Scandinavian Journal of Hospitality and Tourism

Routledge
Taylor & Francis Group

ISSN: 1502-2250 (Print) 1502-2269 (Online) Journal homepage: www.tandfonline.com/journals/sjht20

Exploring sustainable mobility in rural drive tourism

Beatrice Waleghwa

To cite this article: Beatrice Waleghwa (19 Oct 2026): Exploring sustainable mobility in rural drive tourism, Scandinavian Journal of Hospitality and Tourism, DOI: 10.1080/15022250.2026.2744179

To link to this article: https://doi.org/10.1080/15022250.2026.2744179

© 2026 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

Published online: 19 Oct 2026.

Submit your article to this journal

View related articles

View Crossmark data

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=sjht20

SCANDINAVIAN JOURNAL OF HOSPITALITY AND TOURISM
https://doi.org/10.1080/15022250.2026.2744179

Routledge
Taylor & Francis Group

OPEN ACCESS Check for updates

Exploring sustainable mobility in rural drive tourism

Beatrice Waleghwa

Centre for Tourism and Leisure Research (CETLER), School of Culture and Society, Dalarna University, Borlänge, Sweden

ABSTRACT

Drive tourism is a popular form of tourism activity in rural areas. This phenomenon may be partly attributed to the predominance of road infrastructure in transport systems in rural areas, including those within the Nordic countries, and the limited or non-existent public transport alternatives. However, in view of the mounting concerns pertaining to environmental issues, there is a compelling need for research into sustainable mobility in the context of rural drive tourism, a subject that has thus far received scant attention in research. The present paper aims to address this gap in the literature. The empirical material has been derived from research conducted as a part of doctoral studies in four remote rural tourism areas in Sweden. The findings of this study provide valuable insights into the strategies that can be employed to promote sustainable mobility in the context of rural drive tourism. The analysis of the data indicates that initiatives aimed at promoting the use of electric vehicles in rural tourism areas could be a fruitful path to follow. However, it is important to acknowledge the current limitations in infrastructure to support such initiatives in rural tourism areas.

ARTICLE HISTORY
Received 15 February 2026
Accepted 1 October 2026

KEYWORDS
Rural drive tourism; sustainable mobility; sustainable drive tourism; rural areas; Sweden

Introduction

Following the Second World War, there was an increase in private car ownership, which subsequently led to a notable transformation in the tourism sector, particularly with regard to the rise in self-drive tourism (Prideaux & Carson, 2011; Sykes & Kelly, 2016). Furthermore, the phenomenon of self-drive tourism continues to undergo significant transformation in society (Sykes & Kelly, 2016), characterised by a substantial increase in global car ownership (Yang et al., 2023). To illustrate this point, it is estimated that at the start of the twentieth century, the global car fleet was approximately 700 million (Urry, 2004). Projections indicate that by 2030, this figure will rise to 2 billion (Gössling, 2017). However, the definition of drive tourism encompasses not only automobile travel but also "travel by any form of mechanically powered, passenger-carrying road transport, excluding coaches and bicycles" (Prideaux & Carson, 2011, p. 3). Additionally, the observations of

CONTACT Beatrice Waleghwa bwg@du.se Centre for Tourism and Leisure Research (CETLER), School of Culture and Society, Dalarna University, Borlänge, Sweden

© 2026 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

Prideaux and Carson (2011) and Prideaux and Yin (2025) underscore the comprehensive scope of road-based modes of transportation within the definition of drive tourism. This encompasses travel by the aforementioned automobiles, as well as caravanning and travel by recreational vehicles (RVs) and motorhomes, and travel by motorcycle.

The tourism industry has been identified as a significant contributor to the economic development of many rural regions worldwide (Prideaux, 2020; Sykes & Kelly, 2016), including those within the Nordic countries. This phenomenon is partly attributable to economic restructuring in these regions, which has precipitated a decline in dependency on traditional industries such as mining and an increase in the popularity of tourism (Lundmark, 2005). The tourism-driven economy in rural Sweden is dominated by winter sports tourism, such as skiing (Waleghwa & Heldt, 2022), and second home tourism (Müller, 2021). Moreover, the proliferation of drive tourism in Nordic rural areas can be ascribed to the predominance of road infrastructure within these regions' transportation networks (Waleghwa, 2025a), particularly the presence of paved roads (Kristjánsdóttir, 2016).

The existing literature on drive tourism has covered several topics, including self-drive tourism during the COVID-19 pandemic (Butler et al., 2022), caravanning (Caldicott & Scherrer, 2013), community engagement in drive tourism (Hanrahan et al., 2017), motorists' psychological experiences when driving (Dahl & Dalbakk, 2015), motorcycle tourism (Frash et al., 2018; Sykes & Kelly, 2016), driving along scenic routes (Jacobsen, 2025; Shi et al., 2026), senior self-drive tourism (Mahadevan, 2014), and so on. Notwithstanding the mounting concerns pertaining to environmental issues, including the fact that motorised transport is among the highest contributors of carbon dioxide (CO_2) globally (Peeters et al., 2019; Peeters & Dubois, 2010), the subject of sustainable mobility in rural drive tourism has received less research attention.

Nevertheless, there are a number of studies that have been conducted on the subject of sustainability in drive tourism. Examples of such works include the contributions of Fitt (2022) and Fjelstul and Fyall (2015). Fitt (2022) reviewed literature that considered the use of electric vehicles (EVs) in drive tourism. In a similar vein, Fjelstul and Fyall (2015), in their conceptual study, set out to review the literature on drive tourism and explore the implications of new clean energy technologies for drive tourism in the US and beyond. The authors further developed a revised model of drive tourism (initially proposed by Prideaux & Carson, 2011) and research propositions in anticipation of the technology's impact on drive tourism in the specific geographic context of the US. Furthermore, of the limited extant studies, almost none are in the Swedish context. However, there are a few Swedish studies that are somewhat related to this topic, but they focus more broadly on sustainable mobility in rural tourism (e.g. Waleghwa, 2025b) than on sustainable mobility in drive tourism specifically.

