

A33/A35 Millbrook Roundabout Major Maintenance

Southampton City Council bid to
DfT Local Highways Major Maintenance Challenge Fund Tranche 2A



March 2017

Local Highways Maintenance Challenge Fund



Department
for Transport

Application Form (for Tranche 2A)

The level of information provided should be proportionate to the size and complexity of the scheme proposed. Note that DfT funding is a maximum of £5 million per scheme. An individual local authority may apply only for one scheme.

For schemes submitted by components of a Combined Authority a separate application form should be completed for each scheme, then the CA should rank them in order of preference.

Applicant Information

Local authority name: Southampton City Council

Bid Manager Name and position: Iain Steane, Strategic Transport Planner

Contact telephone number: 02380 832283 **Email address:** iain.steane@southampton.gov.uk

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SO14 7LY

When authorities submit a bid for funding to the Department, as part of the Government's commitment to greater openness in the public sector under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, they must also publish a version excluding any commercially sensitive information on their own website within two working days of submitting the final bid to the Department. The Department reserves the right to deem the business case as non-compliant if this is not adhered to.

Please specify the weblink where this bid will be published:

<http://www.southampton.gov.uk/roads-parking/transport-policy/transport-funding-bids.aspx>

SECTION A - Scheme description

A1. Scheme name: A33/A35/Dock Gate 20 Millbrook Roundabout Major Maintenance

A2. Headline description:

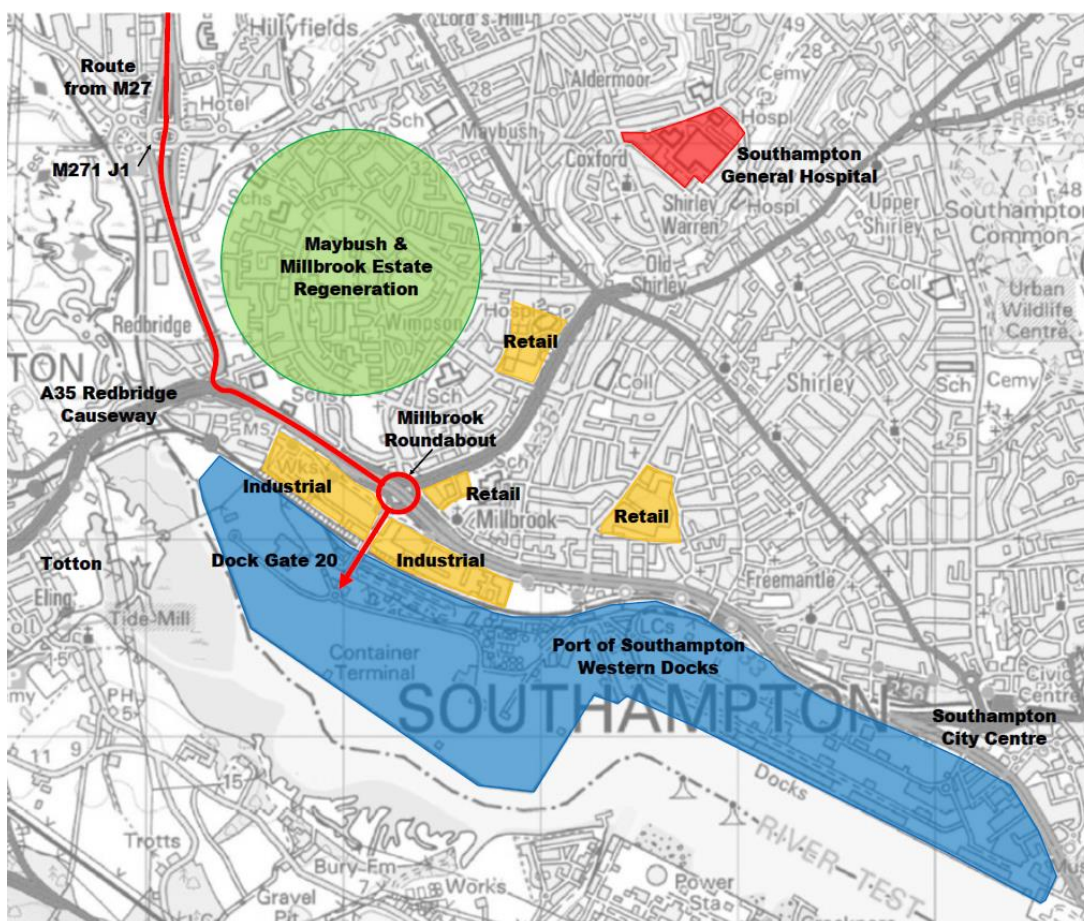
Delivery of major maintenance in 2017/18 to A33/A35/Dock Gate 20 Millbrook Roundabout in Southampton, a primary access into the Port of Southampton, to ensure that it is resilient and well-maintained. This will include replacement of the roundabout's concrete slab sub-base with a more stable sub-base, full resurfacing, new 2-way cycle facility and upgrade all traffic signal detection and signal equipment.

