1. Dictionary

Long-distance travel

By Giulio Mattioli (Researcher in Sustainable Transport)

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Short definition

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Long definition

Long-distance travel is a topic at the intersection of various disciplines and fields. As such, it is defined in different ways depending on the research interest.

In transport studies, 'long-distance travel' generally refers to trips over a certain distance threshold – typically, 100km in Europe. Here the focus is on geographical distance, as it is highly correlated to polluting emissions and other negative environmental impacts.

In the social sciences, on the other hand, the focus is sometimes not on distance per se but on the duration of trips, with e.g., 'long-distance commuting' sometimes being defined as journeys to work taking more than 1 hour each way. This focus is justified by the negative consequences of spending too much time travelling on a person's health, well-being and quality of life.

Mainstream tourism research generally focuses on trips with an overnight stay, or "outside of a person's usual environment". These can be for personal, leisure, or professional purposes (business travel). Such trips are more likely to generate revenue for the tourism industry, particularly when they include an overnight stay. This variety of definitions can result in conceptual confusion and fragmentation of knowledge. At the same time, it makes sense to adopt different definitions depending on the underlying research interest or practical goal, so this is unlikely to be resolved soon. There are, however, substantial overlaps between the various concepts. A trip over 3,000 km is likely to take several hours, to be outside of a person's usual environment and to result in an overnight stay. For trips over shorter distances, the picture is fuzzier, with fringe cases such as long commutes, day leisure trips outside of the usual environment, etc. These may or may not be considered as long-distance travel depending on the research interest.

Another distinguishing trait of long-distance travel is that it tends to involve different transport modes than daily travel over short distances. At one end of the spectrum, there are high-speed modes that are virtually always (airplane) or mostly (high-speed rail) used for long-distance travel. Conversely, active travel modes such as walking and cycling are only rarely used for long-distance travel. Note however that transport modes like trains and cars are commonly used in both travel segments.

When defined in terms of distance, long-distance travel is the fastest growing segment of passenger travel, due to a shift towards higher-speed modes and international travel. Another key characteristic of long-distance travel is that it is very unequally distributed across social groups, with more affluent groups being responsible for a much larger and disproportionate share of total distance travelled in this segment.

Development

Why long-distance travel is overlooked and difficult to capture

Long-distance travel has traditionally been overlooked compared to travel over shorter distances and within urban areas. There are various reasons for this, including perhaps the long-standing urban bias of some disciplines (e.g., urban planning), and the greater visibility of transport in urban contexts, due to issues of congestion, pollution, and competition between modes. There are however also important methodological reasons why long-distance travel tends to be neglected.

Long-distance travel is defined differently not just across disciplines and fields of research, but also across countries, with e.g., many European studies including the French national travel survey adopting a 100 km threshold, the UK 50 miles (80.5 km), and the US 100 miles (161 km). This complicates the study of this topic, particularly since much long-distance travel is international. It also makes it hard to capture with national travel surveys, so that some of them (e.g., the UK National Travel Survey) exclude international travel from the scope of data collection.

By its very nature, long-distance travel is complex and multimodal, involving, for example, access and egress trips to and from the airport, or a sequence of car trips to reach the tourist destination, and then in and around the destination during the stay. This makes it rather difficult to capture with traditional travel survey instruments, and can result in response burden, recall error and underreporting on the part of the respondents.

Perhaps the main issue with long-distance travel is that its frequency is extremely skewed, as trips over 100km account typically for around just 1-2% of trips (Mattioli & Adeel, 2021). For most people it is an infrequent event that is difficult to capture with standard travel diaries. It is thus necessary to use a longer reporting period (a few months, a year, or more) but this again raises issues of recall error, underestimation, and low sample size. At the same time, long-distance travel is a rather frequent occurrence for some people (for example, frequent flyers living between two countries, long-distance commuters). While frequent long-distance travellers are few, they are responsible for a large share of long-distance travel volume in the aggregate. These individuals are particularly interesting from both a research and policy perspective, but they can be elusive to capture for empirical studies, both because there are so few of them and because of their frequent mobility, which makes them hard to reach. Overall, there is a sort of vicious circle whereby we tend to overlook

and underestimate long-distance travel because we do not investigate it properly, but also continue to know little about it because we (wrongly) assume that it is relatively unimportant.