Against this background, the present paper explores the subject of sustainable mobility in the context of rural drive tourism. The empirical material was derived from research conducted as part of doctoral studies in four remote rural tourist areas in Sweden: Sälen, Åre, Malung-Sälen and Älvdalen. In order to achieve the study's aim, two critical and interrelated inquiries are examined. Firstly, the study assesses the current popularity and scale of drive tourism across the designated areas, quantifying its role as the dominant travel genre for tourists and second homeowners alike. Secondly, the research sheds light on the challenges that prevent this popularity from aligning with sustainability goals. The primary research question guiding this study is as follows: *How can sustainable mobility*

be promoted in the context of rural drive tourism? The paper highlights the tension between the high demand for drive tourism among visitors and the sustainability challenges facing the study areas, including infrastructure gaps and the dominance of petrol or diesel-fuelled cars.

Following this introduction, the rest of the paper proceeds as follows: The next section provides a review of the relevant literature on drive tourism and sustainable mobility. This is followed by an explanation of the methods employed in this paper. After this, the results are presented. This is followed by a discussion of the prospect of promoting autonomous vehicles (AVs) and electric cars in the study areas, as these have been identified in the literature (e.g. Fitt, 2022; Prideaux, 2020) as potential solutions for achieving sustainable mobility in rural drive tourism. The paper concludes with final remarks and suggestions for future research.

Drive tourism and sustainable mobility

By definition, drive tourism, also known as auto tourism, is travel by mechanically powered road transport designed to carry passengers (Fjelstul & Fyall, 2015; Hanrahan et al., 2017; Mahadevan, 2014; Prideaux & Carson, 2011; Prideaux & Yin, 2025; Sykes & Kelly, 2016). Drive tourism offers tourists considerable flexibility and autonomy (Fjelstul & Fyall, 2015; Jacobsen, 2025; Prideaux & Yin, 2025), with special interest motivations being a key driver for many of those participating in this form of tourism (Fjelstul & Fyall, 2015).

Drive tourism is influenced by the push and pull motivations of the traveller, as well as the response from the markets supplying the respective products and services (Fjelstul & Fyall, 2015; Prideaux & Carson, 2011). Moreover, the drive tourism system is initiated by tourists' decisions to utilise self-drive transport modes for their travel (Fjelstul & Fyall, 2015). The demand for drive tourism is subject to a multitude of criteria, including time, price, amenities along the route, the quality of local hospitality, and the infrastructure available at the destination (Fjelstul & Fyall, 2015; Prideaux & Carson, 2011; Shi et al., 2026). It is therefore vital to ensure that both the vehicle types and the necessary infrastructures are supplied in a compatible manner that meets the demands of travellers (Prideaux & Carson, 2011). Additional factors, including but not limited to climate change and technological advancement, have been identified as having the potential to influence the sustainability of the drive tourism industry (Fjelstul & Fyall, 2015).

Conceptually, the topic of sustainable mobility in rural drive tourism is at the intersection of two fields of research: sustainable mobility and rural drive tourism. Sustainable mobility can generally be defined as an approach to transport that ensures the fulfilment of its social and economic roles with the lowest possible environmental impact (Banister, 2008; Holden et al., 2019; Waleghwa, 2025b). It can thus be posited that sustainable mobility in rural drive tourism would entail partaking in this type of tourism while having negligible environmental impacts.

Indeed, the reduction of environmental impacts and the broader advancement of sustainable mobility have attracted the attention of several researchers, including those in the field of tourism studies. This is primarily due to the fact that tourism transport has been identified as a significant contributor to CO_2 emissions, thereby resulting

in adverse climate effects (Peeters et al., 2019; Peeters & Dubois, 2010). This has prompted certain scholars to contend that the development of a desirable tourism transportation future is imperative in order to mitigate the effects of climate change (Peeters et al., 2019). As Peeters et al. (2019) emphasise, the desired future of tourism transportation is one characterised by a commitment to reduce CO_2 emissions in accordance with the Paris Agreement, a global accord signed by all nations (excluding the US following their recent second withdrawal from the accord). The authors posit that this agreement constitutes a collective commitment to restrict CO_2 emissions to levels that will prevent a global temperature rise exceeding 2°C.

In the context of strategies for promoting sustainable mobility in the domain of (rural) drive tourism, scholars have proposed the promotion of autonomous and electric vehicles as prospective pathways. Prideaux (2020) has observed that advancements in technology, such as AVs, may present opportunities for the development of drive tourism in the forthcoming decades. In a previous article, Prideaux and Yin (2019) argued that AVs have the potential to reduce traffic injuries and casualties, and to assist in significantly reducing greenhouse gas emissions. Nevertheless, as further argued by Prideaux and Yin (2019), it is challenging to predict when large-scale AVs operations will commence, given the novel nature of these vehicles and the ongoing development of AV technology. However, Prideaux (2020) contends, the tourism industry must adopt a proactive stance if it is to capitalise on the prospects that are set to materialise in the forthcoming era of climate change and technology-induced disruption.

Despite the favourable positioning of AVs and EVs in discourse due to their potential to assist in the mitigation of carbon emissions and the enhancement of road safety (Prideaux, 2020; Prideaux & Yin, 2019), the impact of these vehicles on the experience of automobility remains a subject for further research (Hannam et al., 2021). However, this is somewhat counterintuitive, given that the emergence of AVs and EVs is likely to engender profound alterations in the manner in which both drivers and passengers engage with the automobile (Hannam et al., 2021). It is unavoidable that AVs will impact the feelings of autonomy and control intrinsic to drive tourism (Butler & Szili, 2020; Hannam et al., 2014; Jacobsen, 2025), as the driver transfers greater agency to the vehicle itself. In a related manner, the potential of motor vehicles to provide a range of sensory encounters, or "sensecapes", may be restricted by EVs (Hannam et al., 2021, p. 5). This phenomenon can be attributed to the assertion by Hannam et al. (2021) that the acoustic and sensory characteristics of petrol and diesel engine vehicles will, over time, become less pronounced or even disappear.