A3. Geographical area:

Roundabout junction of A33 Millbrook Road West, A35 Tebourba Way & First Avenue in Southampton. This is the main access for HGVs to the Port of Southampton's Dock Gate 20 for the Container & Vehicle Terminal as well as routes to Southampton General Hospital and large employment area in Millbrook Trading Estate.

OS Grid Reference: 438300.1, 113249.3

Postcode: SO16 9SH & S015 0LA



Map 1 – Location of A33/A35 Millbrook Roundabout and surrounding land uses



Map 2 – Land Uses and Planned Investments in Port of Southampton Western Docks

A4. Type of scheme:

Small project bids (requiring DfT funding of up to £5 million)

Major maintenance or renewal of carriageways (roads)

SECTION B – The Business Case

B1. The Financial Case – Project Costs and Profile

Before preparing a scheme proposal for submission, bid promoters should ensure they understand the financial implications of developing the scheme (including any implications for future resource spend and ongoing costs relating to maintaining and operating the asset), and the need to secure and underwrite any necessary funding outside the Department's maximum contribution.

Please complete the following tables. **Figures should be entered in £000s** (i.e. £10,000 = 10).

Table A: Funding profile (Nominal terms)

£000s	2017-18
<i>DfT Funding Sought</i>	<i>5,000</i>
<i>LA Contribution</i>	<i>3,344</i>
<i>Other Third Party Funding</i>	
<i>Total</i>	<i>8,344</i>

Notes:

1) Department for Transport funding is only for the 2017-18 financial year.

2) A minimum local contribution of 10% (by the local authority and/or third party) of the project costs is required.

B2 Local Contribution / Third Party Funding

a) *The non-DfT contribution may include funding from organisations other than the scheme promoter. Please provide details of all non-DfT funding contributions to the scheme costs. This should include evidence to show how any third party contributions are being secured, the level of commitment and when they will become available.*

Southampton City Council has allocated the £3.344m of match funding from our LTP Integrated Transport Block and Roads Programme for 2017/18.

b) *Where the contribution is from external sources, please provide a letter confirming the body's commitment to contribute to the cost of the scheme. The Department is unlikely to fund any scheme where significant financial contributions from other sources have not been secured or appear to be at risk.*

Have you appended a letter(s) to support this case? Yes No N/A

c) *Please list any other funding applications you have made for this scheme or variants thereof and the outcome of these applications, including any reasons for rejection (e.g. through the Access Fund or similar competition).*

The proposed delivery of the major maintenance at Millbrook Roundabout was prioritised by the Solent LEP for inclusion in the Solent Local Growth Deal Round 3 (2016) submission for funding, but was not prioritised by central Government in the settlement to the LEP for affordability reasons. The LEP strongly supports this application, please see attached letter of support in Appendix H, given the strategic importance of the roundabout and its importance to the Solent and wider UK economies as a primary access to the Port of Southampton.

