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# Copenhagen not Copacabana? Practices and Perspectives for Fieldwork Without Flying

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## ABSTRACT

Climate emergency compels higher education institutions to reduce their emissions footprint, prompting geographic educators to reconsider carbon-intensive field course education. Retaining international experiences far from home might remain possible via overland rail. To test long-distance train travel with students we piloted a field study visit from the UK to Copenhagen. Responding to calls for critical reflection on how to collectively advance geographic fieldwork education by reconnecting values and practice, we provide insights to the practicality, ethics and accessibility of low-carbon travel for educational activity, and offer experience-based recommendations for how staff and students can make any substantial overland journey more comfortable. We contribute to literature on fieldwork pedagogy by focusing on journey more than destination, from staff and student perspectives. Findings centre on three themes: students' assessment of the costs and benefits of international trains as an alternative to flying; staff and student experiences of overland rail mobilities; and the ethical dynamics of reducing university aeromobility. These indicate multiple disadvantages of lengthy overland travel, not least impacts on workload, staff and student wellbeing, plus potential disadvantaging of less internationally mobile students. It is not clear that these are outweighed by the advantages of switching to lower-carbon travel modes, particularly from students' perspective. Designing inclusive fieldwork goes beyond shaping accessible learning opportunities, to consider the justice of inequitable distribution of opportunities for overseas experiences. We conclude that staff and students should explore together how to navigate competing demands on field course design as part of learning to be globally responsible geographers at a time of climate emergency.

## 1 | Introduction: En Route to Copenhagen

> It's sometime after 1 am, dark, a little chilly as we disembark at Hamburg main station. Our connection left about an hour ago. No surprise we'd missed it given the ominous slowing, whiff of engine fumes and unexplained stops of the train from Cologne, prompting frantic checking of schedules on the Deutsche Bahn (DB) app. The announcement on board instructed those bound for Copenhagen to make their way to the DB office at the station. I checked everyone was together and led them in the direction indicated by the 'i' signs. Got to the office. Doors shut, lights off, another passenger peering through the window. Not a good sign. Feeling a need to appear confident and in control to reassure the students, I left my bag with them and headed off to find the other office that *must* exist. A couple of circuits of the station,

> following signs which led nowhere, I finally found a man in a DB uniform, waiting for a taxi home. He indicated a vague direction. I followed, feeling a little hopeless, wondering why I'd ever thought this trip a good idea. Finally, I spotted a small kiosk above a platform, vaguely lit, uniformed staff inside. Other passengers were already gathered, and plans seemed to be in progress. Assuming 'pushy customer' mode I accosted one of the staff. She added our group to the scribbled list of numbers waiting to be put in taxis. Satisfied that this was where we needed to be, I messaged our group to head over. Loo breaks and arrival plans could wait. We were getting in those taxis, heading towards Denmark.

On Saturday 9th September 2023 our group of six undergraduate students and two staff from Cardiff Univerity's School of Geography and Planning arrived in Copenhagen, only two minutes later than scheduled. Almost exactly 24 h after a coach collected us from Cardiff University, five trains and an unexpected cross-border taxi ride had got us there. The aim was to pilot long-distance train travel with students, testing potential for field study visits without flying: can low-carbon travel work for destinations further from home, for both staff and students? As one of our Danish hosts suggested, maybe the students would rather visit Copacabana than Copenhagen, but decarbonising field course teaching precludes flying there. Our trip and associated research was an opportunity to explore field teaching practice for long overland travel, from the perspectives of staff and students, reflecting on the implications in terms of pedagogy, climate and accessibility. Through empirically grounded perspectives on these issues, our contribution responds to calls for critical reflection on how to collectively advance geographic fieldwork education by reconnecting values and practice (Woodley et al. 2024).

For higher education (HE) geographic educators the need for such insights has been heightened by the imperative to reduce the environmental impacts of student field study travel. Geographic disciplines are keen to retain the centrality of learning through residential trips but increasingly struggle to reconcile the value of overseas travel with its carbon intensity. Debates regarding the sustainability of field travel, particularly that involving flying, are allied with concern for accessibility and inclusivity (Woodley et al. 2024). Such concerns prompted the leaders of geography departments across UK institutions to agree Principles for Undergraduate Field Courses (RGS with IBG 2020). The sustainability principle states: 'The environmental impact of fieldwork and its carbon footprint should be considered and justified in the context of learning outcomes'. Departments are urged to audit then reduce the carbon footprint of field courses and to offer low-carbon options. According to the Royal Geographical Society with the Institute of British Geographers (RGS-IBG), 32 departments have committed to the principles.

The RGS-IBG principles align with our[1] school's commitment to train future global citizens and stewards of the natural environment, whilst promoting sustainable and responsible academic practice. Like many in the UK, our institution made a declaration of climate emergency and aims to become carbon neutral by 2030, echoing national goals for action on climate change and the Sustainable Development Goals (Cardiff University 2021). Staff are encouraged to avoid domestic air travel and to favour trains where viable for European destinations, but emissions from business flights remain significant. The university also seeks to offer all students opportunities to participate in impactful international experiences as an integral part of their study. Following extensive discussion with staff and students,the School of Geography and Planning decided that students enrolling in 2019 would be the last cohort offered a long-haul field study visit requiring flights. Destinations including Hong Kong, USA and South Africa were replaced by those in the UK and mainland Europe, easily reachable by train. This is a notable switch within the UK's highly competitive recruitment environment which has seen geography departments seek to attract students by marketing exciting long-haul trips (McGuinness and Simm 2007; Woodley et al. 2024). Some students expressed disappointment with the end of trips beyond Europe and a switch to destinations closer to home, prompting us to consider whether destinations further from the UK remain viable without flying. Can the value of field study further from home be retained in a context demanding low carbon, accessible travel?

