

Decision Pathway Report



PURPOSE: Key decision

MEETING: Cabinet

DATE: 01 October 2019

TITLE	Cumberland Road Stabilisation Project	
Ward(s)	Hotwells and Harbourside	
Author: Chris Dooley	Job title: Bridges and Highway Structures Team Manager	
Cabinet lead: Cllr Dudd	Executive Director lead: Colin Molton – Executive Director, Growth and Regeneration	
Proposal origin: BCC Staff		
Decision maker: Cabinet Member		
Decision forum: Cabinet		
Purpose of Report:		
<ul style="list-style-type: none"> To report on ultimate findings of Ground Investigations and explain the mechanism of failure of River Wall and ground. To report on recommended structural stabilisation solution options – provided from (GI) investigations and assessment. To report on the revised projected detailed Cost Pricing for Officer recommended option, using Optimum Bias assessment principles to enhance the degree of certainty. To report on the extra Additional Capital Funding required to complete recommended Officer Solution. 		
Evidence Base:		
<p>Full Council meeting on 20th Feb 2018 approved £5.00m (PL09a), for capital budget over next three financial years. The original basis of this project estimation was formulated using the final outturn construction costs of the recent and similar River wall failure Project on Clarence Road. This was used as a basis to give projected estimated costs for the Cumberland Road Project. This Project is considered to be Transport Maintenance Project and this was confirmed by BCC Executive Director in 2018. Further to Cabinet approval for £580K spend in July 2017 to undertake the emergency investigation surveys and preparation of tender documents and detailed designs due to an on-going collapse of an 80m section and works.</p> <p>Further Cabinet approval was received in February 2018 to commit the expenditure of the remainder (£4.42m) as forecast within the submitted Business Case, i.e., £580k in 2018/19, £2,000K in 2019/20 & remainder in £2,420K in 2020/21.</p> <p>The above original estimated forecasted figures will subsequently be revisited again in the light of further information derived from detailed ground investigations and ultimate discovery of mode of ground failure, which will be described further in this report.</p> <p>Geotechnical Investigations (GI) and monitoring undertaken in 2018/19 determined the primary root cause of the river wall and ground failure to be a <u>deep seated ground slip with rotational movement approximately 12m beneath Cumberland Road</u>. These findings were presented to BCC Highways on 25th February 2019 by Framework Consultants - Jacobs. The proposed solution is now a new contiguous bored piled concrete retaining wall and a framework of supporting concrete slabbed arrangement to support both the Chocolate Path and Heritage Railway. All options will require large piling plant to work within an area of unstable ground. Framework Consultants Jacobs were instructed to undertake a detailed Pricing exercise for options 2, 3 and 4.</p> <ul style="list-style-type: none"> Option 1: Do nothing and continue to monitor river wall and Cumberland Road for progressive movement. Option 2: Project Cost to stabilise Cumberland Road and reinstate Chocolate Path and Railway to original use. Option 3: Project Cost to stabilise Cumberland Road only, Divert Cycleway onto Cumberland Road locally. Option 4: Project Cost to stabilise Cumberland Road and divert Chocolate Path onto Railway corridor locally. <p><u>Chocolate Path – River Wall Repairs and Cumberland Road Stabilisation Works</u></p> <p>In December 2016, an 80m section of the Chocolate Path pedestrian and cycle path (National Cycle Route (NCN) 33) was closed,</p>		

as a result of settlement and failure of the path surfacing and river retaining wall. A local diversion route was provided on the adjacent Bristol Harbour Railway, by laying a temporary tarmac diversion path. In December 2017, further settlement of the Chocolate Path was observed, with additional movement of the New Cut retaining wall being observed and evidenced through regular measurement monitoring. In addition, significant lateral cracking was noted on the temporary diversion path route so the decision was taken to close the emergency diversion route as well. This resulted in an 860m length of the Chocolate Path being closed between Vauxhall Bridge and Avon Crescent. This continues to be the current situation on site.

Geotechnical Investigations (GI)

A project of detailed geotechnical Investigation (GI) was planned and programmed to commence during summer 2018. Extensive GI Investigations and monitoring have been undertaken during 2018/19 and the cause of the instability has now been established as a deep seated structural slip of the ground underneath Cumberland Road. BCC Highways now seek to deliver an Engineering optioned solution to stabilise and reinstate the masonry retaining wall, Chocolate Path and Harbour Railway and ultimately Cumberland Road, with the aim of making all transportation assets structurally stable and safe for re-use bringing these assets back into full operational use. The options considered in this Report are as set out below:

Option 1 – Continue to Monitor and react accordingly

This option is keep up with the ongoing monitoring regime currently in place and then take appropriate immediate reactive action if the trend of slippage movement and failure continues to increase significantly or suddenly. This option does not give any ability or scope to plan for programmed planned ongoing maintenance and is considered far too high a risk to the Council and could ultimately lead to the reactive immediate closure of Cumberland Road for an extended period, with the associated reputational consequential damage to the Council. This option can therefore be fully discounted.

