IN THE MATTER OF THE CAMBOURNE TO CAMBRIDGE TRANSPORT AND WORKS ACT ORDER APPLICATION MADE BY CAMBRIDGESHIRE COUNTY COUNCIL (AND GREATER CAMBRIDGESHIRE PARTNERSHIP)

OBJ 213

CLARE HALL, UNIVERSITY OF CAMBRIDGE

PROOF OF EVIDENCE

CHARLES ALAN SHORT MA, DipArch, PhD, LittD (Cantab)

Summary

1. Introduction

1.1. I am Charles Alan Short, The Professor of Architecture (1970) Emeritus at the University of Cambridge. I research the design of buildings and cities to mitigate and adapt to the effects of a changing climate.

1.2. I am the current President of Clare Hall, a graduate research college in the collegiate University of Cambridge. I was elected President in November 2019 after serving two years as Vice President. As President I chair the Trustees who meet as the College Council.

1.3. I am a Trustee of the University of Cambridge as a member of University Council. I am appointed to the University's General Board, responsible to the Council and Regent House for matters relating to the University's academic and educational activities and policies.

1.4. I am Deputy Chair of the Colleges' Committee comprising the Heads of House of all 31 colleges and will be the Chair from 2026. I am therefore keenly interested in the safety of all College students and staff, many of whom are keen cyclists.

2. History and Background to Clare Hall

2.1. Clare Hall has become a research institution of international stature over 60 years. Its Fellows contribute to the research supporting the Oxford and Cambridge Arc identified by Government Ministers as the premier research and innovation hub driving national economic recovery and growth.[1]

2.2. Clare Hall was founded by Clare College in 1966 to be the European equivalent of Einstein's Princeton Institute for Advanced Studies. Clare Hall is devoted to research. It has no undergraduates. It is very different to the 29 traditionally constituted undergraduate colleges.

2.3. Clare Hall has a significant annual enrolment of visiting academics. This is a vital function for the University. Of all Oxbridge colleges, only All Souls Oxford maintains a comparable visiting academic programme. 35 Visiting Fellows were enrolled in 2024-25.

3. Layout and Buildings of Clare Hall

3.1. My evidence reproduces the 3D model included in Avanti's evidence showing the Clare Hall campus extending the length of Herschel Road and the parallel Rifle Range Road and beyond into Lord Rothschild's former estate.

3.2. The model shows that Clare Hall's Main Building housing meeting and discussion rooms, studies, offices, flats and courtyard houses, Common Rooms, Dining Hall and

[1] https://www.gov.uk/government/publications/oxford-cambridge-arc/oxford-cambridge-arc

its important ceramics collection fronts Rifle Range Road. My evidence includes a map of all residents for 2024-25 distributed across Elmside, abutting Rifle Range Road, the Brian Pippard building tight to the boundary with Rifle Range Road, various houses on Herschel Road opening to Rifle range Road and the developed West Court campus including meeting rooms and flats in Gillian Beer House, the Salje, Paul Mellon and Robert Honeycombe buildings. No 5 Herschel Road is bequeathed to the College.

4. Architectural and Academic Significance of Clare Hall

4.1. Historic England considers the Main Building designed by the Anglo-Swedish architect Ralph Erskine to be particularly important with 'more than special interest'. It is listed grade 2*, process accelerated as the Statement indicates, to ward off the threat of a busway skimming the entire South front. The evidence provided by Jessica Wilson and Fiona Lamb emphasizes the importance of the setting in making planning decisions.

4.2. Clare Hall has two Grade 2* E S Prior villas used as residences, Elmside abutting Rifle Range Road and Maynard Keynes home, now Leslie Barnett House, to the North of the Brian Pippard Building. The former Rothschild residence at West Court from which he ran N M Rothschild and conducted secret government business is important historically.

5. Fellowship and Academic Life

5.1. The College appoints up to 42 distinguished visiting academics annually, taking sabbaticals from the world's leading research institutions. Visiting Fellows are elected by the Clare Hall Fellowship Committee in open competition and admitted to the University. Visiting Fellow's partners and children have also been welcomed since the Foundation to enable extended stays.

5.2. Visiting Fellows come to Clare Hall to produce the research which will define their careers, and they do, 8 Nobel Laureates to date. Testimonial letters appended to my evidence show they prosper within Clare Hall's well-established and much-loved quiet and tranquil atmosphere.

5.3. The chart of the Fellowship in my evidence shows that Clare Hall has a very distinguished home team of Professorial, Official, Emeritus, Honorary and Research Fellows, some of whom live in and many who regularly frequent College, not least for the 20 or more Special Interest Groups, Colloquia, Seminars and Symposia held in College meeting rooms fronting or close to Rifle Range Road.

6. Plans for future Development

6.1. My evidence includes a Masterplan by architects Stanton Williams to explore all potential sites within Clare Hall. My evidence explains the impetus for building more accommodation for doctoral students to deliver changing University policy to greatly improve graduate student entitlements. It already has a scheme for the rear of No 4, building against the Rifle Range Road boundary to maximise use of limited space.