To explore this, we conceived a pilot of long-distance train travel to a destination colleagues had previously flown to with undergraduates. Funding was secured from the Welsh Government's Taith programme which supports international mobility (Taith, n.d.), including additional funds for 'more environmentally sustainable travel' (ILEP 2023). Our intention was to test the viability of long overland travel for undergraduate field courses, from student and staff perspectives, exploring potential for this to become part of our teaching programmes. We committed to sharing learning with others designing more sustainable field study visits, helping educators negotiate a switch to lower-carbon student trips (Woodley et al. 2024). We sought to understand how long and complex a journey is feasible for field classes, whilst gathering insights valuable for shorter overland trips. As a funded pilot, the group was necessarily smaller than a typical field course; a complex 24 h journey is also at the upper extreme of what may be considered for such trips. To draw broader learning for field course leaders, reflexive activity prompted staff and students to consider how such a trip would differ with a larger cohort, then draw recommendations for peers undertaking international overland travel of shorter duration. Practical advice (Figure 1) should be valuable for leaders of any international rail journey with students.

As young adults gaining independence, students are in a vital phase for influencing lifestyle habits, presenting opportunities to promote pro-environmental practices (Burningham and Venn 2020; Collins 2024). A secondary goal was therefore to provide students with experience of low-carbon travel, encouraging them to fly less in future. For human geographers, the trip also presented opportunities to understand how students experience mobility associated with slow travel.

Recruitment open to undergraduates entering their final year of study selected six students. Applications were highly gender imbalanced, resulting in an all-female cohort. Selection criteria

**Staff tips for maximizing comfort of long train journeys**

*Before you go:*

- Plan low risk connections – better to have too long
- Download apps for all train companies
- Request individual tickets not a group ticket in case anyone gets separated
- Have pre-trip ice breaker sessions
- Familiarise yourself with the key stations: info/help points, water refills, cheap food, toilets, nearby sights
- Check contingencies: travel agent help line, train company and carrier procedures and responsibilities
- Expect students to be unfamiliar with international trains and stations
- Brief students on what to expect, then expect them to forget most of it

*For the journey:*

- Carry a handy summary of all connections including train numbers – printed and electronic
- On arrival at each station check live information on connections before the group disperses
- And remind them of the risk of pick-pockets
- Agree meeting times 20 minutes before each departure
- Keep reminding students of key information
- Encourage students to look out for each other
- Point out where students can buy cheap food – even the fast-food places you hate
- Don't overexert yourself: use down time to rest, enjoy sitting in the sun
- When things go wrong: reassure students even when you're panicking!

**FIGURE 1** | Travel advice from staff.

prioritised the potential to enable travel for students with limited previous international mobility; however, a clear majority of applicants had travelled within and beyond Europe; five had travelled independent from their family; only one had prior experience of international train travel (including the Eurostar) or any rail journey longer than eight hours. The students engaged in designing fieldwork activities but not journey planning due to the long lead-in this required. Travel arrangements were decided by academic and professional services staff in liaison with a specialist travel agency, within budgetary and funder constraints. We - two of the authors plus the students - travelled by private hire vehicle to London, Eurostar to Bruxelles, then express trains via Cologne and Hamburg to Copenhagen. Partners in the Section for Geography at University of Copenhagen hosted workshops for us with their students, plus a staff seminar to reflect on reducing academia's climate impacts. Pre-trip research activity (survey questionnaire, facilitated focus group) gathered students' views on long-distance rail travel. We recorded group reflections during infield discussions, a post-trip workshop and via a post-trip questionnaire. Ethical approval was received from the School Research Ethics Committee. Throughout the trip, staff and students kept reflective field notes and audio-visual memos. Data analysis began during post-trip reflective discussion between the authors to explore findings related to our original aims. At this point, exploration of the students' perspective pointed to the significance of 'discomfort' of the journey. Questionnaires and transcripts of group discussions were then analysed individually by all authors to investigate these themes and check for additional ones. Authors then compared and discussed their analysis to refine and agree key themes; each then revisited the data to code for one key theme. On return, students created briefings on international train travel which are used in teaching to prepare undergraduates for overseas field study visits. This advice is summarised in Figure 2.

**Student tips for maximizing comfort of long train journeys**

*What to take:*

- Eye mask
- Travel pillow
- Plenty of snacks and water
- Cash in Euros for toilets
- Crossbody-bag for passport and phone
- Adapter and charger with a long wire to reach overhead sockets
- Tupperware / food containers and spork
- Body wipes
- Deodorant
- Sanitiser
- Feminine hygiene products
- Medication
- Various entertainments: games, books, music, films, crafts/sewing

*What to do:*

- Wear layers so you can adapt to temperatures
- Stretch or do yoga during the journey
- Wear comfortable, breathable clothing and shoes you can easily take on and off
- Have a change of clothes accessible during a long journey
- Have toothbrush and toothpaste to hand
- Have essentials such as medication and charger in your carry bag not main suitcase
- Make sure you can easily lift your bag on and off trains/ onto luggage racks
- Pharmacies overseas can be more expensive and restrictive than in the UK e.g. painkillers
- Buy cheap food at station supermarkets

**FIGURE 2** | Travel advice from students.

This paper presents the data on staff and student perspectives on overland travel as a potential substitute for flying. We provide insights to the practicality, ethics and accessibility of low-carbon travel for educational activity, and offer experience-based recommendations for how staff and students can make any substantial overland journey more comfortable. We contribute to literature on fieldwork pedagogy by focusing on journey more than destination, from staff and student perspectives. Our findings indicate multiple disadvantages of lengthy overland travel, not least impacts on workload, staff and student wellbeing, plus potential disadvantaging of less internationally mobile students. It is not clear that these are outweighed by the advantages of switching to lower-carbon travel modes, particularly from students' perspective. We conclude that staff and students should explore together how to navigate competing demands on field course design as part of learning to be globally responsible geographers at a time of climate emergency.

