

The Cairn Gorm Funicular and the financial crisis facing Cairngorm (1)

Description

Introduction

Following my post about the meeting between a concerned group of experts and Ivan McKee, the Scottish Government minister responsible for Highlands and Islands Enterprise (HIE) ([see here](#)), parkswatch is publishing the report we discussed with him at the start of July over three posts.

We presented the report as a draft and stated we would be happy to update/amend it in the light of any response from HIE. So far we have no feedback although we know HIE were sent a copy of the report shortly after our meeting. The report as published here is therefore as presented to the Minister (with one factual error noted) and still in draft form.

We would welcome comments, whether the correction of any factual errors, important points we might have omitted from report or other ways the report might be strengthened. Once the third post is published we will provide a link to the document as a whole which people can download and circulate further.

Draft Report in response to the financial crisis facing Cairngorm

Part 1 Our Concerns about the funicular

1) The structural engineering issues and the likely costs of the repairs.

- a. HIE has never explained the reason the funicular failed, why the support pillars rotated on their bases, and the what the repair work is designed to fix (see https://www.youtube.com/watch?v=8_GaexpMHO8 for an excellent video explaining the repair work). The legal case being conducted by HIE against the original designers and construction company, Crudens and Morrisons, however suggests that the explanation lies in some fundamental design flaws. This is reinforced by other facts, such as the funicular has never operated at its specified speed and has been notorious for its bumpy ride.
- b. We would like to highlight two possible explanations. The first concerns ground issues. Very few of the funicular piers are founded on bedrock, much of which has been found to be highly weathered, almost all of the piers are 'floating' on glacial till and weathered granite. This material is porous and consequently contains considerable amounts of groundwater, including "at least 12 strong flowing springs" according to Morrison's Health and Safety file compiled during the original construction. Under gravity all this 'loose' material and water will slowly move downhill, eroding material around the foundations and contributing to the observed pier 'rotation'. If that is the case, pumping more concrete in will only work for a time. The second explanation relates to fundamental engineering design flaws. HIE's decision to use concrete rather than steel support

pillars to save costs means vibrations not absorbed. Added to that are the curves. Most funiculars elsewhere in the world are on metal supports and straight. The pressure and vibration coupled with insecure foundations explains what has gone wrong.

- c. These problems may have been compounded by a lack of maintenance, e.g. rails and wheels are meant to be ground to remove corrugations and this has not happened (we have obtained copies of what maintenance has been done through FOI requests).
- d. HIE appears to have conducted only limited ground investigations before the original construction and the decision to undertake repairs (COWI, on its own initiative, undertook a few as part of its report on the state of the funicular). We note now that having strengthened the foundations, those around the mid-station are having further major work done on them, an indication that the original specification for the repairs was unfit for purpose.
- e. We believe these issues have contributed to the escalating costs of the repairs which the Herald reported had increased from “£16m to £21m are feared to be going even higher” (HIE’s first estimate for the repairs was £10m). We are not in a position to comment further on these repair costs because HIE has redacted almost all financial information from the paper on the revised business case which its Board approved in August 2021, which we obtained after an FOI request. Moreover, the briefing provided to the Minister and quoted by the Herald has not yet been made public [Note – we have since secured a copy]. HIE’s claims that the huge increase in repair costs is attributable to the weather, Covid and building product inflation is not credible. More importantly, however, to the extent we are right about the fundamental design flaws, there are serious questions about how long the repairs will last in which case the projected potential subsidy of £73.09m required over the next 30 years, as approved in the original business case, will be a serious underestimate.

2) The wider issues with the funicular

- a. As far as we are aware all funiculars across Europe require public subsidy. In some cases, e.g. where funiculars link villages in the mountains, this is justified as a form of public transport subsidy (like subsidising buses) but many funiculars are now being closed down as financially unviable, including Ellmau on which the original idea for the Cairn Gorm funicular was modelled.
- b. The situation is even more challenging at Cairn Gorm than most European funiculars because of other significant design flaws: the tunnel that blocks in snow (it is not uncommon in particular circumstances for funiculars in the Alps to run underground); the mid-station not being equidistant resulting in need for two stops; the unnecessary steps which while not a problem for tourists and a problem for the coach market; the bottom station being situated in a different building to the Day Lodge.
- c. The funicular was never needed for skiers (the justification given was to access the Ptarmigan bowl in high winds which are not good for skiing) and is a poor form of uplift for skiers compared to lifts and gondolas. Skier days: 2004 – 2008 inclusive, averaged 53928, 2009 – 2013 incl, ave. 102,903; 2014 – 2018 incl. ave 60,258.
- d. The funicular was also justified as a means of generating income to keep the business going in summer but the problem with that was and is that visitors do not want to take a journey up into the clag (even in summer the Ptarmigan is in cloud one day in three). Even if there hadn’t been a legal agreement restricting access onto the fragile plateau, the weather etc meant this was the wrong place for the general tourist.
- e. HIE’s masterplan claims that “once back in service the Funicular is expected to attract thousands of visitors each year generating benefits for the wider economy in Badenoch and Strathspey

