

CPRE PEAK DISTRICT AND SOUTH YORKSHIRE BRANCH

A57 LINK ROADS TR010034

RESPONSE TO EXAMINING AUTHORITY'S WRITTEN QUESTIONS 2 Questions 3.3, 3.4, 3.13, 5.8, 12.8 and 14.1

DEADLINE 16th March 2022

Q 3.3 Modal Transfer - There are aspirations, both at local and national level, to transfer journeys to more sustainable transport modes.

- a) Is this reflected within the model?**
- b) If so, what assumptions and allowances have been made to reflect this?**
- c) If not, should it be?**

Q3.4 Modal assumptions - There are concerns, expressed by CPRE Peak District and South Yorkshire Branch in [REP5-029 paragraphs 160 and 170] and elsewhere, that public transport and active travel modes have been under-represented in the model.

- a) Please provide comments on the issues raised.**
- b) If these modes have been under-represented, what effect would this have on the case for the scheme?**
- c) Do the local highway authorities have any comments in regard to this issue?**

Public transport

On public transport we are seeking a Statement of Common Ground but have not yet received a final clarificatory response on what is in the model. We think we know and just need it confirmed. Since this has not yet been forthcoming, we have today sent the statement below to NH for comment and possible agreement.

"The model contains public transport trips by people who have a car available but not by other users. In addition, only trips with either an origin or destination in the Area of Detailed Modelling are actively modelled. All other public transport trips are fixed."

We think we have already agreed that walking and cycling are not included in the model. We are still working on the public transport data NH have sent us. They have explained why they have not supplied the full data as requested but this is not a technical reason, but their own decision. We will submit our conclusions to you and the Examination in the next week – it is not ready for Deadline 6. We have been in email contact with the Inspectorate separately to update the Panel about this (REP5-038).

Q 3.13 to PDNPA, HPBC & DCC: Improving road access to the National Park may encourage people to access the National Park by private motor car. During site inspections, it was observed that much of the parking along the A57 Snake Pass took the form of informal roadside parking, particularly around locations where Public Rights of Way (PRoW) cross or join the road.

- a) **What effects would increased parking demand have on: -**
 - **Highway safety, and**
 - **Visual amenity?**
- b) **Should formal provision be made to manage these effects?**
- c) **If not, why not?**
- d) **If so, how could such provision be secured?**
- e) **Could increased demand for travel for visitors be addressed in other ways?**
- f) **If so, how would this be delivered?**

a) The informal parking arrangements at the top of the Snake Pass have compromised highway safety and visual amenity. Cars park on both sides of the carriageway narrowing the passage for vehicles using the Snake Pass to the extent that on occasion it is difficult for farmers, delivery vehicles and ambulances to get through. Derbyshire County Council has attempted to control this with double yellow lines, which themselves impair the rural character of the road. However the double yellow lines have been largely ineffective in controlling parking, partly due to infrequent enforcement due to lack of resources. On the eastbound carriageway drivers arrive at speed at the top of the Pass and for westbound drivers there is a blind summit. In poor weather conditions all these effects combine to create significant road safety hazards.

Parked and moving vehicles significantly impact on open access land on both Kinder and Bleaklow. This harms visual amenity and destroys tranquillity. All of these impacts are contrary to achieving statutory National Park purposes to conserve and **enhance** the natural beauty, wildlife and cultural heritage and to promote opportunities for the understanding and enjoyment of its special qualities by the public (our emphasis). The enhancement of the Park is a legal requirement, not an optional extra when considering its future management. This is emphasised by the Government's response to the Glover Landscape Review (Jan 2022) which signals the fundamental importance of National Park statutory purposes and that both the first statutory purpose and the section 62 duty for public bodies require strengthening.

b) No. Formal provision should not be made here. There are small car parking areas as the Snake Pass descends east to Birchen Clough where there is well screened parking provision in the Forestry England Snake Plantations and good provision to open access land. These should be used to manage visitor pressure for parking in order to remove parking that is occurring at the top of the Snake Pass.

c) At its summit the Snake Pass crosses one of the wildest stretches of moorland in the Peak District – the Kinder Bleaklow plateau. Habitats (SSSI/SAC/SPA) with strong international and national protection abut the road verge and have been encroached by repeated off-road parking and the informal laying of hardstanding. The internationally famed national trail, the Pennine Way, also crosses here. Visual intrusion from parked cars already blights the experience of solitude and tranquillity. Formal provision for car parking would be contrary to both National Park statutory purposes. It would also be contrary to PDNPA Core Strategy policy T7 which sets the strategic principles for minimising the impact of motor vehicles and managing the demand for parking. Core Strategy policy T7C states that non-residential parking ‘*will be managed to ensure that the location and nature of car and coach parking does not exceed environmental capacity*’. Policy DMT7A clarifies the conditions against which the assessment of the requirement for new visitor parking will be judged.