B3. Strategic Case (Maximum 50 words for each section a) to g)

Further detail can be found in Appendix A Wider Strategic Case and Appendix B Evidence Base.

a) *What are the current problems to be addressed by your scheme? (Describe economic, environmental, social problems or opportunities which will be addressed by the scheme).*

- Millbrook Roundabout is identified as Nationally Important Infrastructure and is critical asset in the SCC road network serving one of the largest concentrations of economic activity in Southampton, centred on the Port of Southampton (employing 5,000 is the UK's number one port for exports to non-EU markets and for cruises ships) also with industrial estates, regional Hospital and large residential area, and is used by a high volume of daily HGVs and buses (4,448 - 2017).
- Within an Air Quality Management Area (AQMA) which has high exceedance levels.
- Failure of the asset would result in significant negative impacts on the UK economy, congestion, air quality, community severance, journey time and reliability.

b) *Why the asset is in need of urgent funding?*

- The asset has several defects which will in long term affect its safe performance – cracking in surface and sub-base, depressions, and failed joints.
- In 2008 SCC invested £1m on a major maintenance scheme (80% of the Highways Maintenance Block) which delivered some stability improvements but retained the concrete sub-base.
- Since the intervention the rapid deterioration has reduced the life expectancy of the surfacing, as a consequence SCC has around £50,000-£100,000 per annum on surface patching.
- Given the nature of traffic, with a high proportion of HGVs, at Millbrook this impacts on the remedial measures which regularly fail.

c) *What options have been considered and why have alternatives have been rejected?*

Without comprehensive maintenance to replace the asset's sub-base and secure it long term future, there is a high likelihood that safety based traffic management measures would be imposed alongside

more frequent reactive maintenance. Leading to more frequent interventions would significantly reduce the capacity of this strategic access point significantly. The set of scenarios assessed included continuing with patching, relaying 100mm of surfacing with minor repairs to the concrete sub-base, and full depth deconstruction of the worst sections in a phased approach. The assessment and evaluation of the scenarios are in Appendix A and B5.

d) What are the expected benefits / outcomes?

- Full depth reconstruction of roundabout sub-base, surfacing and new traffic signal equipment;
- Safeguarding strategic access to Dock Gate 20-Western Docks for export freight, Southampton General Hospital, surrounding industrial estates and retail areas;
- Ensure a 20 year design life and long term resilience solution in line with TAMP;
- Maximise £200m of future investment within the Port;
- Safeguard 5,000 direct and 10,000 indirect jobs within Port;
- Enable regeneration of Maybush & Millbrook with 500 new homes;
- Safeguard existing economic activity at industrial estates for up to 3,000 FTEs;
- Safeguarding an important bus corridor;
- Improve air quality; and
- Wider benefits for cyclists, pedestrians, business agglomeration and transport efficiencies.

e) Please provide information on the geographical areas that will benefit from your scheme (see Maps 1 & 2).

- Port of Southampton Western Docks – including DPWorld (DPWS) Container Port, Dry Bulks Terminal, Fruit Terminal, Automotive Berths and 2 cruise terminals;
- Millbrook Trading Estates;
- Southampton city centre and Eastern Docks; and
- Wider local area including local retail centres, Southampton General Hospital, and areas earmarked for Estate Regeneration

f) What will happen if funding for this scheme is not secured - would an alternative (lower cost) solution be implemented (if yes, please describe this alternative and how it differs from the proposed scheme)?

- An exceptional major maintenance project, the works required are significantly beyond the scope of SCC's annual Highways Maintenance Block funding (~£1.515m for 2017/18);
- Low cost alternatives would continue - with the current reactive maintenance regime (costs £50-100k pa) having been explored; these have an effect on performance and traffic management restrictions with repercussions on performance and competitiveness of the Port and on supply chain businesses; and
- Continued exceedance of air quality limits.

g) What is the impact of the scheme?

- Deliver a whole life approach to long term resilience of the asset to achieve cost savings, and maintain an important strategic access to the Port of Southampton and neighbouring industrial estates for the next 20 years;
- Support the Port's Masterplan growth targets to 2035 including increasing global trade
- Complement SCC's Roads Programme, ITS Strategy, cycle infrastructure on SCN1 (Second Avenue & Third Avenue), HCC application for A35 Redbridge Causeway, Highways England (HE) investment at M271/A33/A35 Redbridge Roundabout; and
- Improved flow of traffic with new traffic signals improving junction operational reliability, and improving air quality.