In a related study, Fjelstul and Fyall (2015) conducted a conceptual analysis with the objective of reviewing the existing literature on drive tourism and exploring the implications of new clean energy technologies for drive tourism in the US and other regions. As the authors contend, the most efficacious agent of transformation is clean energy, which is anticipated to engender the most enduring impact on the industry in the long term. This is primarily due to the technology's expected enhanced efficiency, which is expected to cause long-term cost reductions (Fjelstul & Fyall, 2015). In a similar vein, Fitt's (2022) review of literature on the utilisation of EVs in drive tourism identified several salient points, including those pertaining to infrastructure for charging EVs. Fitt (2022) posits that, while acknowledging the significance of

charging infrastructure for the broader adoption of EVs, the author emphasises its particular importance in the context of tourism, as it is reasonable to presume that EV users on holiday will be more reliant on dispersed public infrastructure.

Methods

Study areas and context

This paper is based on a doctoral study comprising four case studies conducted in rural tourism areas in Sweden, specifically in Sälen, Åre, Malung-Sälen and Älvdalen (Waleghwa, 2025b). As shown in Figure 1, the destination of Åre is located within the region of Jämtland Härjedalen, while Sälen is situated within the municipality of Malung-Sälen. Moreover, the municipalities of Malung-Sälen and Älvdalen are part of the Dalarna region (see Figure 1). However, using data not initially intended for this study creates limitations, as the findings cannot be exclusively attributed to rural drive tourism. Nevertheless, the triangulation approach employed here, which involves multiple case studies (Yin, 2014), provides a substantial empirical basis for examining the popularity of rural drive tourism in the study areas, as well as the sustainable mobility barriers faced by this form of tourism.

Tourism is a significant economic sector in all four of the study areas. The Dalarna region, which includes the study areas of Sälen, Malung-Sälen and Älvdalen, features a

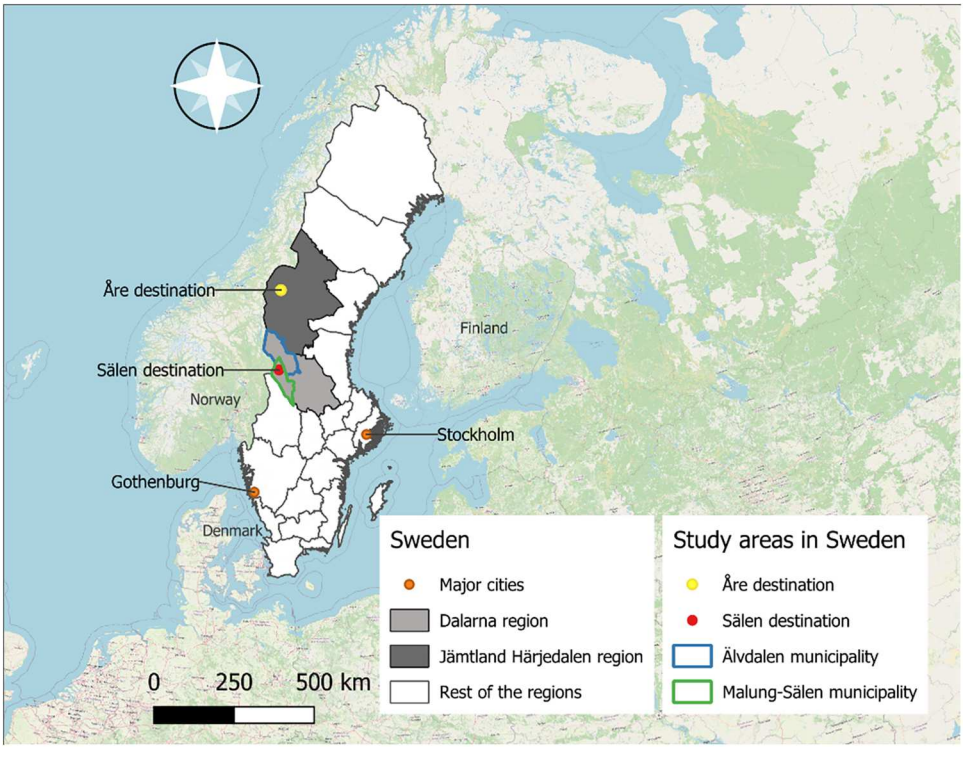

Figure 1. Study areas. Source: Waleghwa (2025b).

variety of well-known tourist attractions (Waleghwa, 2025b). These include Fulufjällets National Park and the historical Falu Gruva mine, designated a UNESCO World Heritage Site in 2001 (Falu Gruva, 2026). Furthermore, two of Sweden's most popular ski destinations, namely Sälen and Idre, are located in the Dalarna region. Sälen is in the municipality of Malung-Sälen (as previously mentioned) and Idre is in the municipality of Älvdalen. Sälen is the largest ski destination in Sweden, hosting five ski resorts: Lindvallen, Hundfjället, Kläppen, Stöten and Tandådalen (SLAO, 2024; Waleghwa, 2025b). Idre is also a well-known ski destination, with three resorts: Fjätervålen, Himmelfjäll, and Idre Fjäll (Waleghwa, 2025b). Moreover, the municipalities of Malung-Sälen and Älvdalen are popular for second home tourism, with 7,761 and 5,595 second homes situated within them respectively (Statistics Sweden, 2026).

As in Dalarna, tourism constitutes an economically significant sector in the Jämtland Härjedalen region (Waleghwa, 2025b). The region offers a wide range of activities, including, but not limited to, skiing, mountain biking, and hiking (Visit Sweden, 2026). The second largest ski resort in Sweden is Åre in Jämtland Härjedalen. Åre has the distinction of having the highest number of international visitors of all Swedish resorts (International Report on Snow and Mountain Tourism, 2022). Moreover, Jämtland Härjedalen is notable for its long-standing tradition of tourism, having functioned as a destination for pilgrims traversing the renowned St Olavsleden trail. This trail traverses the region, culminating at Nidaros Cathedral in Trondheim, Norway (Jämtland Härjedalen Tourism, 2026; Waleghwa, 2025b). Furthermore, the municipality of Åre, which is home to the tourist resort of Åre, is also a prominent destination for second-home tourism, with a total count of 5,910 second homes within its borders (Statistics Sweden, 2026).