Methodological issues also mean that is quite difficult to find precise, reliable figures on how long-distance travel breaks down by travel mode and purpose. The International Transport Forum estimates that globally, 59% of passenger-kilometres in the intercity segment (that is transport activity happening between urban areas) is from surface travel, and the rest from aviation (ITF, 2021). The World Tourism Organisation estimates that international travel is mostly for leisure, recreation and holidays (55%), with business travel accounting for just 11%, visiting friends and relatives, health, religion and others for another 28% and the remaining 6% for unspecified purposes (UNWTO, 2020). Business travel does account for a larger share of domestic long-distance travel though. Taking into account both the domestic and international segment, a German study (Frick & Grimm, 2014) has estimated that business travel accounts for just 21% of passenger kilometres in the long-distance segment, most of which (13%) come from overnight business trips, while just 6% is due to long-distance commuting, and 2% for same-day business trips. The largest share of passenger kilometres is from holidays (45%).

Long-distance travel is growing rapidly

Historical trends in passenger transport have seen a substantial increase in distance travelled per capita and a shift towards ever-faster transport modes, while average trip frequency, travel time and share of income spent on transport have remained relatively stable. These developments imply a growing importance of long-distance travel over time, as covering long distances with high-speed modes has become increasingly possible and affordable. They also go along with a growth in the share of leisure and international travel. This is reflected e.g., in the very rapid growth in tourism and air travel since the mid-20th century (Gössling & Peeters, 2015; Lee et al., 2021), although punctuated by drops coinciding with economic, geopolitical and health crises such as COVID-19.

In the last three decades, these trends have continued and possibly accelerated. For example, in the short decade between 2005 and 2016 there has been a rapid increase in tourism travel at the global level, both in the domestic and the international segment, with an associated growth in transport-related CO2 emissions (Table 1). As long-distance travel grows faster than other travel segments, its share of total mileage from passenger transport tends to increase as well. It is even conceivable that the saturation in car mileage per capita observed in some Global North countries (often referred to as “peak car”) may simply reflect a shift towards long-distance and international travel by air and rail (Schäfer et al., 2009).

	2005	2016	Change 2 201
Domestic tourist arrivals (overnight)	4.0 billion	8.8 billion	+119
International tourist arrivals (overnight)	0.7 billion	1.2 billion	+65%
Same-day visitors (both domestic and international)	5.0 billion	10.0 billion	+100
Total tourism trips (both overnight and same-day visitors)	9.7 billion	20.0 billion	+106
Transport CO_2 emissions from overnight stays	849 million tonnes	1,371 million tonnes	+61%
Transport CO_2 emissions from same-day visitors	133 million tonnes	226 million tonnes	+70%
Total transport CO_2 emissions from tourism trips	982 million tonnes	1,597 million tonnes	+63%

Table 1 – Estimates of tourism activity and resulting transport-related CO2 emissions at the global level in 2005 and 2016. Source: UNWTO & ITF (2019, p.43)

The International Transport Forum (ITF, 2021) estimates that globally, intercity travel accounted for 33% of mileage and in 2015. This share is even higher in Global North countries, with studies finding that something between 30% and 50% of total passenger mileage is for long-distance travel (Mattioli & Adeel, 2021). Looking forward, intercity travel mileage at the global level is expected to grow by 81% between 2015 and 2050, unless policies to curb this growth are introduced (Figure 1). Note also that the ITF forecast predicts a decrease in intercity surface travel from 2030 onwards, which is more than offset by a rapid growth in domestic and international aviation.

