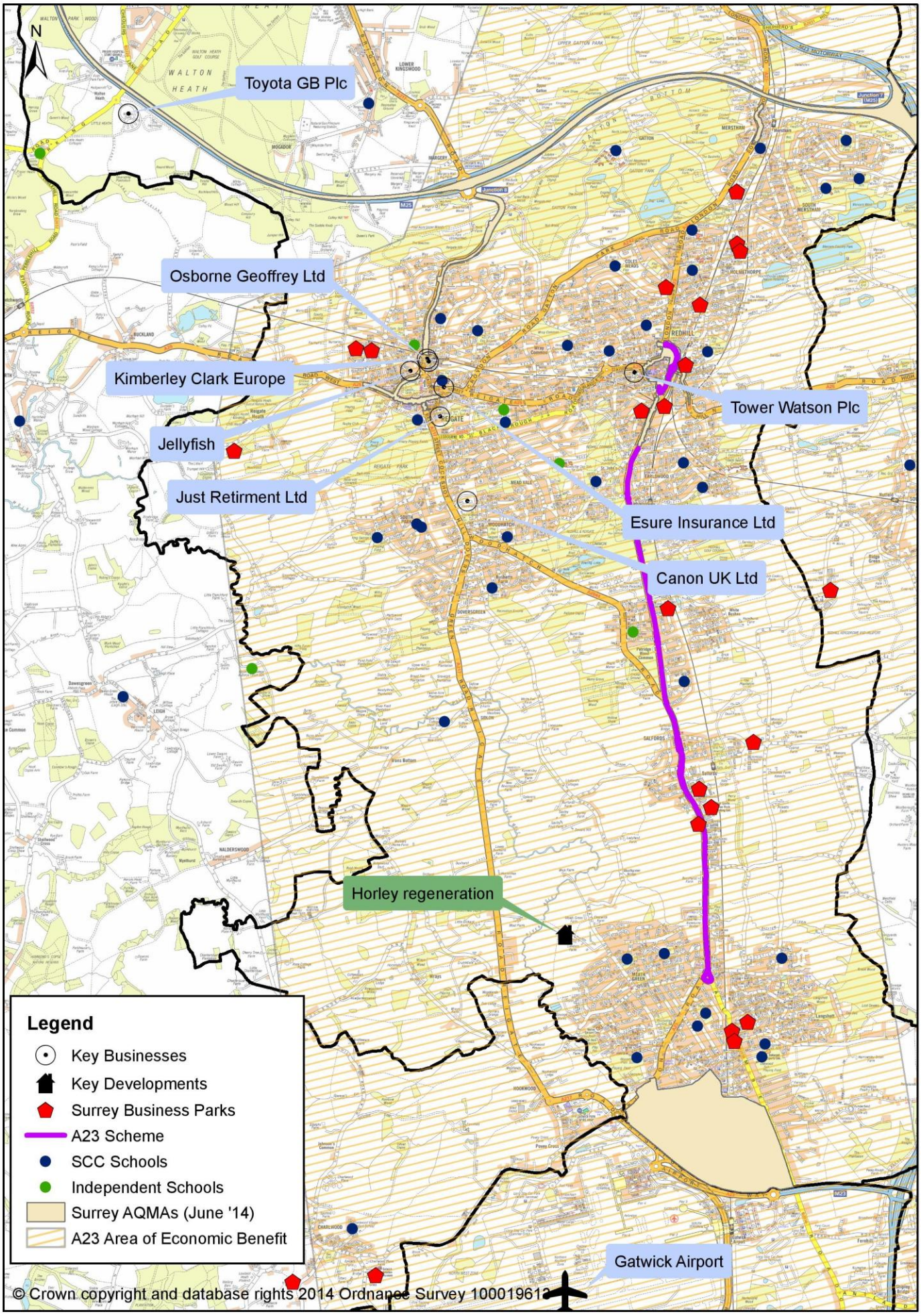
Submission to Coast to Capital LEP

Surrey County Council
December 2014

CUSTOMER SERVICE EXCELLENCE CSE

SURREY

A23 Network Resilience



Coast to Capital Local Transport Body Sustainability and Resilience Schemes Application Form

WHO - Scheme Promoter and Partners			
LTA/ Proposer:	Surrey County Council	**Scheme name & [District/ Borough]:**	A23 Network Resilience Reigate & Banstead
Contact details:	Lyndon Mendes Lyndon.mendes@surreycc.gov.uk	**Partners [in joint submissions]:**	N/A
WHAT & WHERE – Outline description, scope & maps			
Type of scheme: (Sustainability package, resilience scheme, hybrid)		Resilience Scheme	
Scheme description	**Overview** This project aims to improve the reliability and resilience of the transport network in the Coast to Capital area, especially the local road network. A package of resilience improvements to improve the ability of the Surrey sections of the A23 to cope with extreme and unpredictable events. In line with the aims of the LEP's strategic economic plan for flood defence and resilience schemes[1], the scheme is expected to: • Reduce the frequency of flooding impact on the network and associated diversions and accidents • Reduce disruption and additional costs to businesses and local services due to delays and reduced access to locations • Reduce negative impacts on road users across all modes of transport. The improvements comprise measures to improve draining on the route through positive surface run-off, and improved drainage capacity by using larger diameter pipes and an increased number of gullies to protect the integrity of the carriageway so that it can withstand major weather events. These repairs will give long term		

[1] Reference: Coast to Capital Strategic Economic Plan March 2014 Appendices and Transport Annex, page 20.