The four study areas in this paper are classified as remote rural areas, as they are located at a distance of more than 45 min by car from their nearest urban centres, which have a population of more than 3,000 inhabitants (Glesbygdsverket, 2007; Waleghwa, 2025b). This is a common definition of remote rural areas in Sweden (Glesbygdsverket, 2007). The study areas are far from Sweden's two main urban areas, Stockholm and Gothenburg (Figure 1). Specifically, the respective distances from Stockholm are 440 km for Sälen, 330 km for Malung-Sälen and 350 km for Älvdalen. The respective distances of the three aforementioned areas from Gothenburg are 460, 420 and 500 km (Waleghwa, 2025b). Furthermore, Åre is also located at a considerable distance from the urban centres of Sweden. In particular, the distance between Åre and the Swedish capitals, Stockholm and Gothenburg, is as follows: 630 and 890 km, respectively (Waleghwa, 2025b).

Data sources and analysis

As previously stated, the empirical material I utilise in this study was collected as part of a doctoral study. The study used a mixed-methods approach, combining qualitative and quantitative techniques to collect data (Creswell & Creswell, 2018). Each technique provided unique insights. In this paper, I only describe two of the most relevant data sources in relation to the subject in focus. These data sources are: (i) a survey distributed to a sample of tourists and second-home owners; and (ii) semi-structured interviews with practitioners involved in transport-related matters. The closed-ended responses from the survey provide important data with which to examine the extent to which rural drive

tourism is popular. The interviews and open-ended responses from the survey constitute primary material with which to explore the barriers to sustainable mobility facing this type of tourism. Additionally, some of the interview material corroborates survey findings on the popularity of drive tourism in the study areas.

Survey data

As part of a larger study on sustainable mobility in the municipalities of Malung-Sälen and Älvdalen, survey data was collected between 5 March and 5 May 2024. Of the 995 completed surveys, 478 included in this present analysis were completed by respondents who self-identified as tourists or second homeowners in response to a screening question at the beginning of the survey. The remainder of the survey included questions about social demographics, travel mode choices to and within the municipalities, and a mapping question. Participants were also asked about their willingness to use AVs and car sharing, which was measured on a five-point Likert scale (1 being "not likely" and 5 being "very likely"). The survey concluded with an open-ended question to allow respondents to provide additional feedback. I analysed the closed-ended survey questions using SPSS. I analysed the open-ended responses thematically alongside the interview data, as described in the subsequent sub-section. The mapping question asked participants to mark places where they perceived a need for mobility improvements, and this question is not included in the present analysis.

Semi-structured interviews

Between June 2020 and March 2021, I interviewed a total of twelve practitioners in Åre and Sälen. The first participant in Sälen recommended potential interviewees in their professional networks, as did subsequent interviewees. I stopped after twelve interviews, as at that point saturation had been achieved and further interviews would not have led to new information (Creswell & Creswell, 2018). Table 1 provides an overview of the interviewees, their professional roles, and the date of their interview. The interviewees represent the supply side of rural drive tourism, as they worked in various transport-related roles in both the public and private sectors. These roles include municipality representative, business owner representative, transport planner, and traffic planner (see Table 1).

I conducted the first interview in person. However, due to the restrictions brought about by the pandemic at the time of data collection, it was more feasible to conduct

Table 1. Interviewees, their roles and date of interview.

Participant	Professional role	Date of interview
P1	Destination certification representative	June 2020
P2	Municipality representative	July 2020
P3	Business owner's representative	September 2020
P4	Public planner	September 2020
P5	Transport planner	December 2020
P6	Traffic planner	December 2020
P7	Transport planner	December 2020
P8	Public transport representative	January 2021
P9	Traffic planner	January 2021
P10	Traffic planner	January 2021
P11	Municipality representative	March 2021
P12	Business owner's representative	March 2021

the remaining interviews online via platforms such as Teams and Zoom. I recorded the interviews following participants' consent. I then described the interviews verbatim (Brinkmann & Kvale, 2015) and manually analysed them to identify themes in response to the question posed in this paper. To identify the overarching themes, I adopted Saldaña's (2013) three-phase coding procedure. The first phase involved identifying patterns within the transcripts and creating codes for them. The subsequent stage of the coding process involved grouping the codes into categories. The final step entailed consolidating the categories into themes.

Findings

As shown in Table 2, the final sample of 478 survey respondents comprised 405 tourists and 73 second homeowners. Of these, 50% were women, 48.5% were men and 1.5% preferred not to answer the gender question. The respondents were aged between 15 and 75 years, with the majority (30.8%) in the 35–44 age bracket. It is important to note that the 15–17 age category was included in the study, since in Sweden, despite the legal driving age being 18, individuals are permitted to begin practising with a learner's permit at 16 (Swedish Transport Agency, 2026). Furthermore, special EPA tractors, which are modified cars limited to a speed of 30 km/h, can be driven from the age of 15 (Swedish Transport Agency, 2026). Interestingly, 96% of respondents held a driving licence, and 93.1% had one to three cars in their household (see Table 2).

Table 2. Descriptive statistics ($n = 478$).

Variable		Frequency	Percent (%)
Municipality	Älvdalen	182	38.1
	Malung-Sälen	296	61.9
Group	Tourists	405	84.7
	Second-home owners	73	15.3
Gender	Female	535	50.0
	Male	447	48.5
	Prefer not to answer	13	1.5
Age	15–17 yrs	8	1.7
	18–24 yrs	41	8.6
	25–34 yrs	75	15.7
	35–44 yrs	147	30.8
	45–54 yrs	98	20.5
	55–64 yrs	63	13.2
	65–74 yrs	39	8.2
	75 or older	7	1.5
Driver's license	Yes	459	96.0
	No	19	4.0
Cars in household	None	20	4.2
	1	208	43.5
	2–3	237	49.6
	4 or more	13	2.7
Monthly income	Under 15,000 SEK	29	6.1
	15,001–25,000 SEK	36	7.5
	25,001–35,000 SEK	77	16.1
	35,001–45,000 SEK	128	26.8
	45,001–55,000 SEK	73	15.3
	55,001–70,000 SEK	76	15.9
	Over 70,001 SEK	59	12.3

Popularity of rural drive tourism

As demonstrated in Figure 2, the survey data indicates that drive tourism is a highly popular form of tourism, with an overwhelming majority of respondents (96.2%) having travelled to the study areas by land transport using various mechanically powered modes of transport. Of the 96.2% of respondents who travelled to the study areas, 76.2% did so using their own cars (petrol or diesel), 14.2% travelled with their own cars (electric), and 0.2% travelled by motorcycle. It was interesting to note that 5.6% of respondents travelled by shared car for their journey to the destinations.