Option 2 - Full Design to stabilise all elements

Due to the deep seated geotechnical ground slip, beneath Cumberland Road the main outcome would be to stabilise Cumberland Road and reinstate the Chocolate Path and the Heritage Railway. Option 2 is considered the most expensive option but ultimately removes all structural and major transportation stability issues. The residual construction contingency during works is considered low as all unstable ground would have been structurally stabilised, and thus all the imposed loads would be removed from the river wall. The deliverables of choosing this option is that this would fully stabilise Cumberland Road and would also reinstate the Chocolate Path and Heritage railway to full operational use, ensuring a positive reputational win for the Council. This option is considered the best overall engineering and social impactful solution to fully resolve the problem in the long term.

Option 3 - Do minimum and stabilise Cumberland Road only

Due to the deep seated ground slip, beneath Cumberland Road the only outcome of this option would be to stabilise Cumberland Road only. The Historic Railway, Chocolate Path and river wall will still remain largely unstable and fully unsafe, albeit that the substantial structural loads would have been removed by the stabilisation of Cumberland Road. There would be real residual construction risk here by working adjacent to the failed unstable ground whilst undertaking piling operations which would be increased during the works as well the likely ongoing future risk of partial or full failure of this remaining railway and chocolate path corridor and river wall. Therefore with this option Cumberland Road would be stabilised only, but both the Chocolate Path and Heritage Railway would remain closed, with the likely ongoing risk of these abandoned elements partially collapsing and falling into the river, obstructing the water course and requiring future Capital funding for removal. This option is not considered appropriate and would leave the Council with a substantial ongoing maintenance liability and would create a clear and ongoing reputational damaging narrative for the Council.

Option 4 – Stabilise Cumberland Road and Cycle route only

Again due to the deep seated ground slip, beneath Cumberland Road the main priority here would be to stabilise Cumberland Road, which is also achieved with this option along with also providing the diverted reinstatement of the Chocolate Path along the line of the Heritage Railing over this section. The railway would therefore be restricted to a route from M Shed to Vauxhall Bridge, where it would terminate. Again the residual construction risks would be increased during the works as well the likely future ongoing risk of partial or full failure of the remaining abandoned chocolate Path and river wall falling into the river, obstructing the water course and requiring future funding. This option is also not considered appropriate and would leave the Council with a substantial ongoing maintenance liability and would create an ongoing reputational damage to the Council.

Mitigation Measures

The original Cabinet decision in July 2017 approved a Capital Budget of 5 million to be spent over three years. Part of that original proposal was to undertake further additional proposed mitigation measures in term of improvements to the existing drainage for the remainder of the Chocolate Path river wall on other identified areas to significantly reduce the negative impact on the river wall due to the blocked drainage. There is no evidence of ground slippage in these other additional areas and no subsidence is evident on the heritage railway. Improvements to the existing drainage would however reduce the hydraulic loading on the wall thereby reducing the risk or development of further areas of instability in the overall length of the whole wall. However due to the increased projected Capital costs now being forecast in the Report, there will be no budget available to complete these

mitigation works. The estimated costs of these mitigation works are in the region of £1m. The implications of not undertaking these mitigation works would be to accelerate the deterioration of the river wall in these locations and further increase the likely risk of partial failure occurring at these separate locations. These mitigation measures currently will not be done as part of any of the proposed options solutions.

Summary Findings

Options 1, 3 and 4 can be generally discounted and disregarded as they will not provide the full structural stability solution to all the separate transportation assets within this vicinity of Cumberland Road. These three options clearly would leave the Council under an unacceptable level of ongoing risk due to a full or partial collapse of all or part of each asset element, requiring immediate reactive closure of Cumberland Road for a substantial protracted period of time.

Option 2 is therefore considered to be the only real viable engineering solution, which not only will provide the required stabilisation solution of all transportation elements, but can also deliver a further degree of flood resilience along Cumberland Road, to the benefit to all frontages and local businesses. Option 2 will also provide a positive reputational win for the Council.

Option 2 has been through a detailed project costing exercise assessment provided by an approved firm of Quantity Surveyors, (Currie & Browne), resourced separately by our Framework Consultants (Jacobs). The projected headline construction cost only for Option 2 (full Design) is now at £5,540,000.00.

As this amount now exceeds the original Capital approved Budget of 5 million pounds, We are now required to seek additional funding through the procedural decision Pathway process.