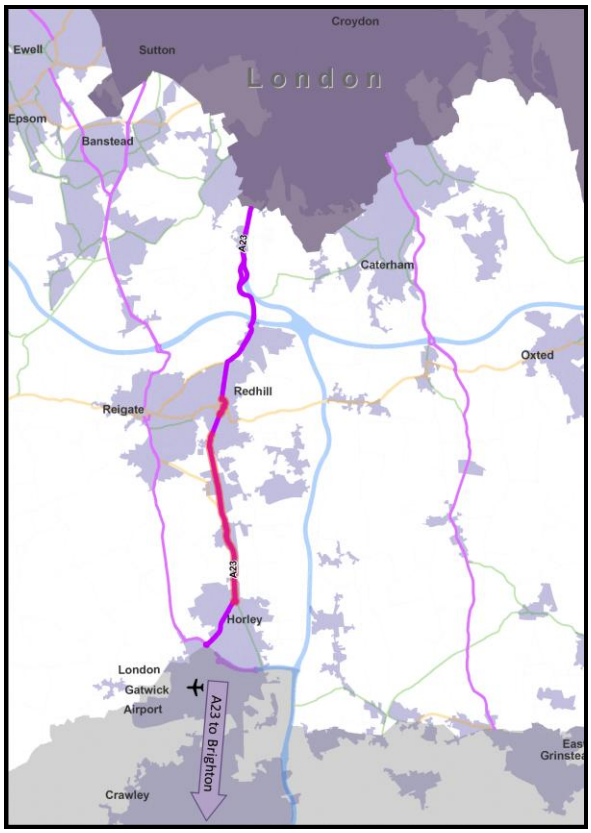
	benefits, primarily to prolong the life of the carriageway and increase resistance to flood water damage by weatherproofing the road surface against the ingress of water; if this work was not carried out, the resilience of the road would be impaired by the resulting poorer standard of road surface. Joints in the surface of the route where the drainage works have been undertaken are more susceptible to the effects of water ingress than an efficiently and thoroughly designed road surface. Improvements are therefore necessary to make the route resilient to flooding and water ingress. The scheme is located in the heart of the Gatwick Diamond, providing access between London and Gatwick and is a key element on the network in the East Surrey M25 corridor identified by Coast to Capital as a spatial priority[2]. **Scheme Details** **A23 south of Redhill** – Targeted lengths of the route, between the towns of Redhilll and Horley, that were damaged due to the flooding of the River Mole and its tributaries will be improved by allowing the route to be drained more efficiently through positive run-off, and improved drainage capacity. Larger diameter pipes will increase the drainage capacity and an increased number of gullies will protect the integrity of the carriageway so that it can withstand major weather events. The scheme will include local improvements to the drainage capacity along this route. **Redhill Town Centre** – It is proposed to improve the construction of the existing carriageways following the damage incurred during the extreme winter weather events of 2013/14. The works will increase resilience by reducing the risk of standing water, which would otherwise result in restricted access to the network, and enhance the surface integrity of the road surface through reconstructing to a high standard in order to mitigate the effects of extreme weather. This scheme will complement the extensive works carried out under the Redhill Balanced Network Programme, which consists of a series of junction improvements, as well as improvements for walking, cycling and buses.

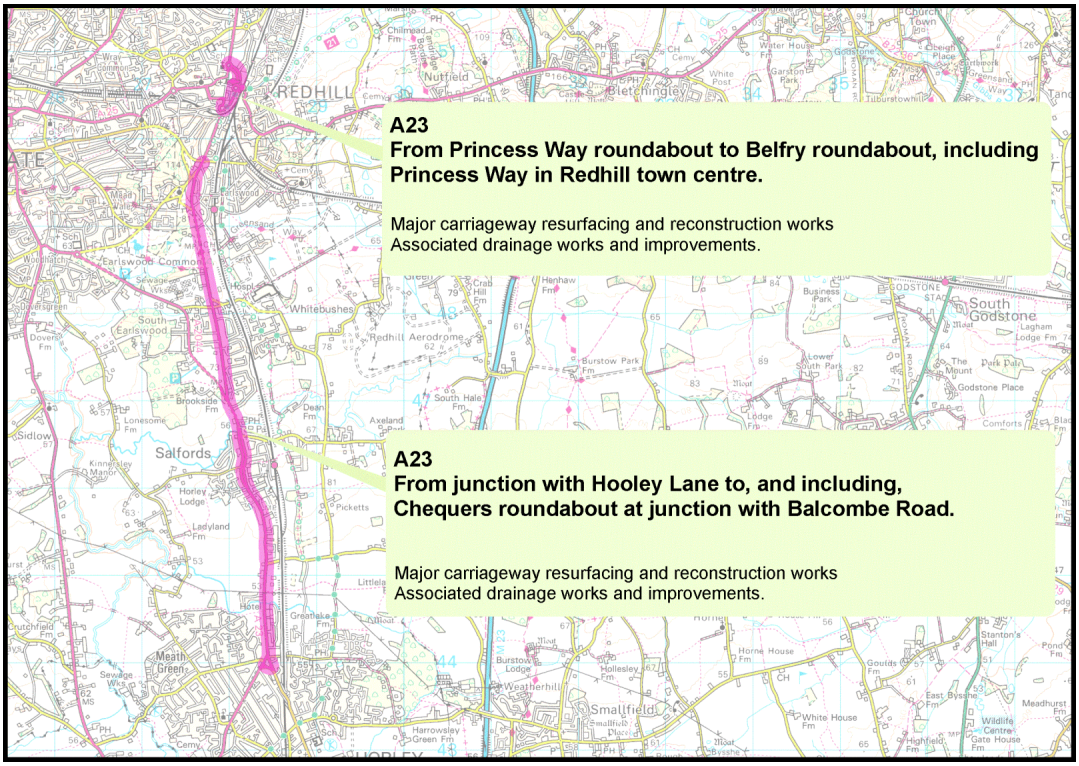
[2] Coast to Capital Strategic Economic Plan March 2014 p.46

A23 closed in both directions

Source: http://www.surreymirror.co.uk/GALLERY-Christmas-Eve-storm-hits-East-Surrey/story-20361396-detail/story.html

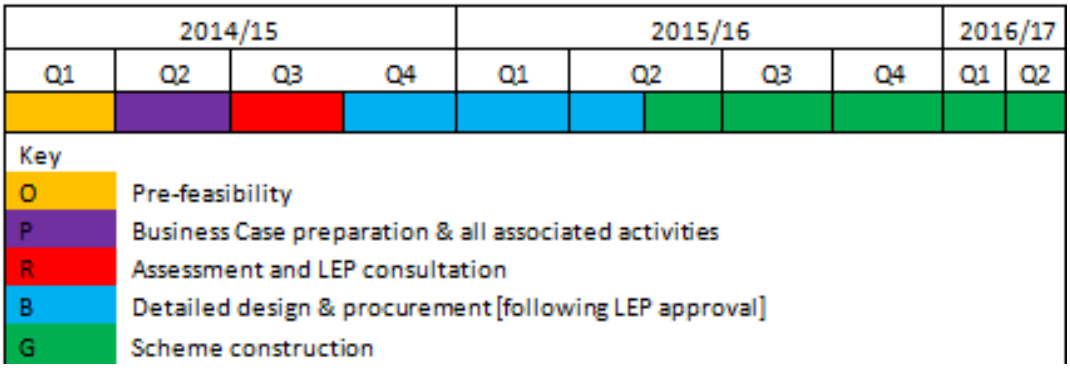
Maps





HOW MUCH & WHEN – Estimated construction costs and construction timetable						
Est. Costs:	£4.9m			**Start and end of construction:**		April 2015 to September 2016
Spend Profile	**2015-16:** (£ million) £3.9	**2016-17:** (£ million) £1.0	**2017-18** (£ million) £0	**2018-19:** (£ million) £0	**2019-20:** (£ million) £0	**2020-21:** (£ million) £0
Funding expectations (List sources of funds)	2015 – 16 £3.332 LEP £0.588 SCC Match funding 2016 – 17 £0.85 LEP £0.15 SCC Match funding					
Construction Timetable	The scheme will primarily enhance the surface integrity of the carriageway through improving the construction to a high standard in order to mitigate the effects of extreme weather and improve surface water run-off. Costs can therefore be calculated with a fair degree of certainty, but an optimism bias of 25% has been used as surfacing has not yet been designed. There is also a risk of additional uplift for nightworks having to be factored in when design is carried out - currently					

an assumed rate of uplift has been assumed in the costings.