A. New or enlarged car parks will not be permitted unless a clear, demonstrable need, delivering local benefit, can be shown.

B. Where new or additional off-street visitor parking is permitted, an equivalent removal of on-street parking will usually be required. This will be delivered through Traffic Regulation Orders to restrict on-street parking.

C. In considering proposals for new or enlarged car parks in the Natural Zone and in Conservation Areas, the developer is expected to have assessed alternative sites located in a less environmentally sensitive location, capable of being linked to the original visitor destination either by a Park & Ride system or right of way.

The Snake Pass summit passes through the Natural Zone (PDNPA Development Management Policies, Appendix 2), where Core Strategy policy L1B makes a presumption against development.

In the context of all the protection provided by the ecological and National Park designations, and the above National Park policies, the current car parking along the top of the Snake Pass exceeds the environmental capacity of the area and further development should not be permitted. Formalising the arrangement would encourage people to arrive by car and, if there is no space, to park along the road creating all the current safety issues, and harm to tranquillity and visual amenity.

d) Such provision should not be secured. Addressing the situation, which requires robust planning and informed engagement of the public, is wholly outside the DCO process. Rather than looking at one spot where visitors try to park, visitor management and access to the whole of the Kinder-Bleaklow Plateau should be addressed holistically. The PDNPA is developing such an approach through a Supplementary Planning Document to inform development at recreation hubs, including for visitor parking (PDNPA Development Management Policies, para 9.74);

and through the PDNP Management Plan. The Management Plan Delivery Plan 2018-2023 intends to reduce the effects of climate change on the special qualities by creating a *'low carbon sustainable transport offer for all which supports and encourages a new sustainable travel hierarchy promoting:*

- *Active travel encouraging low carbon and active transport such as walking and cycling allowing enjoyment of the National Park's special qualities.*
- *Sustainable public transport encouraging mass transit and shared travel to and within the National Park.*
- *Low emission car based travel through greater opportunities for electrically charged vehicles. Promoted by integrated and promotional ticketing'.*

Implementation will require a concerted effort over several years with substantial resources from a number of partners. Although the emerging Derbyshire County Council Bus Service Improvement Plan may provide an opportunity for implementation (e.g. through P&R hubs), the fate of the X57 service provides a cautionary tale. Hulleys of Baslow ran a short-lived service (October 2020 to January 2022), the X57, between Manchester and Sheffield which crossed the Park on the A57 and stopped at the top of the Snake Pass. This provided both conurbations with public transport access to the Park but was withdrawn due to lack of patronage.

e) Yes.

f) see d) above

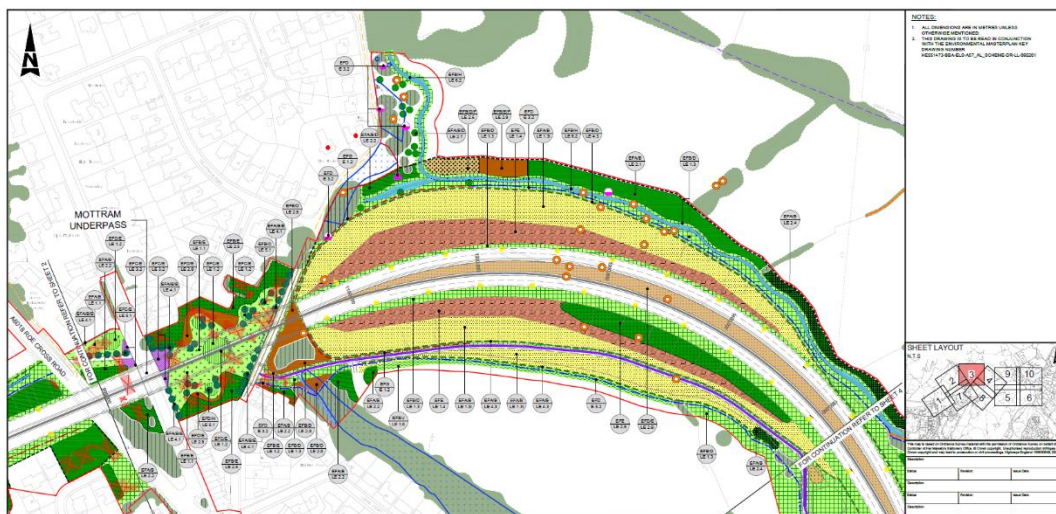
Q5.8 to CPRE: CPRE Peak District and South Yorkshire Branch [REP3-033] suggested a site inspection of private land in the pastures south of Mottram Old Hall to understand the impacts of the Proposed Development, including the proposed eastern portal and carriageway. Future views are noted from a bridleway and by drivers. The Applicant is quoted as saying that there would be no views from sensitive receptors. The ExA is requesting more information on the matters raised by CPRE Peak District and South Yorkshire Branch before deciding if a site inspection should be carried out.