## 2 | Literature Review: Questioning Geography's Aeromobility

As a HE subject seeking to educate future generations motivated and skilled to tackle the climate crisis, it is particularly significant for geographers to consider their climate impacts, including their contribution to academia's disproportionately

heavy flying footprint (Nature Editorial 2015; Nevins 2014; Whitmarsh et al. 2020). Universities exhibit high aeromobility, meaning flying is accepted as a normal part of work, but increasingly criticised as unjust and unsustainable, particularly within disciplines promoting sustainability (Higham and Font 2020; Infield et al. 2023; Nature Editorial 2015). In response, institutions[2] and individuals have committed to reduce air emissions (Higham and Font 2020; Schreuer et al. 2023). But there are concerns around the fairness of restricting flying (Schreuer et al. 2023) as challenging aeromobility risks further disadvantaging marginalised and precarious academics (Le Quéré et al. 2015). Travel for student learning presents even more complex challenges. Student mobility can represent a considerable proportion of an institution's environmental footprint (Arsenault et al. 2019). Increased international student mobility within globalised European HE generated growth of GHG emissions faster than the overall global rate (Shields 2019; Shields and Lu 2023). Marketised recruitment combined with the availability of cheap air travel and young people's expectations, so students 'expect to be whisked off to much more far-flung, 'exotic' places in the course of their undergraduate studies' (McGuinness and Simm 2007, 242).

Many geography students participate in overseas fieldtrips, as HE educators have embraced internationalisation (Glass 2015; Yigitcanlar 2013). There has been something of a race around the world between UK Geography departments using long-haul residential visits to attract students (Glass 2015; Woodley et al. 2024). In neoliberal HE, geographic education operates as a market (Puttick 2022), so students assess institutions' relative offers as part of the 'service' they 'consume', and institutions are unable to change activities already marketed to potential students.[3] Some fee-paying students regard an international trip as their due, making appealing destinations a key determinant in course choice (Spector 2019). Within UK geography departments, emissions from air travel for student field trips are considerable (Williams and Love 2022).

HE's aeromobility is unsustainable, presenting geographers with the dilemma of reconciling sustainability education with the environmental impacts of field learning (Telford et al. 2023; Woodley et al. 2024). But flying less is not straight forward. Williams and Love (2022) surveyed students in one UK geography department and found a majority wanted more action to reduce its emissions. Presented with options for reducing the carbon intensity of their field study travel, including stopping flying by changing destinations or switching to rail, some students regarded such changes as a necessary part of transformation towards low-carbon research and teaching. But 21% opposed changing destinations as they regarded international educational opportunities as essential; those supporting the cessation of student flights suggested decarbonisation first target staff travel and other emissions sources (Williams and Love 2022). Indeed, some evidence suggests young people are leading a post-pandemic revival of air travel (CAA 2024), so students should not be assumed to be environmental activists (Wachholz et al. 2014), willing or able to practice individual behaviour change to address climate crisis. (Collins 2024; Parsons et al. 2024; Skovdal and Benwell 2021). Therefore, it may be challenging to decarbonise higher education by tackling aeromobility of geographic field trips (Woodley et al. 2024).

Just over a decade ago educators argued the benefits of long-haul student travel outweighed environmental impacts (Braungardt and Ingram 2012). Different conclusions may be drawn today, but no one suggests sustainability requires the cessation of student travel (Telford et al. 2023). The value of field-based learning is integral to geography (France and Haigh 2018), particularly in relation to education for sustainability (Maxey and Gillmore 2013). The institutional framework around geography in UK HE requires fieldwork learning (QAA 2022). The pedagogic benefits of applying geographic skills in the real world can be achieved through non-residential activity (Peacock et al. 2018), class-based sessions (Hovorka and Wolf 2009) or fieldwork at home (Katz 1994), but staying away offers unique benefits (Scott et al. 2019). Immersion in the field matters to human geographers because: 'We learn about others the better to understand them and ourselves' (DeLyser and Starrs 2010, vii). Informal encounters with others can deepen understanding, care and critical self-reflection (Hope 2009; McGuinness and Simm 2007).

How then to maximise the range of field experiences offered to students, whilst minimising the carbon impacts? Educators' responses to date suggest three options for reshaping field-based learning. First, delivering learning activities on-campus, for example, replacing residential trips with programmes integrating class-based instruction with short fieldwork sessions investigating the university environment (Peacock et al. 2018). The range of learning and encounters available is therefore limited to places and communities available locally. To extend this, Schott (2017) used virtual reality (VR) technology to bring places and perspectives from Fiji into class-based learning in New Zealand. However, a cohort of UK geography students identified various disadvantages of virtual trips when compared with physical field-based education, including the preparation time required and loss of hands-on experiential learning (Telford et al. 2024). Plus, educators may still need to fly to gather supporting material (Schott 2017). Both studies concluded that virtual trips should not replace field travel.