Assuming funding is granted during Quarter 4 (March 2015), construction can begin during Quarter 2 (July 2015). Full procurement process will not be required as existing highway maintenance contracts will be used.

WHY IT SHOULD BE FUNDED

Summary of the Key Scheme Benefits

Structure of the key scheme benefits

1. Introduction and need for scheme
2. Objectives
3. Background and supporting evidence
4. Linkages to other bids

1. Introduction and need for scheme

The A23 is the main arterial route between the M25 and Gatwick Airport, providing a strategic economic corridor for both commuter and freight movement between London and the South Coast. It provides the diversion route for the heavily used M25 and M23 motorways in times of closures or accidents and connects the major commercial towns of Redhill, Horley and Crawley. Access is also provided to the major A&E East Surrey Hospital.

The objectives of the scheme are aligned with the transport objectives of the Coast to Capital Strategic Economic Plan (SEP), specifically those addressing resilience, quality, connectivity, capacity and quality.

The route comprises an important element of the LEP-identified East Surrey M25 corridor, considered a linchpin of the Coast to Capital economy. Linking London to Gatwick Airport and the south coast, the corridor supports east-west movements along London's orbital routes – the M25, A25 and North Downs Line. This scheme seeks to maintain the resilience of the A23, an important link for commuter, business and freight traffic into these orbital links.

The A23 north of Redhill carves through the natural steep hills of the North Downs resulting in large

volumes of rain water runoff which has affected the resilience of the Highway Network around the town of Redhill. The A23 south of Redhill is affected by the River Mole which is a tributary of the River Thames and flows north west through Surrey for 50 miles. Much of the catchment area lies on impermeable rock (including Wealden Clay and London Clay), meaning that the river level responds rapidly to heavy rainfall. The River Mole and all of its tributaries, including Salfords Stream and Earlswood Brook next to the A23, flooded during the winter 13/14 flood event. This resulted in significant damage to sections of the carriageway between Redhill and the County Boundary. **Annex 1** shows the communities most affected by the flooding.

2. Objectives

The purpose of the scheme is to provide improvements to the resilience of the highway network on this strategic economic route of the A23.

This scheme forms part of wider collaborative projects with a variety of third party stakeholders. The Redhill Balanced Network in Redhill town centre is an example of such projects. It is delivering major improvements to commuters and businesses and has provided new commercial opportunities in this area; further information about the Redhill Balanced Network project is available online[3].

We are collaborating with the Environment Agency to ensure that any works we do are complementary to their River Mole projects.

3. Background and supporting evidence

Despite being a small river, flooding along the River Mole has the capacity to cause significant damage and disruption on a local and even national scale due to location of key infrastructure and communications located within the catchment, most notably, Gatwick Airport, East Surrey Hospital, the M25 and M23 and the London-Brighton railway. Specific impacts of the winter 2013-14 storms and floods on the River Mole included:

- Gatwick airport: power failure from flooding causing delays with luggage handling, 100 flights delayed or cancelled; thousands of travellers were left stranded or abandoned as rail connections were disrupted as well.
- Burford Bridge hotel, Dorking and Ye Olde Six Bells in Horley: amongst other commercial properties were submerged by flooding and closed for extended periods.
- Numerous roads and rail links including two closures of the A24 at Mickleham, A217, A23 around Horley and Salfords and downstream in Leatherhead
- Flooding of residential properties: 40 homes in Fetcham under water throughout Christmas
- Landslide caused embankment to collapse Dorking to Horsham railway line: limited service and month to repair

[3] http://www.surreycc.gov.uk/roads-and-transport/roads-and-transport-policies-plans-and-consultations/major-transport-projects/reigate-and-banstead-major-transport-schemes

The scheme supports planned development in Reigate & Banstead by improving the resilience of key infrastructure in the borough. The Reigate & Banstead Strategic Flood Risk Assessment (2012) emphasises the importance of this:

> "*the areas of highest fluvial flood risk largely coincide with most populated areas of the borough, namely Redhill Town Centre and the areas around Horley. Within the urban centres flooding can cause severe damage and disruption. Whilst only a relatively small proportion of the borough is susceptible to river flooding, the consequence of flooding to homes, business and local infrastructure can be considerable*".

RBBC have also carried out a borough-wide SFRA, which considers that:

> *Within the urban centres of the borough, even where flooding may not have been observed to date, it is inevitable that localised flooding problems arising from under capacity drainage and/or sewer systems will occur, particularly given the mounting pressure placed upon ageing systems as a result of climate change. Furthermore, sewer systems are generally designed to cater for the 1 in 30 year storm, and highway soakaways are generally designed for only 1 in 10 year storms. Storms over and above these design events will exceed the drainage system, resulting in overland flow, often in an uncontrolled manner resulting in localised flooding*

There is an imminent duty and statutory obligation for local authorities to address climate change – including CO_2 emissions and resilience to climate change risks. Expected impacts of climate change include: more extreme temperatures, short duration high intensity rainfall, adding a risk of likely increase in more intense rain events leading to short-term localised flooding; an increase in the severity and number of storms, representing a risk in possible increase in severe storm events where drainage systems over wide areas are overloaded and severe disruption and damage to infrastructure is possible; prolonged dry periods; and increases in wind speed. This will impact on access to key locations in the C2C area such as Redhill, and the growth area of Horley, as well as causing disruption due to flooding on these key routes through the C2C area. Flooding issues will act as a barrier to growth in key areas unless these vital alleviation measures are taken forward.

Letters of support for this scheme have been obtained from the Highways Agency and from East Surrey Hospital. They are included at **Annex 2**.

4. Linkage to other funding bids to the Coast to Capital LEP

- **A217 network resilience**

  The scheme is a package of resilience improvements to improve the ability of the A217 in Surrey to cope with extreme and unpredictable events on this key route providing access between London and Gatwick.