6.2. The College has needed an auditorium since the public Tanner and Ashby Lectures were launched in 1978. It always has to borrow other venues. It has become an important venue for music and proposes to replace its student bar with a small, tiered auditorium with an excellent acoustic for music. It is currently raising funding to proceed to detailed design and to achieve the necessary permissions.

7. Impacts of the Proposed Busway on Clare Hall as an International Centre of Academic Excellence

7.1. The submitted application for the Proposed busway in relation to Clare Hall

7.1.1. The Applicant proposes a two-way guided busway between Cambourne and Cambridge, 10 diesel buses per hour each way will use it in the first instance. Segment 16 on the Applicant's Sheet 17 of 17 occupies Rifle Range Road, a private track owned by Jesus College, running the entire length of the Clare Hall boundary. It will rise on an artificial causeway reinforced with substantial concrete retaining structures to breach a very much wider new crossing over the Bin Brook. This proposed disproportionate new bridge requires a 10m span, 14.5m wide, in reinforced concrete, lifted to first floor level severely compromising privacy in college accommodation. The proposed busway passes within 3m of Clare Hall's buildings. Ms Fiona Lamb's evidence reveals that the applicant's drawing showing this relationship and their assessment of the outlook of Clare Hall was highly misleading at a critical decision-making time.

7.2. Impact on the functioning of Clare Hall

7.2.1. **Summary of Harms**

- Intolerable noise and vibration during construction, **Significant Adverse Impact**
- Major Impact resulting in **Significant Adverse Effect** from the large increase in noise from busway operations.
- Grade 2* Heritage assets would be damaged; there is no regard for the setting of the heritage assets which will be **very adversely impacted**.
- **Increased flood risk** up and downstream, increased water velocities and damage
- Major, possibly irresolvable c**onstraint on ability to build** along the southern half of Clare Hall's sites.
- The combined harms will cause s**evere reputational damage** and discourage senior academics from applying for Visiting Fellowships and permanent

Fellowships and dissuade Graduate students from applying from within and beyond Cambridge.

Noise and Vibration

7.2.2. Mr Jonathan Blacklock's evidence quantifies the quiet and tranquillity of the College setting, a very important quality in establishing Clare Hall as an internationally renowned centre for advanced study. Mr Blacklock confirms that the Applicant failed to acknowledge Clare Hall to be a noise sensitive property and that construction noise will significantly adversely affect Clare Hall 's buildings, all are within 60m of the Applicant's site and vibration will be close to intolerable.

7.2.3. Mr Blacklock's evidence is that the large increase in noise generated by the operation of the proposed busway will have a major impact and a Significant Adverse Effect. Disturbance and distraction caused by buses passing every 3 minutes would be experienced by all affected rooms across the whole College and particularly the College Main Building, the Pippard Building and the College flats. It is not clear that viable and effective mitigation within the context of the Grade 2* Heritage asset will be possible.

Damage to Heritage, the Setting of the College and Privacy:

7.2.4. Ms Lamb's evidence is that the Applicant's proposal will cause significant harm, less than substantial harm at the higher end of the spectrum, to the setting and architectural integrity of Clare Hall, the Grade 2* listed building of very high significance.

7.2.5. Fiona Lamb's evidence shows the Applicant's evidence to have been seriously misleading at key times in decision-making and perception of potential harms by third parties: the openness of the South elevation denied, its glazing and activities

behind it misrepresented; a misleading cross section across Rifle Range Road showing the College to be very much further from the proposed busway than actually proposed. I analysed a perspective drawing of the proposed Bin Brook crossing. It disguises the need for substantial vertical concrete retaining structures to prop the causeway, and the height and extent of the banking required. All the trees along the North side of Rifle Range Road are felled, revealing the houses beyond along Herschel Road, all concealed now, including those within and bequeathed to the College, a violent change to the Green Belt edge.

Increased flood risk and Damage to Watercourses:

7.2.6. Residents of Newnham know to their cost that the risk of flooding is ever present in the Bin Brook flood plain. They have suffered severe inundation twice in the last 24 years, much damage and misery in the clear up. Graham Sinclair has shown that the proposed causeway would impact flood level and extent beyond the bounds of the application site and this risk cannot be mitigated within the purchase order limits. A consequence of deciding to switch route away from Adam's Road safely in Flood Zone 1 to Rifle Range Road in Flood Zones 2 and particularly 3 is the need to greatly increase the size of the current crossing to become a major reinforced 10m reinforced concrete bridge to attempt to completely dissipate the increased volume of floodwater. Mr Sinclair's evidence shows that it doesn't. Mr Sinclair shows significant areas of Clare Hall are vulnerable within the flood zone and wants of damage and erosion due to the doubling of velocities of flood water crossing Clare Hall in and above the natural unreinforced Bin Brook channel.