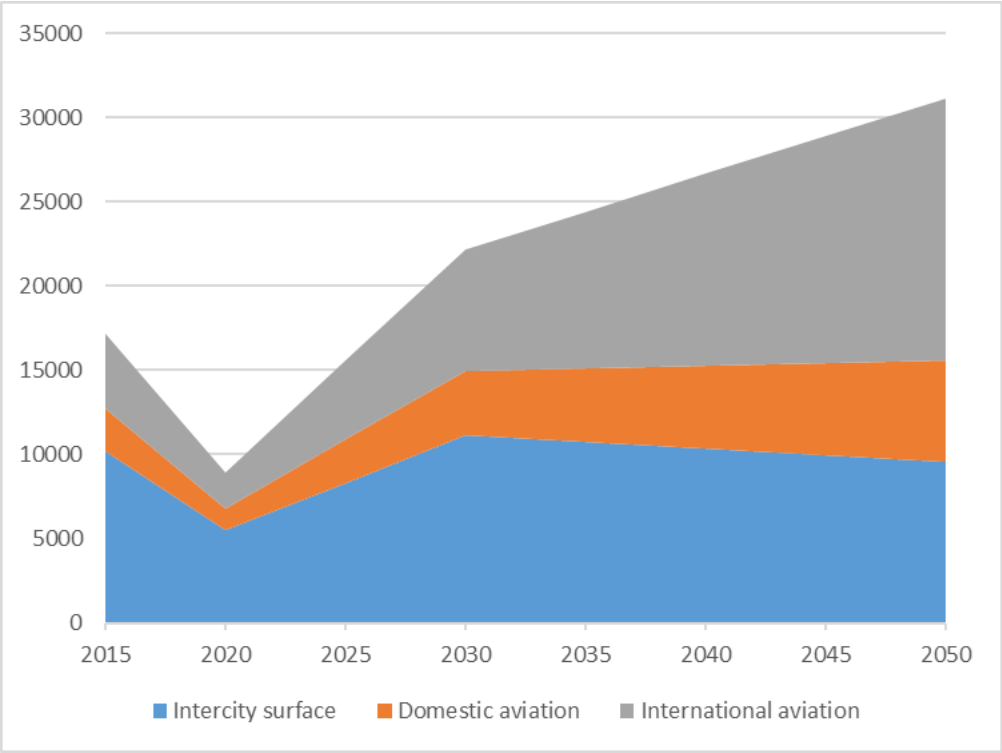

Figure 1 – Forecasted global demand for intercity passenger transport by mode (billion passenger-kilometres) between 2015 and 2050. Figures post-2020 refer to the ITF "Recover" scenario, which assumes a continuation of the current trajectory (ITF, 2021, p. 63).

Why is long-distance travel growing?

From a mainstream economic perspective, the growing importance of long-distance travel and related high-speed modes is the simple result of economic growth and technological progress, which increase disposable income while making fast travel technology cheaper and more widespread (Schäfer et al., 2009). While this is an important part of what happens, there are also other long-term structural drivers behind this development. These include for example the softening of border travel restrictions, increases in paid holiday time, digitalisation and the various trends that go under the name of 'globalization'. The development of infrastructure for long-distance travel modes and the emergence of new business models (for example, low-cost airlines) also play a role in the growth of this travel segment.

In addition to these macro-trends, greater long-distance travel activity tends to result in the expansion of activity spaces and the spatial dispersion of social networks, both of which can in turn encourage even more long-distance travel. This is referred to as the 'institutionalisation' or 'lock-in' of long-distance travel (Frändberg & Vilhelmson, 2010). An example here is the migrant who moves from country to country leaving a trail of friends and relatives behind, which then creates the need for frequent international travel in order to maintain those social relationships, with possible knock-on effects on the next generation. Another example is how the ease of travel encourages the acquisition of firms abroad, which then creates the need for frequent international business travel. It is plausible, then, that the trend towards long-distance mobility tends to fuel itself to some extent.