- **A25 economic support package**

  A package of transport measures to manage congestion along the A25 corridor including Redhill to Godstone. The package also includes improvements for bus, rail, cycle, pedestrian facilities throughout the transport corridor to help facilitate modal shift. The transport package includes transport improvements within towns and settlements along the corridor including

Oxted

- **Greater Redhill STP**

  The scheme links to the Greater Redhill STP. The sustainable travel package is a package of walking, cycling and bus improvements focused on C2C strategic growth areas along the A23/A2044/A217 routes between the Redhill/Reigate and Horley/Gatwick areas.

- **Coast to Capital Wider Network Benefits Package**

  The Coast to Capital Wider Network Benefits Package, which seeks to provide equipment upgrades to reduce delays and congestion on strategic routes within the C2C area.

Outline business case of key criteria [maximum score = 5 per criteria]	
Expected economic benefits [*transport and scheme related*]: • Value for money, including BCR (if known) or similar measure. • Expected impact on journey times, reliability and resilience • Encouraging sustainable travel • Expected impact on road safety casualties • Valuing public realm • Other transport benefits	**[Scheme Score = 4]** The **value for money** (VfM) from delivering this scheme is expected to derive from providing long term benefits, prolonging the life of the carriageway; the scheme proposes drainage improvements and additional major structural carriageway works on key sections of the A23, the need for which has been identified by the extreme weather events earlier in 2014. Enhancing the integrity of the road surface will protect the carriageway from the effects of water ingress, increasing the longevity of the carriageway and increasing resistance to flood water damage. It is expected that implementing these measures will save money in the long term by providing infrastructure which is able to withstand the increasing likelihood and effects of flooding. This will help give businesses confidence in the transport network, encouraging economic activity in the area and boosting economic performance. **Journey times and reliability** will be maintained by keeping the route resilient to the effects of flooding. Maintaining the resilience of the route increases its appeal for users of **sustainable transport**; for example, a sustainable transport package centred around Redhill[4] will provide segregated cycle links and improved quality bus corridor infrastructure on the A23 between business parks and residential areas, improving access for the local workforce, providing businesses, both existing and start-ups, with a larger pool of employees. <u>Other transport benefits</u>

[4] Submitted to the LEP as 'Greater Redhill Sustainable Transport Package'

	Improving the resilience of the A23 will help facilitate further transport measures to reduce congestion experienced on the A23 Corridor. These improvements, such as the Redhill Balanced Network (under construction) and the proposed Redhill sustainable transport package seek to support and promote the role of the A23 as a strategic road linking gateways such as Gatwick Airport with London and the wider LEP area, supporting growth in national and international trade. The scheme complements the extensive works carried out in Redhill to encourage sustainable travel and to improve safety for cyclists and pedestrians. It also supports a wider scheme to implement cycle improvements along the A23, opening this route up to sustainable travel modes. The improved resilience of the road will contribute to and support this intervention. The scheme directly supports the C2C aspiration to increase the resilience of the LEP area, providing resilience from adverse weather conditions and mitigating the effects of flooding. Over the last year there have been 42 incidences of surface damage reported along the A23. These areas of damage allow water ingress affecting the surface integrity of the route which in turn impacts on the drainage levels. On this busy stretch of road pothole repairs must be carried out in conjunction with lane closures, which cause congestion and damage the economy of the area. By improving the resilience of the road, the number of minor repairs can be reduced, leading to fewer delays for the public and businesses.
Expected economic benefits *[economic growth]*: • Retention of existing jobs or creation of new jobs • Unlocking or improving access to new dwellings • Encouragement of new businesses, or protection of existing businesses. • Other economic benefits	**[Scheme Score = 4]** The scheme addresses a route central to the borough of Reigate and Banstead, which itself is central to the Gatwick Diamond economic area and is at the heart of the Coast to Capital LEP. The borough also sits within the area covered by Surrey Connects, the economic partnership for Surrey. In brief, the scheme is expected to contribute the following economic benefits to the area, boosting its role as a strong strategic location for business[5]: • Retain existing businesses and jobs already located in the area, by addressing the perception of poor transport/accessibility arrangements which can contribute to businesses relocating away from an area. Implementing the

[5] Reigate & Banstead Core Strategy, adopted July 2014

	schemes outlined above will result in a more reliable transport network, helping to retain businesses and encourage growth. The A23 is a key commuter route[6]. This scheme will encourage a better range and quality of business premises in the A23 Corridor. Industrial estate use along the A23 Corridor is largely B8 class use – Storage and Distribution. Improved transport links between industrial estate and retail centres will encourage a local supply chain whilst also improving access for suppliers outside the local area. • Encourage a rise in the rate of net business start-ups by removing potential barriers imposed by constraints on the transport network along this corridor, thereby contributing to job creation. • Support and facilitate housing growth outlined in the Reigate and Banstead Borough Core Strategy which identifies a spatial strategy for the borough[7] (2012-2027) and includes the provision of 6,900 additional homes to 2027. It also identifies 46,000 sqm additional employment floorspace; 25,800 sqm additional comparison floorspace; and 11,700 sqm of additional convenience floorspace. Reigate, Redhill and Horley are identified as the strategic locations for much of this growth. • Contribute to the performance of the Gatwick Diamond Initiative, a business-led partnership supportive of the aims of the LEP's strategic economic plan. The A23 is a key arterial route through the Gatwick Diamond, linking Gatwick to London. • Support economic activity and facilitate growth in the area around Gatwick Airport, which is a major economic contributor to the Coast to Capital area; the A23 is a key route to Gatwick Airport, linking the airport to London. Gatwick provides roughly 23,500 on-airport jobs[8] and another 20,000 jobs indirectly. • Support the performance and growth of large businesses in the area. Businesses include: ING Lease UK Ltd, TCFG Holdings Ltd, Travellers Insurance, TDK Electronics, Black

[6] 2011 Census data shows that approximately 32,500 people commute into the borough of Reigate and Banstead daily for employment, many of whom will use the A23 for part of their journey, whether in private vehicles on public transport (buses, access to railway stations).
[7] Reigate & Borough Core Strategy, adopted July 2014, page 23
[8] http://www.gatwickairport.com/business-community/about-gatwick/at-a-glance/facts-stats/

	and Veatch, Lactalis McLelland, Lombard North Central Plc, Santander UK Plc, AXA Insurance, Balfour Beatty. • Mitigate the negative economic impact flooding has on the area, by preventing highway closures or part closures due to maintenance works needed to counter the effects of flooding on infrastructure can disrupt the network. A diversion route to avoid the disrupted area increases costs due to longer journeys and can draw traffic away from economic zones. Road closures can sever communities and business critical links. The map included in **Annex 3** has used evidence from the National Receptor Dataset[9] to show the number of businesses and services ('receptors') affected by the traffic disruption as a result of the flooding. It provides an indication of the geographic area expected to benefit from reduced transport disruption as a result of implementing the scheme.