a) Please could CPRE Peak District and South Yorkshire Branch clarify the bridleway locations with potential views of the proposed eastern portal and dual carriageway that it is concerned about?

b) Please could the Applicant comment on the matters raised by CPRE Peak District and South Yorkshire? How visible would the proposed eastern portal and dual carriageway be from bridleways, other public rights of way, or other sensitive receptors and how have these been considered in the assessment? What consideration has been given to views by users of the proposed carriageway?

a) Views of the proposed eastern portal and adjacent dual carriageway would be available to users of (i) the proposed bridleway along the top of the cutting adjacent to the westbound carriageway of new dual carriageway section as it ascends Mottram Pasture; and (ii) Coach Road.

(i) A new bridleway is proposed along the top of the cutting between the new junction at Mottram Moor and Old Hall Lane. The shallow slope of the cutting would be vegetated with grass. Adjacent to the bridleway there would be a new hedge extending from the eastern portal of the underpass (chain 1160), almost to chain 1500. At the western end of the bridleway between the underpass and extending to just short of chain 1200, i.e. for a much shorter distance than the hedge, there would be an environmental barrier 2-2.6m high. Thus, east of the environmental barrier the dual carriageway and the eastern portal would be available to view by users of the bridleway, at least until and if the hedge grows (see screenshot below from 2.6 Scheme Layouts, sheet 3 of 10). Section 07 in 2.7 Engineering drawings and sections presents a similar impression of visibility from the new bridleway. The eastern portal would also be visible to those looking over the edge of the public open space above the underpass.



(ii) Currently views of the western half of Mottram pasture from Coach Road (LON 108) are concealed by mature trees. At the northern end of Coach Road the topography and the proposed planting would conceal the dual carriageway and the eastern portal as shown by the photomontage from VP6.

On Coach Road at its southern end V-R-42, Nettle Hall Farm and adjacent properties, would be able to see the eastern tunnel portal (Appendix 7.1 Table 1-3, page 63).

At opening year, the cutting slopes and eastern tunnel portal and loss of defining woodland features will be perceptible features in the view.

This has led to a magnitude of effect on V-R-42 in year 1 winter of 'moderate adverse' and in year 15 summer of 'minor adverse'. The significance of the effect is 'moderate adverse' in year 1 winter and 'negligible' and 'slight' in year 15 winter and summer respectively. The reduction in effect depends on retention of existing trees, successful maturation of trees planted, and a hedge along the top of the embankment. As NH is assessing views from private properties we cannot confirm if this assessment is correct. There are no viewpoints available to us. National Highways states that VP7 provides a partial view from Nettle Hall (Appendix 7.1 Table 1-3, page 63). This is incorrect. VP7 is looking southeast across Mottram Moor towards the location of the proposed Mottram Moor junction. Nettle Hall is 300m to the northeast of this location, downhill from it and obscured by vegetation and housing. It is not captured, even partially, by VP7.

For impacts on users of Coach Road, V-P-05-1, NH has used VP6. Despite the topography and the proposed mitigation planting that appears to screen views from VP6, the views score the same magnitude and significance of effects as those from the private properties at Nettle Hall. However, the impact of the scheme further south on Coach Road between Nettle Hall and VP6, is not presented. Given the views from Nettle Hall it is likely that the scheme's eastern portal would be visible to walkers ascending Coach Road from Nettle Hall. This is particularly likely as at chain 1500 the cutting adjacent to the eastbound carriageway gives way to an embankment as the road approaches Mottram Moor.