A second approach entails devising methods to assess the relative impacts and benefits of field learning options. Elliott (2015) recommends that a teaching activity's carbon emissions be weighed against its learning outcomes to judge whether its continuation is justified. Ribchester et al. (2009) developed a fieldwork carbon footprint calculator to compare domestic and overseas trips and found the local trip more carbon intensive due to the accommodation type. They explored these results with students as part of critical reflection on the sustainability of their behaviour during and beyond field trips. Such tools can inform choice of locations for residential field study, but our findings suggest that costs beyond a journey's carbon impacts should be assessed when weighing up where to take students.

Delivering learning outcomes closer to home offers a third route to decarbonisation. It may not be possible to maintain learning outcomes in alternative destinations (Spector 2019), but any location can be approached as 'the field' (Katz 1994; Phillips and Johns 2012, 10). Indeed, residential field study 'at home' is now part of our undergraduate Human Geography programmes. Williams and Love (2022) tested students' views on swapping long-haul destinations only reachable by plane for

those accessible overland and identified good levels of support. Ceasing long-haul trips to developing countries has the additional advantage of avoiding perpetuating the subject's problematic colonial legacy of racialised practices and thinking, associated machismo and ableism (Abbott 2006; Bracken and Mawdsley 2004; McGuinness and Simm 2007).

In this regard, rethinking the nature of field study visits is an opportunity to simultaneously address residential trip's inaccessibility to students with mental or physical health issues, caring responsibilities or who need paid work (Hovorka and Wolf 2009). Equality, diversity and inclusivity have been poorly considered in fieldtrip design and delivery, meaning they often present barriers to participation and hostile learning environments (Lawrence and Dowey 2022). Decarbonising geographic fieldwork must simultaneously seek more accessible, inclusive learning (Woodley et al. 2024), but the two are not easily reconcilable: residential field study closer to home may be more financially accessible but overland international travel may be less accessible for some students (Spector 2019). Inclusivity for staff is also pertinent as travelling with students is 'a grand undertaking' (Allen and Barbour 2016, 498) or even an 'ordeal', particularly for staff who struggle with work-related wellbeing or physical disabilities (Tucker and Horton 2019). Tucker and Horton identified a culture of staff presenting as coping in face of long, intense responsibility and the heavy emotional labour of supporting students' mental health needs. Students' anxieties and practical challenges are intensified by overseas stays, creating additional pressure on staff, particularly during long-haul trips (Woodley et al. 2024). If fieldwork intensifies the pressures of academic life, it becomes a site of intense latent anxiety and intersectional marginality for educators, reinforcing geography's exclusivity (Tucker et al. 2022). Low-carbon field courses could benefit staff by removing the burden of long-haul flights, but our experiences suggest a switch from air to overland travel merely presents alternative pressures. Whilst these might be minimised by limiting the duration and complexity of overland field course journeys, we suggest that students' unfamiliarity with rail travel means they may find even shorter trips uncomfortable, particularly when international.

To evaluate whether learning in a particular destination is worth the full costs—financial, carbon and personal—of getting there, educators require insight into the nature of various types of fieldwork journey. But the realities of accompanying students on different modes of international transport have been largely neglected to date. What is it like to transport students overland for fieldwork learning and are lower-carbon options practicable for fieldtrip destinations further from home? To date, journeying with geography students has been explored as a pedagogic site for substantive field learning, rather than as a mode of travel. Allen and Barbour (2016) detail their Geography by Rail program using trains as mobile classrooms, providing students with novel perspectives on the landscape. These authors reveal little about how students and staff experience life on the rails. Similarly, Magrane and Carter (2024) present a road trip pedagogy with small groups of students journeying through the American West, exploring landscapes associated with the cultural imagination. They argue that these trips have particular educational value through fostering encounters with people and places; again, their focus is learning during stopovers, rather than the vehicles or experiences of being on the road together. Conversely, Singleton and Closs Stephens (2023) emphasise the journey, detailing a lower-carbon field trip for UK geography students by coach and ferry to Berlin. Their students found the journey long and tiring, enjoyable but not always easy and observed that facilities were not always accessible or inclusive. The journey was embraced as an opportunity for students to learn through reflecting on experiences of slow travel, but it is not clear whether they agreed with their teachers that missing sleep and time in Berlin were sacrifices worth the carbon savings. This trip was not wholly comfortable and encountered masculinised environments (Singleton and Closs Stephens 2023), suggesting that overland fieldwork journeys risk replicating the exclusivity of privileging endurance (Bracken and Mawdsley 2004). Sustainability education can tend to laud discomfort as integral to transformational learning, reducing inclusivity and reinforcing gendered, racialised narratives (Smith et al. 2022). It is therefore vital to reflect critically on overland travel as an option for more sustainable educational travel, mindful of the realities of how journeys feel for staff and students. Our findings highlight that it may be challenging to advance the twin aims of increasing accessibility and reducing emissions (Woodley et al. 2024), due to the multi-faceted exclusivity of overland travel.

Offering UK-based geography students field visits to Copenhagen is desirable for the opportunity to directly experience world-leading examples of sustainability, in a destination which addresses their desire to travel further. To assess whether these benefits are worth the associated costs requires assessment beyond the carbon budget. Across studies of the options for lower-carbon field-based learning, consensus emerges around the value of engaging students in critical, deliberative reflection on its sustainability and accessibility (Phillips and Johns 2012; Ribchester et al. 2009; Telford et al. 2024; Woodley et al. 2024). We propose that for such deliberation to be fully informed requires insight into how staff and students experience the *journey*, and how students evaluate the carbon savings made through reducing aeromobility. Our data suggest a range of challenges around travelling by train with groups of students. Whilst staff and student discomfort was intensified by the duration and complexity of our particular rail journey, our collective reflections suggest not all disadvantages would be addressed by reducing the range of travel, particularly given students' reticence to compromise their access to international experiences in return for emissions savings.