[9] Guidance can be found within Environment Agency ' National Receptor Dataset' and the EA's record of the data can be viewed at: http://data.gov.uk/dataset/national-receptor-dataset-afa171

Image A **Image B**

Image A key:

Red = RCI over 100; Amber = RCI over 40

Image B key:

Orange = major strengthening; Yellow = resurfacing

Pink = surface dressing

Condition data from the machine based SCANNER survey carried out on the A23 in 2012/13 identifies that there are a number of lengths of the road that would benefit from work to improve the surface integrity of the carriageway thereby increasing resilience to extreme weather events(see **Image A**).

Improvements to the carriageway surface are directly linked to network resilience; a full design provides the opportunity to address the carriageway levels to improve the flow of the drainage system. A joint in the surfacing that is vulnerable to water ingress could result in future maintenance issues and could reduce the integrity of the carriageway. Carriageway profile is particularly integral to drainage design at roundabouts to enable surface water to drain into the wider water management system

Analysis of the data has identified that the primary cause of failure in these sections is cracking. Cracking can indicate deterioration of the surface course or of deeper seated effects to the structural layers of the road. Cracking may allow water to penetrate through the road layers weakening the foundations.

Using GIS analysis tools we are able to calculate scheme lengths based on expected deterioration in the two years since the SCANNER survey. This analysis provides us with an indication of the lengths that we will need to treat (See **Image B**).

In practice the deterioration is likely to be more significant than the expected deterioration due to the extreme and prolonged rainfall during the winter of 2013/14 and the analysis will be rerun using the 14-15 SCANNER data which will be available in early spring, in order to better inform the actual lengths where work will be carried out. Works will be designed to so that the surface integrity of the carriageways is improved to provide greater long term resilience to flooding and measures such as road reprofiling will be used to improve the flow of water to drainage system .

A23 in Salfords. Image from the Surrey Mirror on 23/1/14

Source: http://www.surreymirror.co.uk/Worst-rain-century-submerges-East-Surrey/story-20486012-detail/story.html

Assessment of Flood Damages to the Local Economy

Pilot methodology being developed by Surrey County Council and Atkins Global

Surrey County Council is working with Atkins to develop a methodology which can provide a Local Economic Value on an Annual Average loss basis, considering the impact of flooding to both the transport network and to property.

This will be applicable to an economic baseline scenario as well as a proposed flood defence scheme, in order to determine the potential benefits.

Current methodologies are focused on quantifying the net impacts to the national economy, supporting bids to national pots of funding such as the Flood Defence Grant in Aid.

Local councils (and LEPs) are regionally focused so there could be significant economic benefits to specific regions that would not be identified using methodologies currently available.

A report from a Defra R&D project entitled "TOOLKIT for assessing the impacts of flood and coastal erosion risk management on the local economy" was recently published and provides a starting point for an economic valuation of local losses in terms of Gross Value Added (Value of employment); however there are aspects of the characteristics of both flooding and businesses which are omitted.

It is noted that LEPs require a Treasury Green Book approach with a value of the economic damages/benefits at a national level when considering funding allocations but can also report on GVA at a local level.

Therefore, using this Defra report as a starting point, SCC and Atkins are undertaking a project to develop a methodology that will deliver separate calculations of the value of flood defence schemes both to the national economy and the local economy, with consideration given to the following impacts/benefits:

- Businesses directly affected by flooding
- Business with loss of access due to flooding
- Businesses with disrupted access due to flooding
- Spillover effects
- Impact on growth and investment decisions

Social Distributional Impact:	**[Scheme Score =4]**
• Expected regeneration & deprivation impact • Expected impact on severance, physical activity, accessibility	Redhill is an area that is currently undergoing major regeneration with investment in buildings, spaces and transport. The town centre has the potential to become a prominent commercial location. The scheme will improve access to Redhill town centre, an area which has significant numbers of new homes, office space and retail floorspace coming forward as it becomes a more attractive and desirable place to live. The Reigate and Banstead Core Strategy[10] identifies the need for an additional **3,010 new homes** in Redhill and Reigate (over the period of the plan). The proposed improvements to roads in Redhill which were damaged by flooding will contribute to the revitalisation of the town creating a desirable location for businesses and consumers. It will support and complement the ongoing Redhill Balanced Network

[10] Reigate & Borough Core Strategy, adopted July 2014

The Fastway Bus Service is an integrated transport system with an 'intelligent', comfortable and efficient alternative to the private car. Operating along sections of a guided busway and dedicated bus lanes, the Fastway service has been specially designed to speed past congestion hotspots to provide fast and reliable travel. This service operates between Horley, Crawley and Gatwick Airport. Fastways satellite based technology provides up to the minute timetable information to passengers as well as tracks the vehicle location to help maintain scheduling and bus reliability.

The Fastway Route 20 relies of sections of the A23 in southern Horley to provide a fast and reliable service.

major scheme and the developing Redhill Sustainable Transport Package[11]. Both schemes seek to deliver accessibility improvements, including the provision of improved pedestrian crossings in Redhill town centre.

This resilience scheme will improve the reliability and resilience of this route which is a main access route for ambulances to the East Surrey Hospital. The Hospital has provided us with a letter of support for this resilience scheme, illustrating local support for the scheme. The letter is included at **Annex 2**.

This scheme will improve resilience for access to higher education centres along the A23 Corridor, such as East Surrey College.

The A23 is a key public transport corridor, and a lack of resilience can result in disrupted services, and poor journey time reliability. The following services use the A23:

- Fastway
- 315, 400, 420, 424 (serve East Surrey Hospital)
- 460 (serves East Surrey Hospital and Gatwick Airport)

Disruption and closure on the A23 causes major severance to communities, stopping residents accessing key amenities and services. By increasing the surface integrity of this route we will be making it less susceptible to future incidences of water ingress and flood water damage thereby reducing the need for future disruption due to maintenance works on this strategic route the severance experienced by the community in times of extreme weather events will be vastly reduced.