B4. Affordability and Financial Risk (maximum 50 words for each of a) to c)

*What is your Authority's most recent total outturn annual capital spending on highways maintenance (Year) 2015/16 SCC Roads Programme - **£7,130** (including structures and highways) **figures should be entered in £000s** (i.e. £10,000 = 10)*

What is the DfT contribution sought as a % and that annual total - 70.126% (to 3 decimal places)

a) What risk allowance has been applied to the project cost?

An optimism bias of 15% has been assumed into the costs based on a budget estimate at detailed design stage. See Appendix C for full budget estimate.

b) How will cost overruns be dealt with?

The scheme is a standalone Target Cost which has been procured and will be delivered via the existing Highways Service Partnership (HSP) between SCC and the Maintenance Service Provider: Balfour Beatty Living Places (BBLP). Any cost overruns will be shared between SCC and BBLP. The terms of this contract limit the financial exposure to scheme financier of any overspend which is not covered by Compensation Events to approximately 1.5% of the scheme value.

c) What are the main risks to project delivery timescales and what impact this will have on cost?

There are few risks to the delivery of this project, however the main ones that do exist have been detailed below (and are included in the Quantified Risk Register in Appendix C).

1. Adverse weather conditions impacts - This has been mitigated by building sufficient float into the delivery programme to allow for adverse weather. In addition, our partners for delivery of this work have access to additional resources from within the wider Balfour Beatty Group and through supply chain relationships to ensure that additional resources can be brought in if required to accelerate the programme.
2. Works delayed due to issues elsewhere on the network resulting in unacceptable traffic delays – This work has been programmed, and road space indicatively booked for August 2017 to ensure that the impact on the network is minimal. SCC Highways Maintenance programme has been designed to ensure that Millbrook Roundabout can be implemented with minimal network impact. Highways England's RIS1 scheme for M271/A35/A33 Redbridge Roundabout is 1km to the west of the site and will follow this project in 2018/19.
3. Communications – The scheme is substantial and complex and will require close working arrangements and comprehensive communications to ensure that continuity is maintained and potential problems are avoided. This includes close co-operation with the Port and DPWS to ensure disruption is kept to a minimum to maintain access to the Port,. SCC and HE are working collaboratively on the Redbridge Roundabout schemes and are discussing works programmes, road space and traffic management arrangements to ensure minimal disruption to the road network.
4. Other events – The works being programmed are expected to have minimal impact on events in Southampton such as Southampton Boat Show, cruise and Port traffic, and Christmas period.

B5. Equality Analysis

Has any Equality Analysis been undertaken in line with the Equality Duty? **X Yes** See Appendix D
No

B6. Value for Money

a) For all scheme bids, promoters should provide, where available, an estimate of the **Benefit Cost Ratio (BCR)** of the scheme.

Updated TUBA outputs have been obtained via the use of the Solent Transport Sub Regional Transport Model. Assuming a present value of costs (PVC) of £7.3m (derived from £8.3m converted to 2010 prices), this provides an indicative Benefit to Cost Ratio (BCR) of **7.4**. A summary of the data and assumptions is provided in Appendix E.

b) Please provide the following data will form a key part of our assessment:

Note this material should be provided even if a BCR estimate has been supplied **and** has also to be entered and returned as an MS Excel file in the VfM Annex MS Excel file).

