



CABINET 19TH MAY 2021

SUBJECT: A469 TROEDRHIWFUWCH FUNDING BID

REPORT BY: DIRECTOR FOR ECONOMY AND ENVIRONMENT

1. PURPOSE OF REPORT

- 1.1 This report is seeking the views of Cabinet on allocating Capital funding of £300k to allow progression and development of the outline design and detailed budget estimates for the next phase of the A469 Troedrhifwuch highway improvement scheme.

2. SUMMARY

- 2.1 Following the closure of the A469 at Troedrhifwuch in 2014 due to a Welsh Water main burst, an option analysis for alternative routes suggested a funding requirement of some £80m was needed. A feasibility report was presented to Welsh Government and it was requested that an extensive review of the existing carriageway condition be undertaken before any commitment to road diversions would be considered. An initial study undertaken in 2016 indicated the likelihood that the failure mechanism appeared deep seated and monitoring of the site movement was commenced. A resilient roads grant secured in 2020 allowed a more extensive site investigation which has identified that the depth and extent of the disturbed area within the landslip is not as great as that initially indicated, although the road cannot be fully opened without remediation works. Progress in 2020/21 identified potential solutions and further funding is required to progress the next phase of development. Given the ongoing stability issues and only one traffic lane access restrictions, securing funding to allow the development of the outline design of the preferred solution is a priority for 2021/22.

3. RECOMMENDATIONS

- 3.1 As the Welsh Government resilient roads funding only extended until 31st March 2021, it is recommended that a further £300k is allocated to enable the completion of the feasibility / design to arrive at a preferred option which can then be taken forward to a position that incorporates detailed highway design, procurement, and construction.

4. REASONS FOR THE RECOMMENDATIONS

- 4.1 The recent site investigation and study has demonstrated that there are economic

solutions for stabilising the existing highway corridor, as opposed to the 2016 study which suggested otherwise. Options have been developed that could negate the need for a new road and ensure the ongoing stability of the existing section of highway. Capital funding will allow progression and development of the outline design and detailed budget estimates. This in turn will allow further funding to be sought for the detailed design and construction phase which would be expected between 2022/24.

5. THE REPORT

- 5.1 The A469 road between New Tredegar and Pontllytyn is a major link to the A465 Heads of the Valley Trunk Road to the North and a vital link for communities to the A4049 strategic highway to the south. In February 2014 accelerated movement resulted in the A469 at Troedrhifwuch being closed for three months causing significant disruption to utility services, businesses, schools and residents in the area. Funding was secured from the Welsh Government to undertake a highway resilience feasibility options appraisal study which was completed in July 2016. The study concluded that the geotechnical risk for the site was likely to remain high and that it would be difficult, due to the size and scale of the stabilisation works required, to protect the highway from future movement. The study also looked at alternative route options to divert the A469 away from the slip area with overall costs estimates ranging from £60 million to £80 million. The study recommended further investigations to fully understand the nature and magnitude of the geotechnical risk posed by the landslip and that further investigations would be required. The site movement has been monitored over the subsequent years.
- 5.2 Following storm Dennis in February 2020 further accelerated movement resulted in raised concerns about the overall stability of the highway corridor. As a precautionary measure the carriageway was reduced to a single lane under temporary traffic light control to reduce live and dynamic loading on the slip area. Funding was immediately secured under the resilient roads fund grant to allow further detailed investigation of the slip area. External geotechnical consultants were engaged to undertake an extensive and detailed site investigation of the slip area to understand the nature and full extent of the slip, determine the current stability of the site and consider any options available to stabilise the area in both the long and short term.
- 5.3 From the site investigation, the consultants have been able to determine the current state of the slip in terms of stability. A pictorial representation of the analysis has been attached within Appendix 1. The minimum factor of safety that would be considered acceptable in situations like this is 1.3 and preferably 1.5 to ensure continued stability. The factors of safety calculated for the current situation range from 0.36 to 1.26, where anything below 1 indicates an active slip. The analysis indicates that the general slip area is fluctuating above and below the equilibrium factor of safety of 1. It further indicates that external factors such as excessive rainfall and ground water can cause a reduction in the slip factor of safety and trigger movement. This is also further compounded by heavy dynamic and static loading from vehicle traffic. Contrary to the 2016 study findings, this most recent and more extensive investigation suggests that there are options available that can be implemented, which would ensure the integrity/stability of the highway corridor in both the short and long term.