This is a significant route for cyclists in the area who are also affected by the disruption caused by roadworks on the strategic road. Cycle routes supported by the scheme are:-

- The NCR21 link from Reigate through Redhill connects to the NCR21 at Redhill Station on the A23[12]
- The Surrey Cycleway crosses the A23 at Three Arch Road/Maple Road/A23 Horley Road junction
- Proportion of the NCR21 is located on the A23 in Redhill

An expansion programme for schools in the local area has been identified and a resilient network is essential to coping with the

[11] Submitted to the C2C LEP for consideration for funding, December 2014.
[12] http://www.sustrans.org.uk/ncn/map/route/route-21#./route-21?&_suid=141744867755404680266551310265 3

	travel generated by schools and to providing suitable accessibility. Schools identified for expansion in the A23 corridor include[13]: • Earlswood Primary School from 2013 expanded from 90 to 120 places per year • Meath Green Infant School from 2013 expanded from 70 to 90 places • Horley - a new 60 place primary school to be provided within 5 years (this is dependent on the building of the North West Sector).
Environmental impact: • Expected impact on carbon emissions • Expected impact on air quality • Expected impact on noise/natural and urban environment	**[Scheme Score = 3]** Improving the reliability and resilience of the A23, will reduce the congestion caused by road closures and diversions caused by flooding. Stop start driving resulting from congestion can lead to an increase in pollutants from car exhausts, and is a known contributor to poor air quality. Therefore the improved resilience of the A23 would likely impact positively upon carbon emissions and air quality. Three identified Air Quality Management Areas (AQMA) exist on the A23. All of these areas suffer from high roadside pollutant levels and the effect of stop-start traffic caused by poor road condition exacerbates this issue and can be harmful to human health. Where highway drainage systems discharge into a watercourse or the aquifer, options to remove silt and pollutants such as interceptors or green SuDS (like reed beds) will be considered and implemented where practical. This will work towards improving the water quality of the area, as required by the EU Water Framework Directive Whilst there is no set figure defining acceptable levels of road **noise**, materials providing the least noisy solution will be used wherever possible, taking into account other factors such as cost, volume and speed of traffic. Access to the municipal depot located on the A23 at Earlswood, will benefit from the proposed improvements to the resilience of the A23. Improvements are currently underway at the site to provide a new materials bulking facility to receive recyclables, food waste and rubbish from Reigate & Banstead and neighbouring

[13] Source: Surrey education

	Tandridge. Further detail can be found here. The A23 is surrounded by small sections of ancient woodland, scattered throughout the route. The majority of the route, ending at Horley falls within the greenbelt. In addition there are areas of Redhill and Horley close to the A23 that have designated as conservation areas.
Contribution to the Strategic Economic Plan • How does the scheme contribute to the objectives and priorities of the SEP. • The five transport objectives • Contribution to other objectives	**[Scheme Score = 5]** **How does the scheme contribute to the objectives and priorities of the SEP** The scheme is directly aligned with the aims and objectives of the LEP's Strategic Economic Plan, and specifically focuses on the aim to '**keep the network operating 24/7**' in its capacity as a resilience scheme[14]. The SEP aims to deliver resilience schemes to: • Repair and maintain critical transport structures • Prevent or **mitigate the risk of flooding** • Reduce the number of traffic incidents (such as crashes and roadworks) and help the network recover quickly after such incidents • Provide resilience from adverse weather conditions, such as heavy snow fall. As such, this scheme embodies the SEP's scope for a flood alleviation scheme which is defined as "improving highway drainage and embankments to reduce the risk of flooding"[15]. **The five transport objectives[16]** The scheme contributes to the SEP's five transport objectives in the following ways: • **Connectivity "Can I get where I want to go?"** Business, freight and commuter traffic will be able to continue to make use of this key north-south link. • **Reliability "Will I arrive when I expect?"** Evidence shows that the A23 Horley Road, Redhill experiences Annual Average Daily Traffic flows of 21,396 vehicles, of which 3.8% are HGVs.

[14] C2C Strategic Economic Plan March 2014, p.83
[15] C2C Strategic Economic Plan March 2014, p.86
[16] C2C Strategic Economic Plan March 2014, p.81

	Journey time reliability, particularly for those travelling by car, HGV or public transport will be improved. Avoiding the need to implement road closures will allow journey times to be maintained, avoiding lengthy route diversions. • **Capacity "Will I get a seat, a parking space, a clear road?"** Diversion routes for the A23 involve many roads which are not designed to cope with large numbers of traffic. Therefore in times when the A23 has to be closed due to flooding events the road network capacity is significantly reduced. By minimising the time the A23 is forced to close, the network capacity will be maintained and disruption minimised. • **Quality "Will my journey be healthy, safe, clean, sustainable and enjoyable?"** The improvements to the road will contribute to providing a quality transport network to serve this part of the East Surrey M25 corridor, which is safe and reliable for all road users. • **Resilience "Will transport be there when I need it – 24/7?"** To underpin the local and regional economy, transport networks must be resilient, able to withstand the effects of adverse weather, traffic incidents and road works. This scheme seeks to materially improve the resilience of the local road network on a key route of strategic importance. **Contribution to other objectives** With major companies such as Black & Veatch, Santander UK Plc, Axa Insurance and Balfour Beatty located along the A23, this scheme will help raise the competitive advantage, supporting and providing opportunities for economic growth in the region.
Local Indicators: Local indicators and circumstances that help to explain the need for the scheme.	**Not scored.**

SCORE SUMMARY	
Total score: (out of 25)	**20**
Local priority: (Ranking in order of schemes submitted by the same promoter in this round).	Of the four resilience schemes submitted to C2C in December 2014, this scheme is the **fourth priority**

	scheme.

Scoring criteria

Scores	Expected Economic benefits (transport and scheme related)	Expected Economic benefits (economic growth)	Socio-distributional Impact	Environmental Impact	Strategic Economic Plan
Score: 5 **[Green]**	Expected BCR of 2+ (if known) Significant beneficial impact on transport indicators.	Support for delivery of new jobs, housing & employment floor space in area clearly expected.	Significant positive benefits expected, such as supporting regeneration, improving accessibility, reducing severance and/or promoting physical activity.	Likely to lead to a reduction in carbon emissions and have limited impact on the natural environment and/or air quality and noise standards.	Clear linkage to one or more SEP policies and priorities
Score:3 **[Amber]**	Expected BCR of 1.5 to 2 (if known) Some, but limited beneficial impact on transport indicators.	Expected to support retention of existing jobs & help deliver some housing.	Some socio-distributional and well-being impacts expected.	Limited or neutral impact on carbon emissions, natural environment and/or air quality shown.	Some linkage to SEP policies and priorities.
Score 1: **[Red]**	Expected BCR of under 1.5 (if known) Very limited or negative impact on transport indicators.	Very limited linkage with delivery of employment and/or housing expected.	Very limited or negative impact on distributional and well-being impacts expected.	Likely to have a negative impact on carbon emissions, local air quality and/or the natural environment.	Weak link to the SEP.