where the tourism and Hospitality sectors have been dealt a huge blow by Covid-19". The **empirical** evidence does not support this. For example, the funicular user numbers have been declining almost since the funicular first went into service. In its first 5 years of use the average passenger numbers were 171,406 [and 58,505 skier days] and in the last 5 years of use, prior to its failure, the passenger numbers were 130,990 [and 60,257 skier days] That's a reduction of almost 25% [23.58%] in passenger numbers while the local tourist economy has been growing substantially.

- f. The summer visitors are attracted to the Cairngorm Mountains as a whole (and the National Park) NOT HIE's Cairngorm Mountain business! While visitors to the funicular have dropped, according to Cairngorm National Park Authority figures, there was a 4% increase in visitors to the national park between 2009 and 2016.
- g. As a result of all these factors, the funicular has always been a financial liability rather than an income generator and this has been obvious to everyone except HIE, e.g. even Natural Retreats refused to take it on when they won the contract to manage Cairn Gorm.

3) The Business Case, including the revised business case for repairing the funicular

- a. There is significant additional expenditure envisaged by HIE linked to their 'masterplan', some of which was included in the business case and some not (e.g. the £691k for the family friendly mountain bike facility which approved planning approval in May 2022). On top of which there are other unbudgeted costs attributed to other design flaws and a lack of maintenance e.g. the repairs required to prevent water ingress to the Ptarmigan (built on springs) referred to in the August 2021 HIE Board paper.
- b. Clearly the costs in the original business case for repairs, though committing HIE to a possible £73.09m subsidy over 30 years, were as inaccurate as those presented in the original business case to build it (as documented by Audit Scotland in 2009 <https://www.audit-scotland.gov.uk/publications/review-of-cairngorm-funicular-railway>). We welcome the concerns that the new responsible Minister, Ivan McKee, has expressed publicly about this and appreciate that, because most of the financial information is yet to be released to the public, he will have a better understanding of the projected figures than we do.
- c. What we don't think will have been properly factored in to the ongoing running costs are the likely repair and maintenance costs given the fundamental design flaws we have described. Without scaremongering, if the pillars start tilting again in three to five years' time, it will be back to square one and large amounts of public money will have been spent for nothing. That is why we believe the Scottish Government should reconsider the decision to continue with the repairs pending proper investigations as to the risks.
- d. In our view, however, both HIE's original and revised business case for the repairs are also based on some fundamental flaws/questionable assumptions:
 - 1. That the £2.9m grant, part of the ERDF [European Regional Development Fund] application from the EU, would have to be repaid. It's now 20 years later, we have left the EU and as far as we understand the EU never enforced the condition in the grant that required the Shielling to be upgraded.
 - 2. The costs of alternatives. We will come back to this but the examples of uplift HIE included for comparative purposes (a funitel which runs on a dual cable) appear to have been the most expensive possible and estimates for these seem to have been inflated distorting the whole business case.
 - 3. The cost of removal. HIE appears to have chosen the most expensive option, i.e.

complete removal, when it would be much cheaper to remove the superstructure and top of the concrete as they did with the Coire na Ciste chairlift for a cost of under £500k (contrary to the report by head of infrastructure Keith Bryers at that time on removal of concrete foundations). If the concrete does have to be removed, the expense of doing so now will have increased significantly because of all the concrete pumped into the ground. The fact is that the funicular won't last for ever and at some time will have to be removed.

4. That HIE would be able to offset some of the costs of repairs through successfully suing Crudens and Morrisons (now part of Galliford Try). We very much doubt this case will go anywhere. The consulting engineers, Crudens, are no longer in business. Galliford Try are likely to argue that the company at the time were simply following instructions issued by HIE. We have set out the history behind the original decision to build the funicular, which was taken by the Lib/Lab government but also illustrates how HIE has manipulated government and other organisations in Appendix 1 [This is the one section of the report which we are updating and we hope to publish separately due to its length].

End of first post and Part 1 of the report.

Category

1. Cairngorms

Tags

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2. funicular
3. HIE
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