Funding Sourcing Options

Consideration will now be given to the various options that may be available to find the additional Capital funding required to bring the Project to a successful conclusion and this can be generally summarised as follows:

- BBC Highways have established that there is no funding available from the Environment Agency (EA) for these proposed structural stabilisations works to the river wall. Improved flood defences in the area may be required in the future due to rising sea levels as a result of climate change, but at present no significant works (or replacement of the 2016 EA-funded flood wall) is anticipated until the 2030s at the earliest. BCC has an indicative grant funding allocation for flood defences in central Bristol and the opportunity to bring forward some of this funding (by demonstrating a future saving) has been explored with the (EA). The scale of funding available is estimated to be in the £10k's only, and as the grant funding nationally is already fully allocated for this financial year and oversubscribed for next, it is thought unlikely to attract the small amount of funding that may be available in the short term in any event.
- There are currently two allocations, each of £5m, from the Economic Development Fund (EDF) towards flood mitigation in the central area. It is unlikely that these can be used for contributions towards Chocolate Path wall repairs. BCC Flood team are liaising Local Enterprise Partnerships (LEP) to gain a view on this possibility. If answer is generally positive, (which officers don't anticipate), then there will be a need to assess this route of possible funding against the possible detriment of not using (EDF) money as local partnership contribution for FDGiA for River Avon Strategy. Loss of partnership contribution would result in lower national priority being given by DEFRA to FDGiA funding for our River Avon strategy which is key to delivering development in the central area.
- Local Growth Fund (LGF) - LGF is primarily directed at serving enterprise zones and/or housing delivery. It looks to provide 'additionality' rather than maintenance or repair. This therefore is not an option as a funding source.
- Local Cycling & Walking Infrastructure Plan (LCWIP) - This is currently also being investigated as a possible source of Capital funding. This can be considered but is likely to be a small contribution to the overall budget requirement.
- Proposed Baltic Wharf Caravan Site (BWCS) – BCC Highways to instigate early discussions with proposed developer. The objective here would be to discuss Developer contribution for flood mitigation if the proposed River Avon Strategy is in place and approved to fit in with the general proposals for the new (BWCS).
- The River Avon Flood Strategy technical work now not due to be complete until February 2020, statutory consultation will follow before the Cabinet report can be taken forward. Executive Director will need to consult first with Mayoral Office, but currently it is thought that there will not be any consultation until after Mayoral elections in May 2020, assuming (ED) accept principle of consultation on strategy in leading to drafting of Cabinet report.

Cabinet Member / Officer Recommendations:

That Cabinet

1. Approves implementing the construction and delivery of Option 2 set out in the report - full design to stabilise all elements of the project (which will also include full mitigation measures to ensure further resilience).
2. Approves the additional Capital funding estimation of £4,023,190 funded from underspends in the 19/20 capital programme.
3. Approves additional flood protection measures to raise the wall to 2065 flood protection requirements as an

integral part of the detailed stabilisation design.

4. Authorises the Executive Director for Growth and Regeneration to enter into a contract for the above works to implement Option 2.

Corporate Strategy alignment:

Both the Chocolate Path and Cumberland Road are Adopted Highways and BCC, as the Local Highways Authority, has a statutory duty to maintain and keep in use and open for the public. The overall Corporate strategy alignment of this project would be fulfilment of some of the corporate strategic themes with regard to Wellbeing, well connected and business as usual. The specific key objective of the project is to stabilise the location identified in Option 2, making it safe such that the Chocolate Path and railway line can be re-opened, as well as removing the risk of any subsequent closure of Cumberland Road. The Chocolate Path forms a section of NCN Route 33, as well as being part of Bristol’s cycle route network therefore promoting Wellbeing by encouraging sustainable modes of travel and improvements to air quality. Whilst Cumberland Road is classified as a C class road, providing a connection between Brunel Way and the city centre, as well as local access to residential, business and leisure properties, it does now form a section of the new AVTM MetroBus route.

City Benefits:

Implementing the stabilisation works will allow the Chocolate Path to be re-opened, letting pedestrians and cyclists access to the route once again. This would allow them to use the off-road facility rather than Cumberland Road. It will also allow the Heritage railway to re-open, letting trains run again as a tourist attraction. This has financial benefits for the operator and a reputational enhancement to the tourist industry corporately within the City. It will also remove the risk of potential structural failure of the ground supporting Cumberland Road, which would result in a subsequent lane closures or full road closure of Cumberland Road. Such a road closure would affect resident and business local access especially to the SS Great Britain and also the effective full operation of the MetroBus scheme.