## 3 | Findings: Low Carbon Experiences and Implications

To explore the implications of using overland travel for student field trips we present findings from our pilot long-distance train journey, organised around three themes: students' assessments of the costs and benefits of international trains as an alternative to flying; staff and student experiences of the journey; ethical dynamics of reducing student aeromobility.

### 3.1 | Student Perspectives on the Rail Alternative

To understand students' attitudes to long-distance rail travel and how they were influenced by experiencing such a journey, we

compared pre- and post-trip questionnaires and group discussions. Prior to the Copenhagen trip, students were evenly split on the likelihood of choosing overland train instead of flying: half were 'quite' or 'very unlikely' to choose rail, half 'fairly likely'. Post-trip, there were slightly more negative inclinations to train travel, with half now 'fairly unlikely' and one 'very unlikely' to favour rail, only two 'fairly likely'. Reasons remained consistent, with price and journey time the prime factors; in both questionnaires, two students indicated sustainability as a determinant. Preference for train over plane varied with journey length: for relatively close destinations (e.g., less than eight hours travel), some would favour train. Only one student stated post-trip that they would choose train for such a long journey again, although adding they may fly if it was significantly cheaper. These responses indicate that experiences of the journey to Copenhagen had a slight negative impact on students' attitudes to long-distance train travel, whilst factors influencing their preferences remained consistent. Emissions reduction was not prevalent, with the students suggesting limited budgets makes them price focused.

Prior to the trip, when asked to consider advantages of train travel, students indicated sustainability benefits and envisaged positive experiential features: no luggage restrictions, a more comfortable environment, avoiding airport hassles, encountering several countries en route. Post-trip, the range of advantages expanded to note the pleasures of seeing scenery passing, appreciating the journey and distance travelled. One student commented on the positive experience of: 'Getting to see the sights of different countries rather than just clouds in the sky'. But the students were also more aware of the disadvantages of international train travel. Cost and time remained the most noted disadvantages, to which were added inconveniences: poor accessibility, needing to change trains, potential disruption or missed connections. Students highlighted a range of negative experiences from their journey such as lack of sleep, seats not being guaranteed, waiting on platforms, station pick-pockets. Direct experience gave students a fuller understanding of advantages *and* disadvantages of long-distance rail travel, with an emphasis on logistics. They appreciated train travel's positive aspects but became aware of what can go wrong. Half of the group said the train journey was worse than expected; only one found it better than expected.

Notable across students' evaluations of train travel were tendencies to compare its appeal with flying; check-in was 'less stressful' than airport processes, for example. Boarding the Eurostar for the first time one student exclaimed 'this is so much nicer than a plane!' Certain advantages of train travel only make sense in contrast with flying: you can walk around, you can get out and see a city during connections, you can carry as many liquids as you like. Equally, the limitations of train travel were assessed through contrast with flying, particularly in relation to cost:

> But isn't the train more expensive? Because I'm pretty sure flights [to Copenhagen] are £40 return at the moment.
>
> (Student 2)

And travel time:

> It's only an hour flight. You can still do things when you get there. I just felt like when I got to Copenhagen, I was so exhausted.
>
> (Student 2)

The group accepted train travel for a two-week stay in Copenhagen, and as they were not paying. Only one student would repeat the train journey as she found it nicer than a long flight: 'It was a lot more relaxing. I was on the train so I wasn't nauseous, there were stops and like, I love trains, I do!'. But it would 'honestly come down to cost, as a very much cost driven person'. The group seemed heavily influenced by experiencing delays and a late-night missed connection, suggesting desirability depends on journey length and complexity:

> But it's just that amount of time is not – if you were going for like seven days as a uni trip and two days of it are travelling, I would rather fly. I don't think it's worth it.
>
> (Student 3)

Trains and stations also seemed inaccessible in comparison to airports:

> On the train because there's so many journeys, and that the level of attention isn't there, like compared to having like, flight attendants, whose job is to look after you. And you don't get that on train.
>
> (Student 6)

Students evaluated train travel through comparison with flying, rather than with no trip; for them and their peers plane travel is the norm, rail a novelty. Comparison may have been prompted by the school's switch away from flight-based field study visits; however, it seems likely that flying would feature in their assessment, given social and academic normalisation of aeromobility (Barr and Shaw 2022; Bjørkdahl and Franco Duharte 2022; Woodley et al. 2024).

Students did not raise greenhouse gas emissions savings during the post-trip discussion, despite having been informed previously that between 221 kg and 288 kg $CO_2$ emissions were saved by using rail not plane.[4] Prompted to reflect on these savings students seemed inclined to minimise the significance: one proposed the calculation should be amended to consider the two-hour taxi drive on the outward journey, another wanted to understand the significance of the emissions reduction as part of their overall footprint and behaviour changes. Perhaps most significantly, and echoing the students reported by Williams and Love (2022), they were not convinced students should bear the brunt of emissions savings. We explore this further under our final theme, but first expand on experiences of rail mobility in order to understand the full range of costs to be evaluated when designing field study travel.

### 3.2 | Experiencing Rail Mobilities: Relative Discomforts

Students discussed their experiences of the rail journey the day after arriving in Copenhagen, and during the post-trip

group discussion; reflections featured a strong theme of rail's relative discomfort. Accompanying staff kept reflective diaries of their experiences and discussed these post-trip; our discomfort primarily arose from pressure of responsibility and concern for student comfort. Staff (Figure 1) and students (Figure 2) suggested advice to peers on maximising comfort during such a journey.