Notable differences exist between tourists and second homeowners with regard to their travel mode splits to the study areas. As Figure 2 shows, all 73 second homeowners travelled by car, with 53 using their own petrol or diesel car, 19 using their own electric car, and 1 sharing a car. This is not surprising, given that most cottage owners almost exclusively travel by car to their cottages. For example, 93.75% of cottage owners travelled by car to Sälen, as reported by Waleghwa (2025a). However, given the relatively small sample size of second homeowners in the present study, the results should be treated with caution. The tourist group used various modes of transport to travel to the study areas, but the majority (95.3%) travelled by car, as shown in Figure 2. Of those, 80.56% drove their own petrol- or diesel-fuelled car, 12.69% drove a private electric car, and 6.74% shared a car.

As shown in Figure 3, travel within the study areas was also dominated by driving, with the majority (85.3%) opting to drive. Of these respondents, 66.7% used their own petrol or diesel cars, 14.2% used electric cars and 4.4% shared cars for their journeys within the destinations.

As demonstrated in Figure 3, a clear distinction emerges in the manner in which second homeowners and tourists opted to travel within the designated study areas. In contrast to the mode of transportation employed for travel to the study areas, where second homeowners utilised automobiles exclusively, a variety of transportation options were employed by this group for journeys within the destinations. However, as

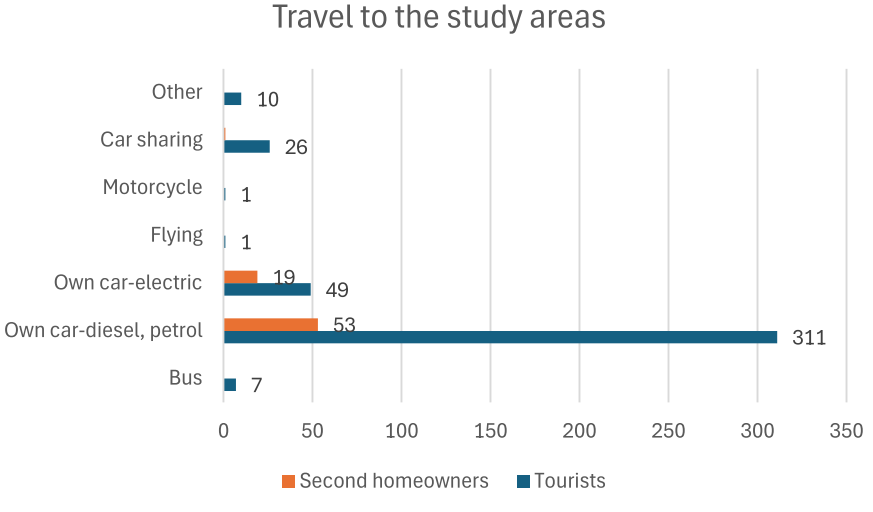

Figure 2. Modal splits for travel to the study areas.

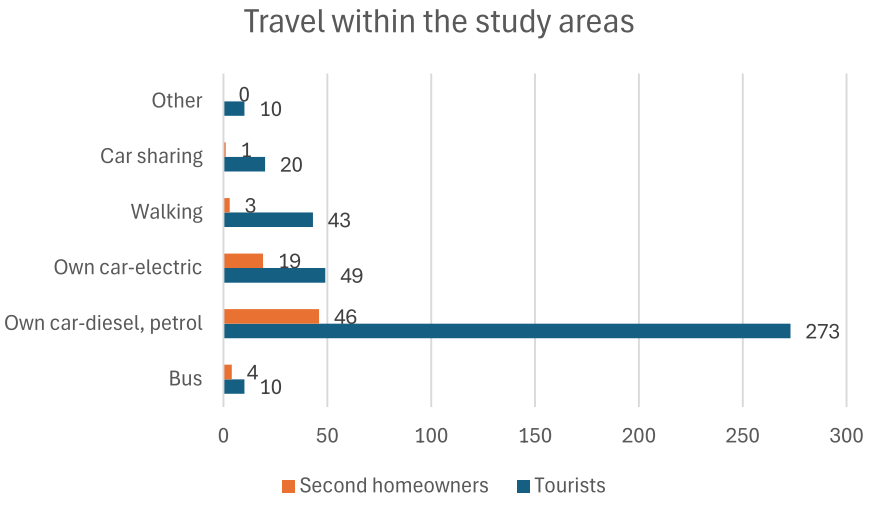

Figure 3. Modal splits for travel within the study areas.

demonstrated in Figure 3, the majority (66 of 73) of second homeowners still opted to drive within the designated study areas. In the case of the 66 individuals who drove, 46 of them used a private petrol or diesel automobile, 19 used a private electric vehicle, and 1 shared a car. Furthermore, as demonstrated in Figure 3, tourists also utilised various modes of transportation for travel within the study areas, with the majority (342 of 405) opting to drive. Of the total, 273 individuals were found to be driving their own petrol- or diesel-fuelled automobile, 49 were driving a private electric car, and 20 were sharing a car.

As demonstrated in Figure 4, the survey results indicate a low propensity among tourists and second homeowners to share a car with another traveller. The data indicates that the majority of respondents (112, constituting 23.4% of the total) expressed a low degree of likelihood regarding the sharing of a car. This finding is consistent with the results stated earlier on modal splits for travel to and within the study areas, where car sharing was rarely used by both tourists and second homeowners. In contrast to the low level of willingness to share a car among respondents, the majority of respondents (154 out of 478, i.e. 32.2%) indicated a high level of willingness (i.e. "very likely") to use an autonomous vehicle, as illustrated in Figure 5.