It will also remove the risk of a collapse of the river retaining wall into the New Cut, which could result in detrimental environmental impacts on the river, as well as operational impacts on the local highway network. Such a potential collapse would result in the need for an emergency response and immediate remediation works that are likely to be more expensive than the planned and phased programmed stabilisation works. The final recommended concept design (Option 2), will have the additional inclusion new flood defence resilience measures to prevent or reduce future flooding of the Chocolate Path/railway that would result in wider economic benefits from reduced levels of flooding on this corridor and also to Cumberland Road.

Consultation Details, including External Stakeholder Consultation

The Cabinet Member for Transport, executive Director and Ward councillors will be briefed on the proposed additional costs to this Capital project.

The Harbourmaster will be consulted and involved in the scheme developments.

Harbour side Heritage Railway will be consulted and kept up-to-date with progress, as scheme affects the Heritage railway line.

The Environment Agency (EA) will require details of the proposed activities, as the proposed works are next to a main watercourse and will require the appropriate Consents from the EA.

The Marine and Maritime Organisation (MMO) will be consulted on this project as they license, regulate and plan marine activities in the seas around England to ensure that this project proposal is carried out in a sustainable way.

Residential Frontages and local businesses will be informed of any significant traffic management that affects Cumberland Road. It is anticipated at this stage that consultation may not be required, as this is a purely a stabilisation and maintenance scheme. Should any actual consultation be necessary, the overall requirements and timings will be considered as the detailed scheme is being developed.

MetroBus, First Bus and relevant Emergency Services will be consulted also be kept up-to-date on the Project .

Revenue Cost	n/a	Source of Revenue Funding	n/a
Chocolate Path Capital Cost	To approve for the additional Capital Funding of £4.23m additional to £5.05m scheme allocation which has already had Cabinet Approval.		The scheme is funded by prudential borrowing under the Approved Capital Programme
One off cost <input checked="" type="checkbox"/> Ongoing cost <input type="checkbox"/>		Saving Proposal <input type="checkbox"/> Income generation proposal <input type="checkbox"/>	

Required information to be completed by Financial/Legal/ICT/ HR partners:

Finance Advice: Full Council meeting on 20th Feb 2018 approved £5.00m (PL09a), for capital budget over 3 financial years. This included the already approved £580K spend in July 2017 to undertake the emergency investigation surveys and preparation of tender documents and detailed designs due to an on-going collapse of an 80m section and works. The original basis of this project estimation was formulated using the final outturn construction costs of the recent and similar River wall failure Project on

Clarence Road. This was used as a basis to give projected estimated costs for the Cumberland Road Project.

Additional Geotechnical Investigations (GI) and monitoring was undertaken in 2018/19 which determined the primary root cause of the river wall and ground failure to be a deep seated ground slip with rotational movement approximately 12m beneath Cumberland Road.

In addition to the main structural works, part of that original proposal was to undertake further additional proposed mitigation measures in term of improvements to the existing drainage for the remainder of the Chocolate Path river wall on other identified areas to significantly reduce the negative impact on the river wall due to the blocked drainage.

The total funding required under option 2 mentioned in the main section of the report is c£9m (including risks). The additional project funding has been found from underspends within the Housing programme that have no impact on the delivery of that scheme. **Exempt Appendix “I”** provides further commercially sensitive details.

The full extent of the reprioritisation of the capital programme will be reflected in the 20/21 budget report.

Finance Business Partner: Kayode Olagundoye, Interim Finance Business Partner, Growth and Regeneration, date 20/09/19

2. Legal Advice:

Procurement of the contract(s) necessary to implement Option 2 (including all necessary services and works) will need to comply with the Public Contract Regulations 2015 and the Councils own Procurement Rules. Legal Services will provide support to the Executive Director in determining the appropriate contract(s).

Legal Team Leader: Eric Andrews **Date:** 18.9.2019

3. Implications on ICT: No impact to IT Services

ICT Team Leader: Simon Oliver **Date:** 31/07/2019

4. HR Advice: No HR implications are evident

HR Partner: Celia Williams **Date:** 31/07/2019

EDM Sign-off	Colin Molton	18th July 2019
Cabinet Member sign-off	Clr Dudd	3rd June 2019
For Key Decisions - Mayor's Office sign-off	Mayor's Office	3 rd September 2019

Appendix A – Further essential background / detail on the proposal Chocolate Path – Revised Business Plan	YES
Appendix B – Details of consultation carried out - internal and external	NO
Appendix C – Summary of any engagement with scrutiny	NO
Appendix D – Risk assessment	YES
Appendix E – Equalities screening / impact assessment and Checklist of proposal	YES
Appendix F – Eco-impact screening/ impact assessment of proposal	YES
Appendix G – Financial Advice	NO
Appendix H – Legal Advice	NO
Appendix I – Exempt Information – Commercially Sensitive Information	YES
Appendix J – HR advice	NO
Appendix K – ICT	NO
Appendix L – Chocolate Path Location Plan and condition photographs	YES