Being on the train was more pleasurable than students expected; they did not get bored, easily occupying themselves and enjoying it as sociable time. Being well prepared with a range of distractions helped, and there were views to enjoy:

> Scenery – I enjoyed that and you kind of get to appreciate how far you were actually from Cardiff. You weren't in a teleportation device and then, like, you noticed the distance, definitely, which is quite nice – to realise how far you are.
>
> (Student 1)

The sheer length of train journey and the students' struggles to sleep were significant factors in their discomfort. Overland travel might result in 'train lag' due to night journeys and tiring mobility, for staff also, who faced additional strains of negotiating logistics and feeling responsible for student wellbeing whilst themselves sleep-deprived. This risks reinforcing expectations that fieldwork is about testing endurance and toughing it out to earn kudos or intellectual insights (Bracken and Mawdsley 2004; Smith and Pitt 2022).

As well as being on the train rail mobility includes time in stations, moving between trains, waiting for connections. Students enjoyed the chance to buy refreshments and walk around and appreciated an itinerary which meant they never had to run for a connection. The outward journey allowed time to see Cologne cathedral, which they noted as another benefit over plane travel, particularly on a sunny day. However, long waits during the return trip were a low point: everyone was tired, it was raining, students did not want to spend more money and became disenchanted by the prospect of *another* train:

> We collectively broke as a group at Brussels [...] 15 h in. That's when we kind of broke.
>
> (Student 3)

Potential for sight-seeing was limited because you are lugging your luggage around (Student 3), another discomfort avoided by air travel.

The group were unpleasantly surprised by the inefficiency of European trains, having not foreseen cancellations, delays and lost seat reservations. Our small group was relatively easy to lead through such disruptions, but larger numbers would be harder to manage: 'if you had a quick connection or something and had 30 students scattered all over the train, it wouldn't have worked' (Student 3). They added that such a journey would be particularly stressful for neurodiverse students. The likelihood of losing people or luggage was felt to be high within a larger group, potentially increasing student anxieties.

The experience described in our opening vignette became a key reference for evaluating these risks. Initially, students caveated reflections on their discomfort by noting that the journey *should* have had better connections, no taxi ride and seat reservations throughout. Then the group member with the most overland travel experience pointed out:

> It was easier until the taxi bit, and then we say 'well it's a one off' but I feel like train's like that, it's not a one off. Something would happen every single journey.
>
> (Student 4)

On reflection others agreed 'it was probably naïve to think we wouldn't have a delay or something' (Student 2). Cancellations, delays and missed connections should be factored into planning overland field trips. For staff, this means being prepared to respond to disruptions and how they impact students as highlighted by our contrasting experiences. Asked whether they found the Hamburg moment stressful one student replied: 'No. I knew it wasn't my responsibility!'. Student comfort during the journey rested on their lack of responsibility:

> On the train I was looked after because I had Hannah [staff member]. So I was not stressed at all. It was a lot more relaxing.
>
> (Student 2)

Meanwhile, the staff themselves were becoming increasingly uncomfortable, aware of potential problems ahead, wondering how they might be solved, thinking over how much to convey to the students to balance keeping students informed, with minimising their anxiety. During our Hamburg moment it seemed most reassuring to keep telling students that this was all quite common, that one of us had been through it before and that the rail company must help. And perhaps repeating this to students became a calming mantra for staff! This situation highlights that trouble shooting is undoubtedly part of the field course leader's responsibilities and potential cause of stress.

Reflecting on these experiences, students were reminded that undergraduates are adults, expected to take responsibility for themselves. Before departure, the group were briefed on the protocol that each student is responsible for ensuring they board transportation on time. But they were not confident to do so unaccompanied due to the unfamiliarity of international rail travel:

> I think that's the difference between trains and flying though. Like most people in our year would be able to fly by themselves, get themselves through an airport. Well, I say that, maybe they can't! But you will have probably done it, whereas keeping track of five trains with your stuff, you're really tired and you've never done it before is a lot harder than just one flight.
>
> (Student 3)

In addition, the group suggested that support is more obviously accessible at airports should something go wrong, or a passenger have accessibility challenges.

As HE staff become more conversant with alternatives to flying, they should not expect their students to be equally comfortable negotiating international overland journeys or rail mobility. Unfamiliarity with rail protocols seemed to exacerbate the strains of tiredness and disruption; students were not sure they could ask people to move out of their reserved seats or were uncomfortable negotiating space with other passengers. Such conditions likely increase student anxiety, so the potential for them to develop skills and resilience for low-carbon travel through some self-responsibility should be balanced with ensuring they feel duly supported whilst mindful of incumbent pressures on staff. Such balancing is a consideration for any journey of considerable duration, but will be more acute when involving travel modes unfamiliar to most students.

Field travel leaders will be used to managing logistics whilst keeping students safe and comfortable, aided by procedures such as preparatory visits and risk assessments. But our experiences suggest that overland travel presents additional risks specific to journey duration, the current vagaries of international rail mobility and students' relative unfamiliarity. In addition to careful travel and contingency planning, we recommend staff invest time in group building and exploring expectations with students. Having spent a day together before our trip, students felt more comfortable with the prospect of travelling together. They did not complain en route, even during the most challenging and unpleasant moments, maintaining a positive attitude. This is less apparent in their post-trip portrayal of the journey's discomfort, perhaps due to the effect of us asking students what they did not enjoy, prompting a disproportionate focus on the negative. Conversely, a larger, more diverse field class would likely lack the group spirit and enthusiastic outlook of our small group selected for their motivation. These dynamics and their impact on levels of bearable discomfort should be considered when deciding how long a field journey is appropriate; 'bearable discomfort' is subjective, with staff and students potentially disagreeing in their assessment. Judging how much discomfort to expect students to experience should be mindful that endurance is not an essential geographic skill or route to environmental awareness (Smith and Pitt 2022). Given the likelihood that young people lack significant overland travel experience, preparation for low-carbon field visits should include education in negotiating this. So far, we have highlighted that fieldwork design should consider a full range of potential costs, including carbon, accessibility and wellbeing. Next, we address a final form of cost which our students highlighted as important considerations: impacts on intergenerational equity.