The photograph above was taken from GR SJ9970096225 on Coach Road. The two down pointing black arrows show the position of two blue marker posts for the dual carriageway. Clearly the majority of the vegetation would be removed from this view creating visibility through to Spout Green, Old Hall Lane and the eastern portal.

As the whole of Mottram Pasture is private land, we believe that understanding the visibility of the eastern portal and dual carriageway from these two PRoW requires a site visit.

Q12.8 to CPRE: In your submission at Deadline 5 [REP5-028], reference is made to the current number of mountain hare numbers located in the Peak District being in the low thousands and a report from Spring 2004 indicating that traffic on the A57 probably claims 20% of adult hares living adjacent to the road.

Please can you explain the basis for the information presented about current numbers and whether there is any more recent data or evidence in respect of the proportion of mountain hares killed by traffic on the A57 and / or data or evidence relating to other relevant roads.

The reference we cited in REP5-028 is reproduced below. The late Derek Yalden, then president of the Mammal Society, estimated the mountain hare population based on the statistical model of distance sampling. This required dividing the total Dark Peak habitat into squares of a kilometre, and walking and counting hares seen during walks within 100 of the square kilometres. The 100 square kilometres were chosen at random and led to an estimated hare population of 10,000 mountain hares in the Dark Peak.

More recently Dr Carlos Bedson has completed a PhD on mountain hares at Manchester Metropolitan University. He has most generously prepared the accompanying paper specifically to address this question. It is presented as a separate submission, Appendix A.

Mountain Hares

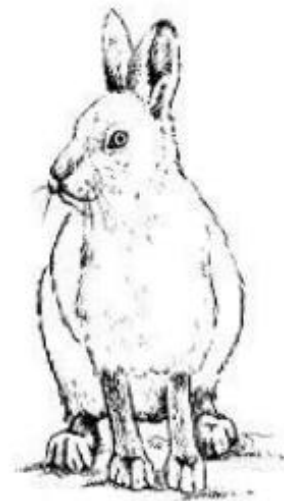
by Derek Yalden, president of The Mammal Society

DMG members will know about, may well have participated in, the re-survey of mountain hares (*Lepus timidus*) in the Peak District over the winter Jan to Mar 2000. This was organised, and then written up, by David Mallon (Mallon 2001 *The Mountain Hare in the Peak District*, Derbyshire Wildlife Trust). The hare was found in 332 1-km squares, an increase of 35% over the range I reported in 1984. It prompted a major question, though, about the size of the population. On any walk, only a proportion of ground is covered, and the 944 hares counted were only a proportion of hares sighted. So how good is the effort, and what extrapolation is needed to get a full estimate of the population? There are good statistical models, known as DISTANCE sampling, to attempt an answer. Taking a random selection of 100 of the 1-km squares in which the 2000 survey found hares, balanced to cover heather, grass and cotton-grass squares, Philip Wheeler and I re-surveyed the Peak District in winter 2001-2002. We walked a total of 280 km of transect between us - as a PhD student, he did his 50 squares mid-week, and I did mine at weekends. We walked straight lines just inside the boundary of each square, not only counting hares but also recording their perpendicular distance from our transects.

The trouble is that mountain hares come in two behavioural classes. Some are visible at, on average, 98m away (up to 600m or more away, in fact), so are being counted in a strip nearly 200m wide. About half the hares we saw were in this group. Extrapolating from them suggested a population of about 2000, not too far off what Mallon suggested from the 2000 survey. However, there is the other group, those that get up under your feet from, on average, only 9m away. The other half of the hares were in this narrow band, so obviously at about 10 times the density of the distantly sighted hares. As a consequence, we think the mountain hare population is around 10,000.

However, the regular walks undertaken each March by the Sorby Natural History Society show that numbers were very much lower in the mid-1980s, as a result probably of severe winters, and the numbers have certainly increased since then with the very mild winters now typical. Though a population of 10,000 seems safe, it could easily decline.

The population is fragmented by deep valleys and roads. From February to August, on weekly visits, I collected the remains of 45 from the Snake Road. That seems a severe toll, perhaps 20% of the adult hares living in the adjacent squares, and we need to work out just how important the threats of wider, busier roads might be. Since we think we have a good idea of the overall range and population size, and can get figures for reproductive rate from the literature, we hope to be able to answer this question shortly. Watch this space, and watch out for an idiot naturalist scraping hares off the Snake Road.