<p>A description of the do-minimum situation (i.e. what would happen without Challenge Fund investment).</p>	<p>Continued deterioration of the Millbrook Roundabout, resulting in more frequent surfacing repairs and risk of full or part closures of the local highway network. Impacting on performance and competitiveness of Port of Southampton. Such a scenario would restrict how DPWS and other operators within the Western Docks work, and in the wider supply chain, in maintaining their existing operation level and hinder growth. This could result in Southampton losing the opportunity to deliver the full productivity benefit of £150m of existing private sector investment and risk part of ABP's planned £113m investment programme for Western Docks.</p>
<p>Details of significant monetised and non-monetised costs and benefits of the scheme (quantified where possible)</p>	<p>Benefits have been calculated using the Solent Transport SRTM on a scenario whereby the roundabout is at reduced capacity and HGVs are not permitted to use it. The TUBA outputs have assumed a PVC of £7.3m (£8.4m converted to 2010 prices). As successive levels of disruption are experienced the impacts increase until ultimately HGVs assumed not to use Millbrook Roundabout and other vehicles reducing capacity by 70%. Impact is assessed for Port of Southampton associated increased in travel times and adding to traffic flow and congestion along A33 – delays for traffic leaving the Port at DG10 of 3 minutes on increase in distance of 3.3km. The total benefit of the work to users is £55m with particular contributions from years beyond 2030 when roundabout capacity is reduced by 70%. See Appendix C for further detail on economic assumptions</p>
<p>Length of scheme (km)</p>	<p>1.4km (Circulatory carriageway and slips)</p>
<p>Number of vehicles on affected section (Average Annual Daily Traffic in vehicles and if possible split by vehicle type) – to include details of data (age etc.) supporting this estimate.</p>	<p>36,325 – 2017 12hr 7am-7pm survey</p> <ul style="list-style-type: none"> - Car – 26,558 (73.1%) - LGV – 4,876 (13.4%) - HGV – 4,170 (11.4%) - Bus – 278 (0.76%) - Other – 683 (1.8%)

<p>c) Other VfM information where relevant - depending on type of scheme bid:</p>	
<p>Details of required restrictions/closures if funding not provided (e.g. type of restrictions; timing/duration of restrictions; etc.)</p>	<p>Appendix B5 provides impact of Do-Minimum scenario</p> <ul style="list-style-type: none"> • Years 1-5: 1 night for minor reactive maintenance 4x per year • Years 5-10: more frequent maintenance events, assumption that capacity of roundabout may be reduced by 50% due to need to close lanes

	<ul style="list-style-type: none"> • Years 10-15: 4 weeks per planned maintenance event 2x during five year period – capacity reduced by 70% due to the need to close lanes and exit/entry points • Beyond 15 Years: assume major structural failure for remainder of roundabout continuing with reduced capacity of 70% due to need to close lanes and exit/entry points
Length of any diversion route, if closure is required (over and above existing route) (km)	Between 3.3km for Port via DG10 and 6.6km via Brownhill Way & A3057
Regularity/duration of closures due to flooding: (e.g. number of closures per year; average length of closure (hrs); etc.)	N/A
Number and severity of accidents: both for the do minimum and the forecast impact of the scheme (e.g. existing number of accidents and/or accident rate; forecast number of accidents and or accident rate with and without the scheme)	DM – Total – 13; Slight – 12, Serious – 1; Fatal – 0; Accident Rate (PIA/MVKm) – 0.0038 DS - Total – 13; Slight – 12, Serious – 1; Fatal – 0; Accident Rate (PIA/MVKm) – 0.0038
Number of existing cyclists; forecasts of cycling usage with and without the scheme (and if available length of journey)	967 – counted on all toucan crossings on all arms (2017) Do-Something – 967 Average length of cycle journeys in Southampton – survey data (2011) indicated 50% of respondents cycled between 3.5km and 6.5km per trip

B7. The Commercial Case

What is the preferred procurement route for the scheme? For example, if it is proposed to use existing framework agreements or contracts, the contract must be appropriate in terms of scale and scope.

Framework Contract **X**

SCC is the Client for the works that have been designed and will be delivered by the Council's Strategic Highway's Service Provider – Balfour Beatty Living Places (BBLP). In 2010, SCC entered into a ten year multi-million pound Strategic Highways Partnership with BBLP through an OJEU process. The contract provides all the design and construction services needed for the Millbrook Roundabout scheme. Mobilisation can be rapid for a start on site in August 2017 for completion in March 2018. Relevant features of the scheme including the use of Targeted Costing, shared risk management, and minimisation of environmental impacts. The Governance Arrangements are in Appendix F.

B8. Delivery

a) Are any statutory procedures required to deliver the project, if yes please provide details below;

Yes **X No**

Details of statutory procedure

All works are within the highway boundary. No changes are planned to the carriageway extents. Works can be implemented under the statutory powers of the Highway Authority (SCC). The programme (Appendix G) has been designed to commence in August 2017 for completion in March 2018 and SCC/BBLP is resourced and ready to commence as the project has been designed, costed and approved.

b) Please summarise any lessons your authority has learned from the experience of delivering other DfT funded programmes (such as Challenge Fund tranche 1, pinch point schemes, local majors, Local Sustainable Transport Fund, Better Bus Areas) and what would be different on this project as a result.