			Car sharing		
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	112	23.4	23.4	23.4
	2	102	21.3	21.3	44.8
	3	97	20.3	20.3	65.1
	4	78	16.3	16.3	81.4
	5	89	18.6	18.6	100.0
	Total	478	100.0	100.0	

Figure 4. How likely are you to share a car with another traveller? (1 is not likely and 5 is very likely).

		Autonomous vehicle			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	86	18.0	18.0	18.0
	2	60	12.6	12.6	30.5
	3	93	19.5	19.5	50.0
	4	85	17.8	17.8	67.8
	5	154	32.2	32.2	100.0
	Total	478	100.0	100.0	

Figure 5. How likely are you to use an autonomous vehicle? (1 is not likely and 5 is very likely).

Barriers to sustainable rural drive tourism

The subsequent findings illuminate the sustainable mobility barriers confronting rural drive tourism, as evidenced by the results. In addition to the survey results that have previously been presented, further insights from interviews with practitioners and open-ended responses from surveys are combined to shed light on the sustainable mobility challenges when travelling to and within the study areas.

The findings from the interviews suggest that a key barrier to sustainable travel to the study areas is, ironically, the dominance of the automobile. The car is a paradoxical phenomenon in the context of sustainable rural drive tourism. On the one hand, it facilitates access to rural areas and contributes to tourism growth in these places, as one interviewer noted. However, the same automobile significantly contributes to the overall unsustainability of rural transport, particularly given the current predominance of petrol- or diesel-fuelled vehicles for travel to these areas. As previously mentioned, the survey results show that driving is the most popular way to travel to the study areas, with the vast majority of respondents (96.2%) choosing this form of transport. This emphasises the popularity of drive tourism in these rural areas. However, the findings also suggest that there are challenges regarding sustainable mobility, given that 76.2% of those who travelled to their destinations did so in private petrol or diesel vehicles. Nevertheless, the open-ended survey responses (see Table 3) suggest that the participants were opting for petrol or diesel fuel cars due to the limited infrastructure for charging electric cars. The following comment from the survey illustrates this point: "I currently have a petrol car but will soon have an electric car. We have charging facilities

Table 3. Open ended survey comments on charging infrastructure for electric cars.

Original comment in Swedish	English translation of the comments
"Tillgång till laddstolpar med mer än 50 kW kapacitet skulle göra att vi tog elbilen istället"	"Access to charging stations with a capacity of more than 50 kW would encourage us to choose electric cars instead."
"Antalet snabbladdare för elbil behöver ökas. Finns inga runt Hundfjället-Tandådalen, ibland långa köer i Lindvallen"	"The number of fast chargers for electric cars needs to be increased. There are none around Hundfjället-Tandådalen, and there are sometimes long queues in Lindvallen."
"Har idag bensinbil men snart elbil. Vid vårt fritidsboende har vi möjlighet till laddning men god tillgång till laddning efter vägen känns som den viktigaste frågan"	"I currently have a petrol car. But will soon have an electric car. We have charging facilities at our holiday home, but good access to charging along the way feels like the most important issue."

at our holiday home, but good access to charging along the way feels like the most important issue."

Furthermore, car sharing, a more sustainable alternative for travelling to the study areas, was less popular than using one's own car. This is corroborated by interview findings, with P1 observing that most people almost always chose to travel in their own cars. That person commented: "everyone has to go with their own car". However, while car sharing shows potential as a sustainable mobility solution, it may not appeal to the rural driving market segment, which often seeks freedom and autonomy (Fjelstul & Fyall, 2015). Nevertheless, the feasibility of integrating car-sharing services within the domain of rural drive tourism is contingent upon the adoption of a car-access model as opposed to the conventional ownership paradigm. Consequently, clients are able to rent a car whenever required. However, the potential of car sharing in the context of rural drive tourism remains a topic to be explored in greater depth in future research.

The findings of the interviews also demonstrate that the prevalence of the automobile gives rise to challenges for sustainable mobility when travelling within the study areas. This phenomenon is especially pronounced in the popular tourist resorts of Sälen and Åre, which encounter congestion issues during peak season, as observed by one interview participant. As P12 noted, "there are probably four weeks every year when it gets really clogged up with cars". As has become widely acknowledged, congestion presents a sustainable mobility challenge (Curtale et al., 2024). This is due to the fact that additional time is spent in traffic, resulting in higher fuel consumption.

Furthermore, the results of the surveys indicate that travel within the designated study areas was predominantly undertaken by petrol or diesel cars, with EVs not being as prevalent for journeys within the study areas. Similarly to travelling to the study areas, respondents may have been reluctant to travel within the study areas using EVs due to the limited infrastructure for charging these types of cars. One respondent specifically highlighted the lack of a single fast charger for electric cars in the Hundfjället-Tandådalen area in Sälen (see Table 3). Nevertheless, one practitioner (P3) mentioned that they are working on finding a solution to this issue by investing in more electric car charging infrastructure in Sälen.

Discussion

The present paper has explored sustainable mobility in rural drive tourism, using the case studies of Sälen, Malung-Sälen, Åre and Älvdalen in Sweden. Specifically, the study has assessed the current popularity and scale of drive tourism across the designated areas, quantifying its role as the dominant travel genre for tourists and second homeowners alike. Secondly, the research has illuminated the obstacles that hinder the alignment of this popularity with sustainable mobility principles in the study areas. Overall, the findings have shown that, unsurprisingly, rural drive tourism is the most popular travel genre for journeys to and within the study areas for both tourists and second homeowners. The survey results indicated that automobile travel was a prevalent mode of transportation for travel to and within destinations, with 96.2% and 85.3% of respondents opting to drive to and within these destinations, respectively.

Nevertheless, the results of the study have indicated the existence of sustainable mobility challenges, namely the dominance of petrol or diesel private vehicles for journeys to

and within the study areas, congestion, and limited infrastructure for charging EVs. The findings of the study demonstrated a notable level of willingness among the participants to travel with AVs. In the subsequent paragraphs, I proceed to expound upon the findings pertaining to AVs and electric cars, as these have been highlighted in literature as prospective pathways to a sustainable mobility future for rural drive tourism.