- 5.4 The site investigation results and analysis have demonstrated that the slip area is currently in a cyclic state of periods of stability and instability. The periods of instability are typically triggered by some external factors such as extremes of weather (heavy rainfall) and to a lesser extent dynamic and static load changes. It is for this reason that maintenance works have been undertaken on several occasions to seal the surface cracking in the carriageway and footway to reduce the ingress of water through the surface, although this does not address the ground water issue. It is also the reason why temporary traffic management has been installed to limit traffic to the north bound lane which both reduces the dynamic and static loading by slowing vehicles down and reducing their number in the area at any one time. While the foregoing actions go some way towards reducing the extremes of the triggered movement they in no way prevent it and as such the current restrictions in terms of single lane running and reactive repair will remain in place for the foreseeable future.
- 5.5 The recent site investigation study has demonstrated that there are economic solutions for stabilising the existing highway corridor, as opposed to the 2016 study which suggests otherwise. The next stage is to develop the feasibility design further to arrive at a preferred option which can then be taken forward to detailed design, procurement, and construction. The current funding made available by the Welsh Government under the resilient roads funds only extended until the end of March 2021. To progress with the further outline and detailed design of the project additional funding needs to be secured.
- 5.6 Options have been developed that could negate the need for a new road and ensure the ongoing stability of this section of highway, these are detailed in Appendix 2, presented in tabular form detailing pros and cons together with preliminary cost estimate for the options considered.

5.7 **Conclusion**

Given the specialist nature of the proposed engineering solutions a phased approach to procurement would be suggested if the £300k Capital monies are made available.

The first phase would be to appoint a specialist consultant to develop the feasibility designs to allow the selection of a preferred option (from Appendix 2), and the development of the preferred option to outline design stage. Development of the preferred option will also allow detailed budget estimates to be prepared.

The second phase of procurement will involve the appointment of a design and build contractor. The use of this approach is suggested for two main reasons, the first is buildability - this project is likely to be logistically very difficult to deliver and the appointment of a specialist contractor to both design and construct this project is seen as the best way forward. Specific stipulations could be made such as stating that single way traffic flows must be maintained during construction, given that it would be a design and build contract, the contractors could then take this into account when developing their proposed solutions. Secondly is risk, this will sit mainly with the contractor, which given the complexity of the project and provides greater assurance to the authority as the selected contractor will have full input to both design and construction.

6. ASSUMPTIONS

- 6.1 It has been assumed that further design feasibility work costing circa £300k will be required to place the authority in a position to bid for external funds to complete the necessary works to maintain this accessible route to the Upper Rhydney valley.

7. SUMMARY OF INTEGRATED IMPACT ASSESSMENT

- 7.1 The IIA indicates that the reopening of the road will have a wide-ranging positive impact for all road users, the local communities and economy in doing so. Not progressing with the proposal could have the reverse negative impact as the road could eventually fail and could close off or isolate communities resulting in lengthy diversions which would increase travel costs and make journeys to friends, families, education, employment or leisure more difficult.

Full Integrated Impact Assessment included in Appendix 3

8. FINANCIAL IMPLICATIONS

- 8.1 Initial consultation with Corporate finance has been undertaken and it is recognised we have statutory duties to maintain the Highway. The £300k funding will allow design and tenders to progress, however, the longer-term construction costs for the scheme will need to be secured via additional capital funding and / or external funding bids.

9. PERSONNEL IMPLICATIONS

- 9.1 None

10. CONSULTATIONS

- 10.1 The views of consultees have been incorporated and addressed within the report. There were no views which differ from the recommendations.

11. STATUTORY POWER

- 11.1 The recommendation to fund the design options addresses the authority's statutory duty under the Highways Act to maintain the highway in a safe condition and promotes the well-being of our future generations.

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Consultees: Cllr John Ridgewell, Cabinet Member for Environment and Infrastructure
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Mark S Williams, Corporate Director for Economy and Environment
Marcus Lloyd, Head of Infrastructure
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Lynne Donovan, Head of People Services

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Cllr Mrs Eluned Stenner (New Tredegar)
Cllr Gaynor Oliver (Pontllytyn)
Cllr John Bevan (Moriah)
Cllr David Harse (Moriah)
Cllr Carl Cuss (Twyn Carno)
Cllr David Hardacre (Darren Valley)
Cllr Alan Higgs (Aberbargoed)
Cllr Alan Collis (Aberbargoed)
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Appendices:

- Appendix 1 Current Factors of Safety (FOS)
- Appendix 2 Preliminary remedial options
- Appendix 3 Integrated Impact assessment (IIA)