Local Indicators

1. Employment - residence base (2012; Annual Population Survey, Nomis)
2. Employment Rate (2012; Annual Population Survey, Nomis)
3. Number of jobs - workplace base (2011, Business Register and Employment Survey, Nomis)
4. Business survival rates (1 year) (2011, Business Demography, ONS)
5. Number of businesses per 10,000 working age population (2012, ONS)
6. Business births per 10,000 working age population (2011, Business demography; 2011; and Annual Population Survey, ONS)
7. JobSeekers Allowance claimant count - % of economically active population (April 2013, Nomis)

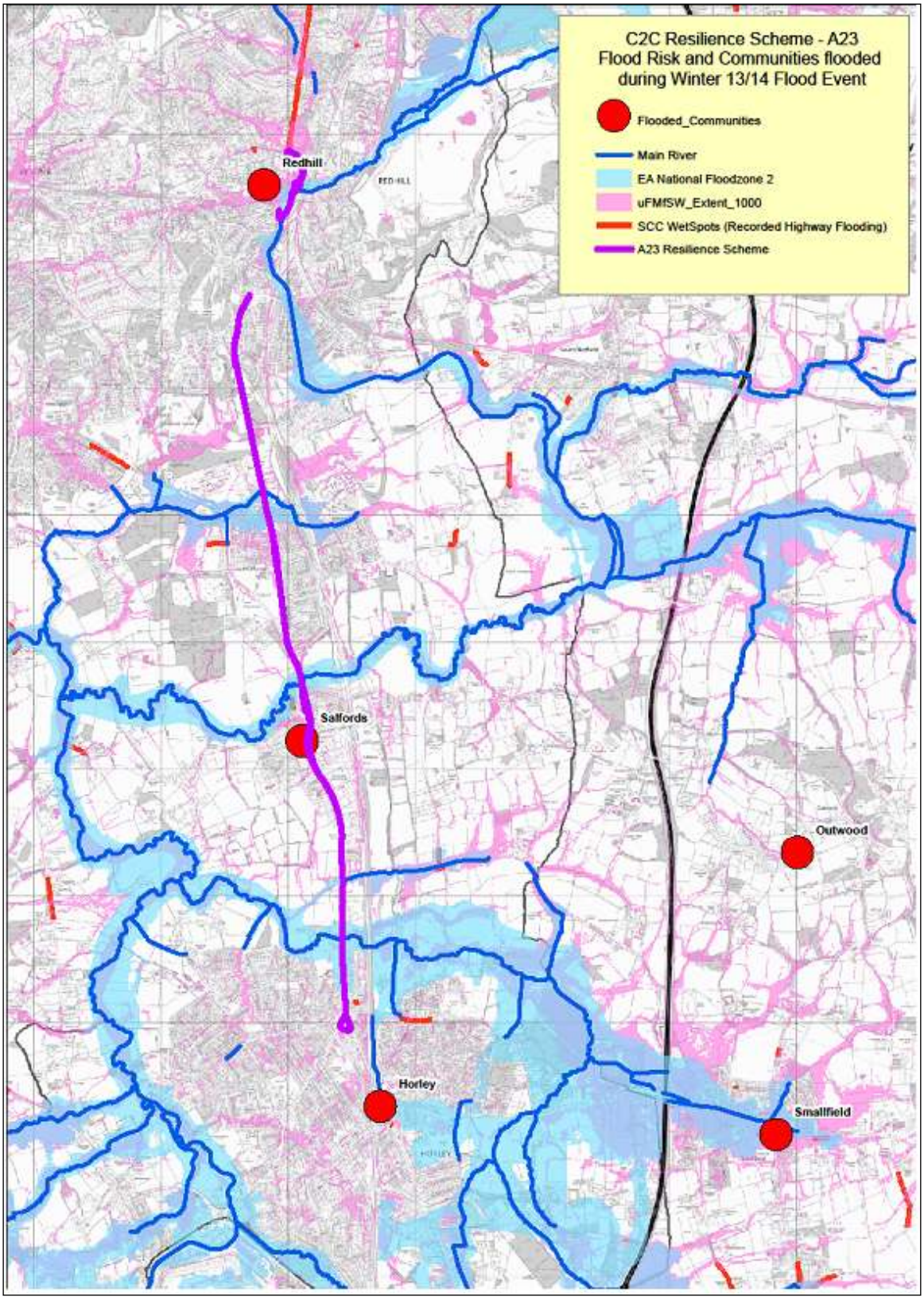
Transport Effects

1. % of working age population (aged 16-74) in employment using walking or cycling as main mode to get to work (2011 Census)
2. % of working age population (aged 16-74) in employment using bus, train, underground, tram or metro as main mode to get to work (2011 Census)
3. Congestion – indicator being developed based on either average delay on links (Trafficmaster data) or million vehicle km on principal roads

Regeneration Impact

1. Amount of planned new housing up to common future end year (LDF documentation – various)
2. Amount of planned new commercial floorspace (sq m) up to common future end year (LDF documentation – various)
3. Amount of planned new retail floorspace (sq m) up to common future end year (LDF documentation – various)
4. Index of Multiple Deprivation (IMD) - number of LSOAs in Borough or District within the top 20% most deprived nationally (2010)
5. Index of Multiple Deprivation (IMD - average score for District (2010)

Annex 1 – A23 Flood risk and communities flooded during the 2013/14 Winter flood event


C2C Resilience Scheme - A23
Flood Risk and Communities flooded during Winter 13/14 Flood Event
Flooded_Communities
Main River
EA National Floodzone 2
uFMfSW_Extent_1000
SCC WetSpots (Recorded Highway Flooding)
A23 Resilience Scheme
Redhill
Salfords
Horley
Outwood
Smallfield

Annex 2 – Letters of support

Surrey and Sussex NHS
Healthcare NHS Trust

Please reply to:
Name: Ian Mackenzie
Title: Director of IT and Facilities
☎ : 01737 231825
Fax : 01737 231769
Email: ian.mackenzie@sash.nhs.uk

Our ref: IM/CJ

Headquarters
East Surrey Hospital
Canada Avenue
Redhill
RH1 5RH

Tel: 01737 768511
www.surreyandsussex.nhs.uk

8 December 2014

Surrey County Council
County Hall
Penrhyn Road
Kingston upon Thames
KT1 2DN

To whom it may concern,

Re: Surrey County Council's bid for 'A23 Strategic Maintenance' major project

Surrey and Sussex Healthcare are delighted to lend support for the bid, for the proposed planned maintenance on the A23 Corridor. We have reviewed the scheme outline proposals and endorse the aims and scope.