In the last 5 years, SCC has successfully delivered large maintenance works totalling almost £30m on time and to budget. These include work on the Itchen Bridge (£1.05m), A33 Western Approach Flyovers (£2.4m), and Bridges to Prosperity (£4.5m Pinch Point), alongside our annual Roads Programme which has a value of £6-8m pa. SCC has also successfully delivered large scale transport infrastructure projects in the city, including Platform for Prosperity scheme (£12m), Station Quarter North (£8m) and the £5m Southampton Sustainable Travel City LSTF programme within timescales and budget – these were delivered through the Highways Service Partnership with BBLP and other service providers.

Through these projects we have learnt that they are best delivered through a partnership based approach, with multi-agency project teams co-located in shared offices to deal with issues quickly and meet the critical success criteria. Key aspects such as Early Contractor Involvement, a clear governance framework and appropriate placement of project risk are vital to ensure a successful project is delivery.

We will build on the successes of our capital project delivery over the last 5 years to ensure the A33/A35 Millbrook Major Maintenance project is a success. A governance structure is provided in Appendix F.

B9. Stakeholder Support

Letters of support from the following organisations are in Appendix H.

c) Does this proposal have the support of the Local MP(s);

Yes No

Name of MP(s) and Constituency

1 – Alan Whitehead, Southampton Test

d) List other stakeholders supporting the Scheme:

1 – Associated British Ports (ABP), owners of the Port of Southampton

2 – Southampton General Hospital

3 – Bluestar, local bus operator

4 – Solent LEP – the scheme was prioritised by the LEP as one of its LGD schemes for 2017/18.

SECTION C: Declarations

C1. Senior Responsible Owner Declaration

As Senior Responsible Owner for A33/A35 Millbrook Roundabout Major Maintenance I hereby submit this request for approval to DfT on behalf of Southampton City Council and confirm that I have the necessary authority to do so.

I confirm that Southampton City Council will have all the necessary powers in place to ensure the planned timescales in the application can be realised.

Name: Mitch Sanders

Signed:

Position: Service Director, Transactions & Universal Services



C2. Section 151 Officer Declaration

As Section 151 Officer for Southampton City Council I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that Southampton City Council.

- has allocated sufficient budget to deliver this scheme on the basis of its proposed funding contribution
- will allocate sufficient staff and other necessary resources to deliver this scheme on time and on budget
- accepts responsibility for meeting any costs over and above the DfT contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties
- accepts responsibility for meeting any ongoing revenue requirements in relation to the scheme
- accepts that no further increase in DfT funding will be considered beyond the maximum contribution requested
- has the necessary governance / assurance arrangements in place
- has identified a procurement strategy that is legally compliant and is likely to achieve the best value for money outcome
- will ensure that a robust and effective stakeholder and communications plan is put in place

Name: Alan Denford, Service Lead: Finance
Business Partnering (Deputy S151 Officer)

Signed:



Submission of bids:

The deadline for bid submission is 5pm on:

31 March 2017 for Challenge Fund Tranche 2A (2017/18 funding)

An electronic copy only of the bid including any supporting material should be submitted to:

roadmaintenance@dft.gsi.gov.uk copying in Paul.O'Hara@dft.gsi.gov.uk

Appendices

Appendix A – Wider Strategic Case

Appendix B - Evidence Base

B1 – Detailed Designs

B2 – Pavement Report and Deflectograph Results

B3 – Photos 2016 & 2017

B4 – As Built Drawings for 2016 Patching

B5 – Do Minimum Maintenance Scenarios

B6 – SCC Criticality Assessment

Appendix C – Quantified Risk Assessment & Cost Estimates

Appendix D – Equality Impact Assessment

Appendix E – Economic Case - Cost-Benefit Analysis

Appendix F – Project Governance

Appendix G – Project Plan & Programme

Appendix H – Letters of Support

Appendix I – VfM Proforma (Excel)