The survey results demonstrated that the majority of respondents (154 out of 478) indicated a high level of willingness (i.e. "very likely") to use an autonomous vehicle. This finding is particularly noteworthy in light of the novelty of AVs as a sustainable mobility solution (Hannam et al., 2021; Prideaux, 2020; Prideaux & Yin, 2019), and the relatively limited uptake of such technology, particularly in rural areas. It can thus be concluded that exploring the prospects for adopting AVs in the study areas could be a worthwhile endeavour, especially since the areas are facing a challenge with traffic congestion, as was evidenced by the findings from the interviews. The adoption of AVs in this context could be advantageous, as these vehicles have the potential to reduce traffic and significantly reduce greenhouse gas emissions (Prideaux & Yin, 2019). As Prideaux (2020) observes, exploring the opportunities and challenges that the emerging trend of AVs may offer to drive tourism, particularly in remote rural areas, would be worthwhile. At the time of writing, it is the author's understanding, based on personal communication with stakeholders in Sälen, that the destination has already initiated a pilot project on AVs. This suggests that Sälen has the potential to become a leader in testing this technology in a rural, winter and mountainous context.

The survey results indicated that the utilisation of EVs was comparatively minimal for both tourists and second homeowners for journeys to and within the designated study areas. Only 14.2% of respondents reported using an electric car. Nevertheless, the findings of the open-ended survey suggest that the limited utilisation of EVs may be attributable to the scarcity of charging infrastructure along the routes to and within the designated study areas. The findings of the interview revealed that practitioners are keen on developing more infrastructure for charging electric cars, especially within the study areas. These findings are consistent with the earlier research by Fitt (2022), who emphasised the pivotal role that charging infrastructure plays in promoting the utilisation of EVs among tourists. In their efforts to establish charging infrastructure, the relevant stakeholders in the designated study areas may consider addressing the issues highlighted by Fitt (2022). The issues identified by Fitt are: developing fast chargers; locating chargers near tourist attractions and amenities; and managing the charging peaks and troughs. Still, the impact of EVs and AVs on the experience of rural drive tourism remains a subject for further research.

Concluding remarks

In view of the mounting concerns pertaining to environmental issues, there is a compelling need for research into sustainable mobility in the context of rural drive tourism, a subject that has thus far received scant attention in research. The results of this study demonstrate the prevalence of drive tourism in rural environments. However, they also highlight significant sustainable mobility challenges that are pertinent to this particular type of tourism. These challenges include the dominance of petrol or diesel private vehicles for journeys to and within the study areas, congestion, and limited infrastructure

for charging EVs. The study suggests that innovative and creative initiatives focused on facilitating the adoption of EVs and AVs could be a potential solution for promoting sustainable mobility in the designated study areas. EVs are demonstrating a greater potential for implementation in the short term, given that the technology for AVs is still in its early stages of development.

It is recommended that future researchers direct their attention towards conducting a more extensive study of sustainable mobility in drive tourism in the designated study areas. For instance, the study of the possible adoption of sustainable mobility, and the challenges associated with it, among various market segments of rural drive enthusiasts, such as caravan users, is recommended.

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Beatrice Waleghwa http://orcid.org/0000-0002-7194-1751

References

Banister, D. (2008). The sustainable mobility paradigm. *Transport Policy*, *15*(2), 73–80. https://doi.org/10.1016/j.tranpol.2007.10.005

Brinkmann, S., & Kvale, S. (2015). *Interviews: Learning the craft of qualitative research interviewing* (3rd ed.). Sage Publications.

Butler, G., & Szili, G. (2020). Mediating technologies on the move: Tourists' automobilities through the Limestone Coast, South Australia. *Asia Pacific Journal of Tourism Research*, *25*(4), 369–381. https://doi.org/10.1080/10941665.2019.1708756

Butler, G., Szili, G., Cutler, C., & Hay, I. (2022). Road mapping recovery from the impacts of multiple crises: Framing the role of domestic self-drive tourism in regional South Australia. *Journal of Tourism and Cultural Change*, *20*(6), 774–787. https://doi.org/10.1080/14766825.2021.2014855

Caldicott, R. W., & Scherrer, P. (2013). Facing divergent supply and demand trajectories in Australian caravanning: Learnings from the evolution of caravan park site-mix options in tweed Shire. *Journal of Vacation Marketing*, *19*(2), 117–131. https://doi.org/10.1177/1356766712457672

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5. rev., international student ed.). SAGE.

Curtale, R., Sarman, I., & Evler, J. (2024). Traffic congestion in rural tourist areas and sustainable mobility services. The case of Ticino (Switzerland) valleys. *Tourism Planning & Development*, *21*(1), 70–94. https://doi.org/10.1080/21568316.2021.2001034

Dahl, T. I., & Dalbakk, J.-A. (2015). Whizzing through the high north: Motorists' psychological experience of the countryside. *Scandinavian Journal of Hospitality and Tourism*, *15*(1-2), 8–28. https://doi.org/10.1080/15022250.2015.1015766

Falu Gruva. (2026). About us. https://www.falugruva.se/en/om-oss/

Fitt, H. (2022). Boring and inadequate? A literature review considering the use of electric vehicles in drive tourism. *Current Issues in Tourism*, *25*(12), 1920–1946. https://doi.org/10.1080/13683500.2021.1937074

Fjelstul, J., & Fyall, A. (2015). Sustainable drive tourism: A catalyst for change. *International Journal of Tourism Research*, *17*(5), 460–470. https://doi.org/10.1002/jtr.2013

Frash, R. E., Blose, J. E., Smith, W. W., & Scherhag, K. (2018). A multidisciplinary marketing profile of motorcycle tourists: Explorers escaping routine to find flow on scenic routes. *Tourism Recreation Research*, *43*(4), 432–444. https://doi.org/10.1080/02508281.2018.1492767

Glesbygdsverket. (2007). Fakta om Sverige gles-och landsbygder. https://www.tillvaxtanalys.se/download/18.62dd45451715a00666f2764f/1586367601582/fickfakta-om-gles-och-landsbygder-2007-07.pdf