Traffic

7.2.7. Mr Kamran Haider's evidence shows the Applicant's principal argument for adopting the Rifle Range Road option over Adam's Road, the segregation of modes of transport, is unsupported by the Applicant's design because 44% of the

submitted route is unsegregated. Unsegregated routes connect to both ends of Rifle Range Road. If Adam's Road was re-incorporating this proportion of unsegregated route would rise to only 49% of the total length.

7.2.8. Ms Wilson and Mr Haider's evidence fundamentally questions the information fed by the applicant into the INSET options appraisal tool to determine the choice of route, showing that it was not undertaken correctly. For example, Rifle Range Road is wholly in the Green Belt, Adam's Road not at all. There are no listed buildings on Adam's Road.

7.2.9. Mr Haider's evidence explains a Road Safety Audit (RSA) process reveals 5 serious unresolved highway safety concerns with the proposed Rifle Range Road route. The RSA comments that some may at least appear to be irresolvable through lack of space. Rifle Range Road is simply too narrow at key points, not least along the south front of the Erskine buildings, leading to design flaws with the RRR route, making it substandard for cyclists and pedestrians. They will be too close to buses. The proposed left turn only junction to Grange Road at the point of its notorious narrowing, the Rouse Ball gap, is fundamentally criticised in its design and safety.

Impact on Plans for Future Development

7.2.10. The RRR route would preclude future development at Clare Hall, and the applicant has not engaged with Clare Hall to resolve this. Pulsar evidence includes Nick Ray Architects' site set up drawing for the Pippard building shows it to have been built from a site compound on Rifle Range Road. There is almost no access to Herschel Road between the houses. The University is engaged in a radical review of the experience of doctoral candidates. The generous funding provided by its Ivy League competitors frequently lures them away. Colleges are planning and building additional graduate accommodation to house all of their graduate students throughout their tenure, up to 4 years for doctoral candidates. Clare Hall

houses PhDs for one year usually and must keep pace to be a credible destination for the best graduate applicants. Clare Hall needs to build another 130 en-suite rooms and one-bedroom flats. It will need to build along the Rifle Range Road boundary in the backs of the large Edwardian houses it has acquired. Clare Hall commissioned Stanton Williams architects to produce a masterplan in 2018 which shows new graduate student and post-doctoral residences placed in every vacant space.

Reputational and Academic Impact

7.2.11. The reputational damage to Clare Hall and its very particular model would be highly destructive. Increasingly, Visiting Fellows are selected through institutional or national competitions formalised by agreements. Bad experiences with noise and disturbance negating a hard fought for sabbatical would disseminate very quickly. Few Visiting Fellows have access to office space in the departments and faculties. Most work in their apartments or the library. My evidence provides unsolicited testimonial letters of thanks as customarily written on departure.

8. Feasibility Order of Cost Estimate

8.1. My evidence also introduces, alongside the evidence of Mr Kamran Haider, feasibility costings that have been undertaken by Gleeds LLP (quantity surveyors) to understand the cost of the final section of the proposed development that proceeds along Rifle Range Road and a comparison against our suggested alternative route along Adams Road.

8.2. Gleeds' assessment determines that the Rifle Range Road alignment is significantly more expensive than the alternative down Adams Road, costing in excess of £10 million more due to the increased engineering requirements to proceed along the preferred route.

8.3. I have also instructed Gleeds to undertake a carbon assessment of the same busway routes. Whilst this is still being prepared by Gleeds at the point of submission of this Proof of Evidence, I am informed that the difference between the relative carbon impact of the Rifle Range Road route and the alternative Adams Road proposals is expected to reflect the costs appraisals – therefore showing the Rifle Range Road alignment to be not only more expensive but also more costly in terms of its carbon impact. It is expected that the carbon report produced by Gleeds will be submitted to the Inspectors shortly after this Proof of Evidence and it is kindly requested that it is considered by the Inspectors in their examination of the proposal.

9. Attempts to Engage with the Applicant

9.1. My evidence lists attempts to put Clare Hall's case against the construction of a busway and its associated and growing infrastructure against its entire Southern boundary to the Applicant over 7 years. The Applicant communicated the decision to route the busway along Adam's Road in August 2019 after rational analysis but switched the route silently to Rifle Range Road in May 2020. Mr Haider's evidence indicates that decision was not rational and unsupported by the optioneering tool and the growing evidence with far-reaching consequences which would drive up the cost dramatically as Gleeds reports.

10. Conclusion

10.1. The evidence of experts instructed by Clare Hall shows that the Rifle Range Road option is misconceived, highly problematic, unresolved and irresolvable. Mr Haider has invested a great deal of time designing two wholly viable, safe, affordable designs for the Adam's Road route sanctioned by the Road Safety Adviser, disturbing no neighbours, all set well back from the road, damaging no heritage assets, there aren't any, not threatening to increase flood risk, not felling

mature trees, not infringing the Green Belt. It is more flexible, it is much the better option, much cheaper and a correctly calculated INSET assessment demonstrates that and one of the world's leading research centres is left undisturbed.