### 3.3 | Ethics and Inclusivity of Reducing Geographer's Aeromobility

Our findings regarding the practical challenges of negotiating international rail travel with students suggest it would have to offer considerable advantages over other field learning options to be worth pursuing. The potential advantages are being able to reach destinations less like home which address students' wish to travel further, without the emissions impact of flying, perhaps whilst enhancing inclusivity. However, on both fronts a switch to rail is limited. As noted above, emissions reduction was a relatively weak consideration in students' assessments of rail travel. During post-trip discussion, they were asked whether emissions saved were worth avoiding flying. Responses suggest they do not regard students' climate impacts as the priority:

> I do feel like students have a low greenhouse emission thingy, even if they did that one massive trip, they still probably wouldn't exceed the, you know, I mean the allowance for the year. Because I don't know students that travel more than twice a year on flights. I'm sure there's some but I feel like they're exceptions. I feel like you can still fly and you still be underneath your allowance. Like, no offence, but I feel like it should be the staff because you guys travel more.
>
> (Student 4)

This student went on to suggest that more emissions are generated by 'professors who do research', agreeing with peers elsewhere that staff should act first (Williams and Love 2022). Another student elaborated the complex ethics of this:

> Well, we had the academic debates with the Copenhagen University staff when we were there and it was very interesting, the diverse opinions on this issue because it's very controversial. There is lots of kind of – it went into neocolonialism, it went into the debt between the young generation and why, and all the rest of it. But yeah, students do have lower greenhouse emissions because we do walk everywhere. A few of us can't drive, so we just use the trains already. We'd normally eat less meat because we can't afford to buy more meat. So we do have lower – and this geography field trip, that's kind of a one opportunity to go abroad, especially for people from lower incomes.
>
> (Student 1)

They went on to note that less privileged students like them choose courses partly due to the opportunity for affordable travel experiences which can be personally enriching.

Although long-haul trips were never promoted to them, these students were aware their recent predecessors had made such trips, resulting in a sense that an opportunity had been taken from them. This was exacerbated by inconsistency across the institution, with other programmes funding students to fly long-haul:

> I know geography is very much: greenhouse gases, sustainability – that's our degree. But if the whole uni is not showing that, then it kind of feels a bit like 'why you focusing on us just because we learn it?' But I do understand if we don't stop, when we are going to stop? And because consumerism and the rest of that, I do get it, but the same time, it's just a hard pill [to] swallow, I think.
>
> (Student 1)

They regarded this as an inclusivity issue, as certain students may otherwise lack international opportunities:

> It's like the one time people in my demographic or other people of working class or immigrants or something could go abroad. They can't do that anymore, but suddenly more privileged people can still do the study abroad and they're not talking about that or doing anything about that.
>
> (Student 4)

This student identified study abroad as most viable for wealthier students and those with UK passports, meaning it was unfair that it continues whilst fieldwork travel—more likely to include lower income students—became more constrained. Students from lower income backgrounds are likely to have lower-carbon footprints, making it particularly unfair that they lose opportunities for university-supported international travel (Spector 2019).

Beyond the unfairness of only expecting certain students to constrain carbon-intensive behaviours, students questioned climate action centred on individual behaviour:

> Student 4: Considering that our degree places so much emphasis that – like about capitalism and the fact that the individual can't do much, I think it's interesting that suddenly our perspective shifted, when in reality shouldn't we technically be pushing off over towards massive corporations? Because realistically as an individual – although yes it adds up – we can't do much. And we learn that in the course that we can't do much as an individual, but suddenly it switches for the field trips.

> Student 1: We can't do much as an individual [if] as we are students, but if we learn more, if we educate ourselves, if we get different perspectives, different experiences, go to Copenhagen to understand their way of lives and understand how they're trying to combat climate change, gather all that information, then we can go on to do something great. They can go on to reduce greenhouse gases if we're able to go abroad and learn and get different like experiences and opportunities. And that's how we become leaders and that's how we can change and hopefully reduce climate change, but when we're not allowed to do that...

This discussion resonates with findings regarding their generation's resistance to individual action on structural problems (Parsons et al. 2024). The group was mindful of complexity around climate mitigation, hence the need for inclusive, transparent decisions regarding field travel:

> I think Geography is all about being critical and understanding different perspectives, and so it would have been a great debate to have with students.
>
> (Student 1)

Their cohort enrolled after the department's switch from flying was decided, so they missed the student engagement around the decision. Their opportunity to explore academic aeromobility with Copenhagen University staff was therefore a valuable feature of the trip, enabling reflection on emissions reduction priorities and the equitable distribution of GHG footprints between staff and students. Staff and students gained insight to each other's opinions and experiences, illustrating potential for participatory field trip design connected with student learning. It highlighted to us that a switch away from flying is not a momentary decision, made then enacted, but should be rehearsed with each cohort; reflective discussions are now part of our teaching around overseas field trips by train. A key recommendation from this project is to provide such spaces for staff and students to explore fieldwork options together. Ideally such discussions would extend beyond one discipline, aiming for an equitable whole-university approach to reducing aeromobility. Such strategies must acknowledge that the harms flying creates are unequally borne by people of colour and the world's most disadvantaged, whilst opportunities to fly concentrate at the other end of privilege scales. It is therefore incumbent on critical scholars to ask who gets to fly? (Roelofs 2019). Our students indicated that beyond considering whether flying less reinforces privileges for certain academics (Le Quéré et al. 2015), we should also consider intergenerational equity between university staff and students. Many academic staff belong to generations who flew extensively for personal, educational and professional purposes, often free from flight shaming or anti-aeromobilty pressures. So who are we to say students shouldn't fly to Copacabana?