Mountain Hare
by Laura Berkeley

More on Mountain Hares.....

There is more on mountain hares in the Dec 2003 issue of the "British Wildlife" journal. "Mountain hares in the Peak District" by Mallon, D., Wheeler, P., Whiteley, D. and Yalden, D. W. is on pages 110 to 116.

Q14.1 to DCC: There are concerns that the increase in traffic on these roads identified in the “Do-Something” scenario will increase the amount of time that these roads are closed for maintenance works.

a) Is there evidence to demonstrate that the structural failures of the road are resultant from the total number of axle loads, or are they primarily associated with geology / climatic issues associated with the route?

a) Yes. Vibration of traffic as a cause of landslips appears to be an emerging research field. Vibration-related landslides have been reported along roads caused by trucks, as on the main road N°7 in Argentina¹, and an increase in axle weights and hence dynamic loads is considered to activate landslips². More recently research in New Zealand has challenged the commonly considered view that rainfall is the main trigger of landslips and argues that vehicle vibrations have been contributing to the instability of the slopes within the Bay of Plenty East³. But the most convincing evidence of traffic vibration causing landslips to move can be found in the Professor Dave Petley’s May 2021 blog reproduced below. Professor Petley is Professor of Geography at Sheffield University. We therefore believe that with respect to the Snake Pass the precautionary principle should be applied and that traffic, particularly heavy traffic, should be reduced not increased. In 2025 HGVs are forecast to number 305 (or 1% of daily traffic flows) and with the scheme in 2025 would increase to 420 daily, an increase of 38%.

[The Pietrafitta landslide: can traffic vibration cause a landslide to move?](#)

Posted by Dave Petley

[The Pietrafitta landslide: can traffic vibration cause a landslide to move?](#)

Over the years I have frequently heard discussions about the triggers for landslide movement. Many of these are obvious – rainfall, seismic shaking, snowmelt, construction, for example. Sometimes people have also described vibration from traffic or trains as being a potential trigger. I have always wondered how strong the evidence is to support this assertion.

There is an interesting paper in the journal *Landslides* (Guerriero *et al.* 2021⁴) that has investigated this for a clay landslide in Italy. The site, the Pietrafitta landslide in

1 Morearas, SM 2004 Landslide incidence zonation in the Rio Mendoza Valley, Mendoza Province, Argentina. *Earth Surface Processes and Landforms*, 29: 255-266.

2 Janusz P. Kogut, Elżbieta Pilecka and Dariusz Szwardkowski Analysis of landslide effects along a road located in the Carpathian flysch *Open Geosciences*, de Gruyter Open Access 18 Sept 2018

3 Indelicato A., The Effects of Freight Vibrations on Slope Stability along the SH35, Bay of Plenty East, New Zealand *Journal of Geoscience and Environmental Protection*, Vol 8 No 5, May 2020

4 Guerriero, L., Ruzza, G., Maresca, R. et al. 2021. Clay landslide movement triggered by artificial vibrations: new insights from monitoring data. *Landslides*. [REDACTED]

southern Italy, is located alongside an important road, SS87. In 2016 movement of the landslide was causing periodic closure of the road to traffic. The authors have included this image of the landslide:-



Figure 1. *The Pietrafitta landslide. Image from Guerriero et al. (2021).*

This is probably best described as a retrogressive earthflow. The scale of the landslide is indicated by the truck located on the right side of the landslide toe.

The authors installed a broadband seismic station to measure the traffic vibration and an extensometer to measure landslide movement. In the period of the study traffic flow on the road occurred for only a part of the day, giving a period of no traffic vibrations to compare with a period in which traffic was occurring.

The graph below shows the startling results:

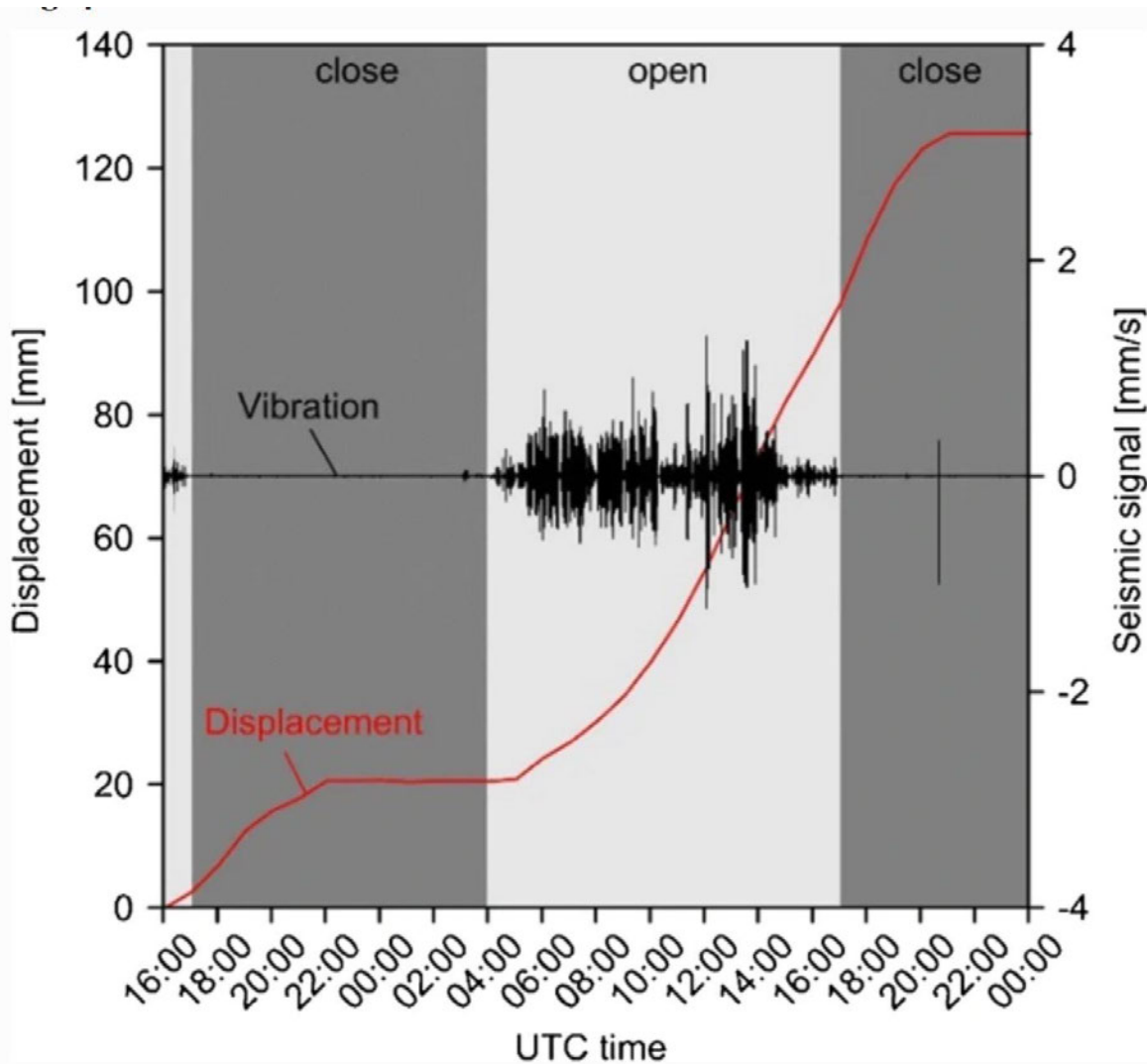


Figure 2. Traffic vibrations and displacement of the Pietrafitta landslide. Image from [REDACTED]

When the road was closed (the dark grey periods) no traffic vibrations were recorded. Movement of the landslide typically slowed and stopped. In the period in which traffic was flowing (the light grey periods) the landslide commenced movement, with a period of acceleration. After the traffic ceased the landslide continued to move for some hours before slowing and eventually stopping.

Guerriero *et al.* (2021) hypothesise that the landslide was probably on the very margin of instability in its natural state (i.e. the factor of safety was very close to one). The traffic vibration generated higher pore water pressures on the shear surface, which were enough to lower the factor of safety below one, allowing movement to start. Once the traffic ceased the higher pore water pressures took a few hours to dissipate, such that the landslide continued to move for a while, but then stopped.

The conditions in the Pietrafitta landslide are perhaps unusual, being both fully weakened and marginally stable. I'm reminded of the Slumgullion landslide (also an

earthflow), which moves in response to atmospheric tides. But Guerriero *et al.* (2021) have demonstrated that landslides can indeed move in response to traffic vibrations.