Gössling, S. (2017). *The psychology of the car: Automobile admiration, attachment, and addiction*. Elsevier. https://doi.org/10.1016/B978-0-12-811008-9.01001-2

Hannam, K., Butler, G., & Paris, C. M. (2014). Developments and key issues in tourism mobilities. *Annals of Tourism Research*, *44*, 171–185. https://doi.org/10.1016/j.annals.2013.09.010

Hannam, K., Butler, G., Witte, A., & Zuev, D. (2021). Tourist's mobilities: Walking, cycling, driving and waiting. *Tourist Studies*, *21*(1), 57–69. https://doi.org/10.1177/1468797621992931

Hanrahan, J., Maguire, K., & Boyd, S. (2017). Community engagement in drive tourism in Ireland: Case study of the Wild Atlantic Way. *Journal of Heritage Tourism*, *12*(5), 509–525. https://doi.org/10.1080/1743873X.2016.1242594

Holden, E., Gilpin, G., & Banister, D. (2019). Sustainable mobility at thirty. *Sustainability*, *11*, 1965. https://doi.org/10.3390/su11071965

International Report on Snow and Mountain Tourism. (2022). Sälen. https://de.cdn-website.com/64e34689550d402aa147af5bbc27524d/files/uploaded/RM-world-report-2022.pdf

Jacobsen, J. K. S. (2025). Scenic drive tourism. In J. Jafari & H. Xiao (Eds.), *Encyclopedia of tourism* (pp. 911–912). Springer Nature Switzerland.

Jämtland Härjedalen Tourism. (2026). https://jht.se/en/

Kristjánsdóttir, H. (2016). Can the butler's tourist area cycle of evolution be applied to find the maximum tourism level? A comparison of Norway and Iceland to other OECD countries. *Scandinavian Journal of Hospitality and Tourism*, *16*(1), 61–75. https://doi.org/10.1080/15022250.2015.1064325

Lundmark, L. (2005). Economic restructuring into tourism in the Swedish mountain range. *Scandinavian Journal of Hospitality and Tourism*, *5*(1), 23–45. https://doi.org/10.1080/15022250510014273

Mahadevan, R. (2014). Understanding senior self-drive tourism in Australia using a contingency behavior model. *Journal of Travel Research*, *53*(2), 252–259. https://doi.org/10.1177/0047287513496476

Müller, D. K. (2021). 20 years of Nordic second-home tourism research: A review and future research agenda. *Scandinavian Journal of Hospitality and Tourism*, *21*(1), 91–101. https://doi.org/10.1080/15022250.2020.1823244

Peeters, P., & Dubois, G. (2010). Tourism travel under climate change mitigation constraints. *Journal of Transport Geography*, *18*(3), 447–457. https://doi.org/10.1016/j.jtrangeo.2009.09.003

Peeters, P., Higham, J., Cohen, S., Eijgelaar, E., & Gössling, S. (2019). Desirable tourism transport futures. *Journal of Sustainable Tourism*, *27*(2), 173–188. https://doi.org/10.1080/09669582.2018.1477785

Prideaux, B. (2020). Drive and car tourism: A perspective article. *Tourism Review*, *75*(1), 109–112. https://doi.org/10.1108/TR-05-2019-0162

Prideaux, B., & Carson, D. B. (Eds.). (2011). *Drive tourism: Trends and emerging markets*. Routledge.

Prideaux, B., & Yin, P. (2019). The disruptive potential of autonomous vehicles (AVs) on future low-carbon tourism mobility. *Asia Pacific Journal of Tourism Research*, *24*(5), 459–467. https://doi.org/10.1080/10941665.2019.1588138

Prideaux, B. R., & Yin, P. (2025). Auto tourism. In J. Jafari & H. Xiao (Eds.), *Encyclopedia of tourism* (pp. 76–78). Springer Nature Switzerland.

Saldaña, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). SAGE.

Shi, Y., Chen, G., & Shi, H. (2026). Enhancing the self-drive tourism experience along scenic routes: Identifying must-be, hybrid, and value-added attributes. *Tourism Review*, *81*(8), 1–30. https://doi.org/10.1108/TR-07-2025-0705

SLAO – Swedish Ski Areas Industry Association. (2024). https://www.slao.se/content/uploads/2024/06/SLAO_branschrapport_20232024.pdf

Statistics Sweden. (2026). Second homes in Sweden. https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__BO__BO0104__BO0104H/BO0104T08/table/tableViewLayout1/

Swedish Transport Agency. (2026). About Sweden. https://www.transportstyrelsen.se/en/road/driving-licences/im-going-to-take-my-driving-licence/

Sykes, D., & Kelly, K. G. (2016). Motorcycle drive tourism leading to rural tourism opportunities. *Tourism Economics*, *22*(3), 543–557. https://doi.org/10.5367/te.2014.0454

Urry, J. (2004). The 'system' of automobility. *Theory, Culture & Society*, *21*(4-5), 25–39. https://doi.org/10.1177/0263276404046059

Visit Sweden. (2026). About Jämtland Härjedalen. https://visitsweden.com/where-to-go/northern-sweden/jamtland-harjedalen/

Waleghwa, B. (2025a). Rethinking car-dependent rural tourism mobility. *Applied Mobilities*, *10*(2), 229–247. https://doi.org/10.1080/23800127.2025.2477937

Waleghwa, B. (2025b). From peripheral challenges to core solutions: Exploring sustainable mobility in rural tourism. http://www.diva-portal.org/smash/get/diva2:1954946/FULLTEXT01.pdf

Waleghwa, B., & Heldt, T. (2022). Exploring the use of public participation GIS in transportation planning for tourism at a Nordic destination. *Scandinavian Journal of Hospitality and Tourism*, *22*(3), 210–234. https://doi.org/10.1080/15022250.2022.2070541

Yang, P., Xu, H., & Hannam, K. (2023). A touristic habitation: Automobilities of Chinese driving tourists. *Tourism Geographies*, *25*(4), 1047–1067. https://doi.org/10.1080/14616688.2022.2046148

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). SAGE.