## 4 | Conclusion

We agree with Woodley et al. (2024) that accessibility and carbon reduction are twin concerns for the future of geographic fieldwork. Our overland trip to Copenhagen suggests that advancing both in tandem is challenging, particularly when meeting students' desire to reach more remote destinations, as such journeys are logistically complex and inaccessible. By evaluating potential for long-distance train travel with students as an option for lower-carbon field study visits, we hoped to provide students with experiences to inspire them to reject air travel in future. However, we may have achieved the opposite, due to discomforts experienced during the journey. Students' enjoyment of aspects of slow travel was outweighed by more pragmatic factors, and until train travel is cheaper, more reliable and convenient, students are unlikely to choose it over flying. As staff, we were not convinced of the viability of taking field classes on such long train journeys or that their value would outweigh the costs, not just financial, but time, stress and workload. We and the students undoubtedly benefited from experiencing our destination, and encountering people and places together, particularly our Danish peers. Staff gained understanding of students' perspectives on and priorities for travel and learning. Realising how lack of familiarity with international rail affects student wellbeing and accessibility enables us to prepare undergraduates for low-carbon journeys. Such preparation is

valuable prior to any significant overland journey; we recommend field course leaders devote time pre-trip to group building and practical travel preparation.

Previous studies suggested that to judge what fieldwork travel and destinations are acceptable, learning potential is measured against carbon intensity. Findings from our rail journey to Copenhagen and students' reflections on it suggest additional costs to consider in such assessments, firstly impacts on staff and student wellbeing. Pressure on staff workload and responsibility is a key cost of student field courses, increased by longer, more complex journeys. This includes the administrative burden of organising unfamiliar logistics, likely to fall on lower-paid university colleagues. Secondly, equitable distribution of opportunities to travel should be weighed in decision-making. Inclusivity requires more than ensuring access to specific fieldwork learning opportunities, as it is shaped by the injustices of unequal access to overseas experiences, and how university study affects this. Transitioning to low-carbon travel has to be just and equitable, so it must consider who has the right to emit carbon, and who might be deprived of opportunities for overseas experiences.

We recommend three key considerations for decisions regarding travel for geographic education:

1. Selecting destinations by asking: Why this location, why now, why us? What are *all* the costs of getting there, and are the benefits worth it? Could learning outcomes be achieved in alternative locations? Geographic field courses are not about going somewhere far away, but enabling students to experience places in ways they cannot otherwise, guided by staff whose expertise takes these trips beyond tourism. Whether this value justifies carbon-intensive travel, particularly for students who benefit most from subsidised travel or most stand to gain unique experiences, should be determined by considering a complex array of variables, including the value of the travel experience, particularly for less advantaged students, its climate impacts, international and intergenerational justice.
2. Democratising selection of field study destinations and modes of travel: The processes of deciding and organising field study visits can be more transparent and inclusive, so that students shape choices affecting them. Our experiences demonstrate that undergraduate students are highly capable of and motivated to engage in discussions evaluating relative costs and benefits of the options. Reflecting with students pre- and post-trip proved a valuable opportunity to explore the complex terrain of just transitions to lower-carbon futures.
3. Reflecting on class and intergenerational equalities surrounding mobility: Our student train travellers were attuned to the injustices of higher education's transition to low carbon, pushing us to consider our position as academics in institutions in a high-income country, privileged to have been part of highly aeromobile generations. To what extent is it fair for students' generations to be made to feel 'guilty' about air travel for education whilst their teachers' generations benefited from affordable air travel? Our students highlighted the class inequality surrounding mobility, suggesting that field study visits are rare opportunities for working-class students to benefit from subsidised travel meaning they are particularly affected by a switch away from more remote locations.

Our experiences highlight some of the inevitable structural and technological conditions in which field study visits unfold. Dilemmas around geographic fieldwork should be explored as part of students' learning. Collective, democratic and transparent decision-making processes will enable students to understand such constraints and express their priorities. Intergenerational inequity is a further reason for Geography departments to engage in frank discussion with students, empowering them within decisions regarding *all* university travel. These conversations should extend across the whole institution, seeking a fair distribution of opportunities to travel across the staff and student body. It is our duty as educators, and as part of carbon-heavy generations, to find ways for universities to accommodate this.


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### Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

### Endnotes

[1] At the time of writing all three authors were employed at the same institution – Cardiff University.

[2] The University of Manchester are relatively unusual amongst UK HE institutions for the level of public transparency about their progress with emissions savings https://www.manchester.ac.uk/about/social-responsibility/environmental-sustainability/our-sustainability-commitments/sustainability-strategy/#d.en.956518.

[3] Consumer marketing law applies to advertising course details to students, meaning that changes made to what a student was offered pre-enrolment are susceptible to legal challenge.

[4] GHG emissions comparisons were made using three freely available tools: https://www.raileurope.com/en-gb/blog/travel-green-calculating-your-carbon-savings, http://ecopassenger.org and https://www.atmosfair.de/en/offset/flight/ Students were shown a range of calculations in an attempt to encourage their reflection on the process of comparing emissions and to take a critical perspective on such tools.

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