We confirm our intention to work with Surrey County Council, Reigate & Banstead Borough Council and other Partnership bodies as appropriate, to support the successful delivery of the proposed scheme.

Surrey and Sussex Healthcare NHS Trust provides emergency and non-emergency services to the residents of East Surrey, north-east West Sussex, and South Croydon, including the major towns of Crawley, Horsham, Reigate and Redhill. We provide acute and complex services at our hospital (East Surrey Hospital) in Redhill.

Yours sincerely

Ian Mackenzie
Director of Information and Facilities

HIGHWAYS AGENCY

Safe roads, reliable journeys, informed travellers

Our ref: CRS 714 639

Sam Carr
Surrey County Council
Room 420
County Hall
Penrhyn Road
Kingston upon Thames
KT1 2DN

Daniel Beckley
Team Executive
4C
Federated House
London Road
Dorking
RH4 1SZ

10 December 2014

Dear Mr Carr

SURREY COUNTY COUNCIL'S BID FOR A23 STRATEGIC MAINTENANCE MAJOR PROJECT

The Highways Agency is an executive Agency of the Department for Transport. We are responsible for operating, maintaining and improving England's strategic road network on behalf of the Secretary of State for Transport. It this case our interest is with the M25 M23 and A23 south of Crawley.

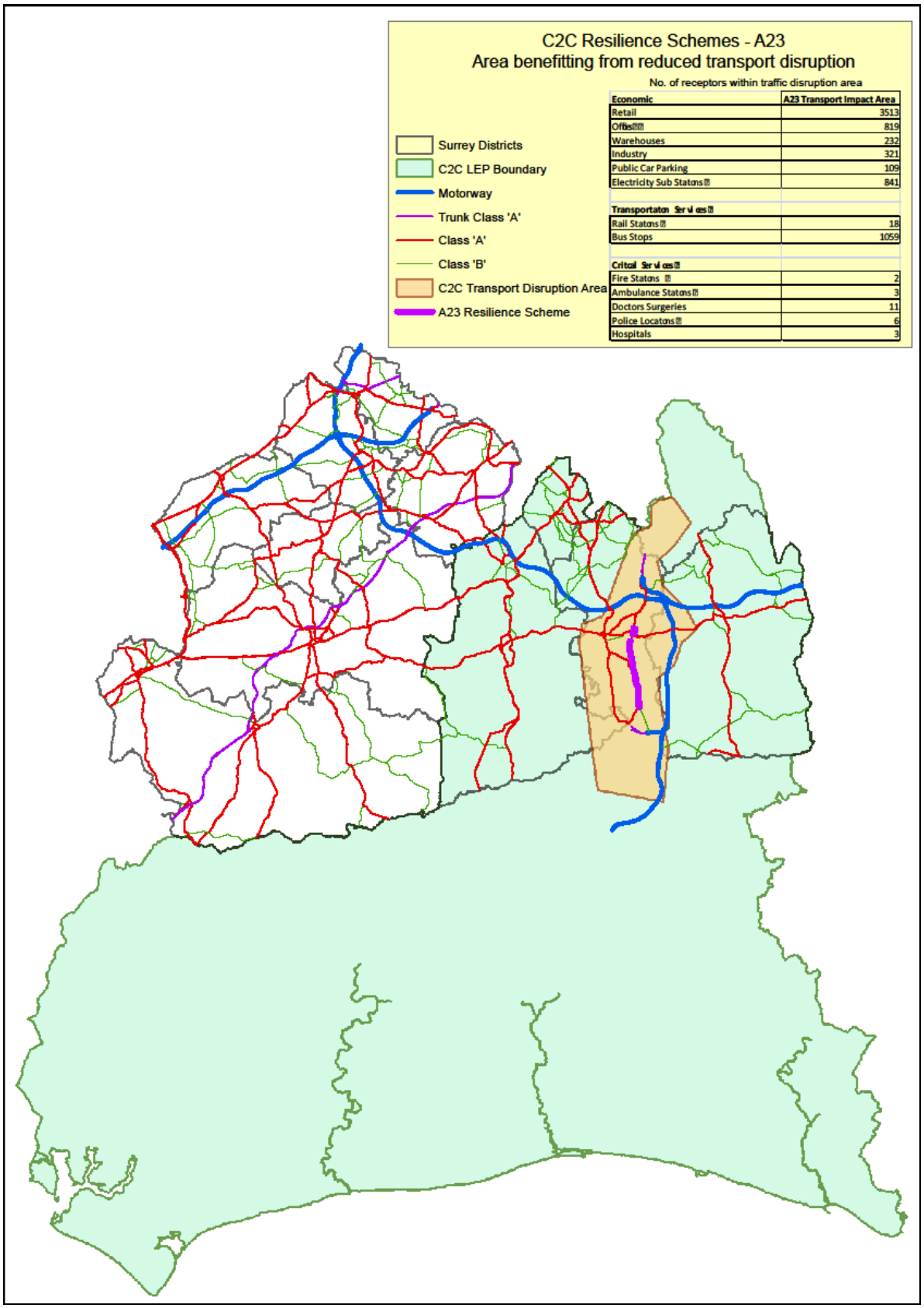
The Highways Agency lends support for the proposed planned maintenance on the A23 Corridor. We have reviewed the scheme outline proposals and endorse the aims and scope.

We confirm our intention to work with Surrey County Council, Reigate & Banstead Borough Council and other Partnership bodies as appropriate, to support the successful delivery of the proposed scheme.

Yours sincerely

Daniel Beckley
NDD Asset Development Team Area 4
Email: daniel.beckley@highways.gsi.gov.uk

Annex 3 – Area benefitting from reduced transport disruption as a result of the proposed scheme


C2C Resilience Schemes - A23
Area benefitting from reduced transport disruption
No. of receptors within traffic disruption area
Economic
A23 Transport Impact Area
Retail 3513
Offices 819
Warehouses 232
Industry 321
Public Car Parking 109
Electricity Sub Stations 841
Transportation Services
Rail Stations 18
Bus Stops 1059
Critical Services
Fire Stations 2
Ambulance Stations 3
Doctors Surgeries 11
Police Locations 6
Hospitals 3
Surrey Districts
C2C LEP Boundary
Motorway
Trunk Class 'A'
Class 'A'
Class 'B'
C2C Transport Disruption Area
A23 Resilience Scheme