As such, the rapid growth in long-distance travel has occurred in parallel with the emergence of new 'multilocal' and 'transnational' lifestyles and practices, which by definition require frequent travel over long distances. The nexus between these new lifestyles and practices and their impact in terms of transport activity and related environmental effects has not received the attention it deserves to date.

Who does the most long-distance travel?

At the micro-level, individuals differ greatly in the extent to which they participate in long-distance travel. Affluence plays a key role here, with research showing that income is more strongly associated with long-distance travel than with daily travel, and more with air travel than with car travel. This tends to result in striking patterns of inequality across the income distribution. In the UK for example, people in the top 10% of the income distribution consume more energy for flying than people in the bottom decile do for all their activities (Baltruszewicz et al., 2023). In France, the gradient of CO_2 emissions across income groups is much steeper for long-distance travel than for daily mobility (Figure 3). Other socio-economic factors associated with long-distance travel include employment, education, and being male. Adults with children and the elderly tend to report lower levels of long-distance travel.

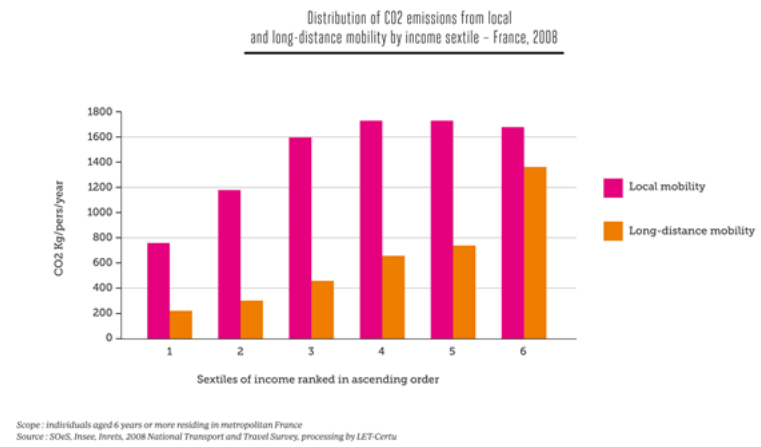

Figure 3. Distribution of CO2 emissions from local and long-distance mobility by income sextile. Figure by Mobile Lives Forum. Source : Soes, Insee, 2008 National Transport and Travel Survey

As a rule, socio-economic attributes are associated with daily travel and long-distance travel behaviour in the same direction, although not necessarily with the same magnitude. This means that those social groups who travel more in their usual environment also tend to cover greater distances in the long-distance segment. An exception to this is ethnicity and migration background, with research showing that, on average, first-generation migrants and ethnic minority groups tend to travel less by car, but more by plane than the rest of the population. This is likely due to them having friends and relatives abroad and needing to travel internationally to maintain their personal social networks (Mattioli & Scheiner, 2022). There is evidence to suggest that social network dispersion encourages long-distance travel both within and between countries, and with different transport modes.

Much research has gone into exploring the link between environmental attitudes and daily travel behaviour, typically finding only a weak link between the two, often referred to as the 'attitude-behaviour gap' [1]. Numerous studies have shown that this gap is even more pronounced for long-distance and air travel (see, for example, Alcock et al., 2017). This means that people holding environmental attitudes are just as likely as others to, for example, fly for holidays, even after controlling for other factors. This does not mean that attitudes are inconsequential to long-distance travel behaviour, as studies have found a positive association with, for example, cosmopolitan attitudes (inclination to experience new cultures and places), tech-savviness (confidence in using new technology) and polychronicity (enjoyment of multitasking) (Czepkiewicz et al., 2020; Kim & Mokhtarian, 2021).

It is well known that people in large and densely populated urban areas tend to cover shorter distances in daily life, notably by car, which tends to result in lower emissions. This is not the case, however, for long-distance travel. It is now well-established that people in large and dense cities tend to cover more miles for long-distance travel than the residents of other areas, notably when it comes to international and air travel (Czepkiewicz et al., 2018). This remains true when other determinants of long-distance travel such as income are controlled for. Recent research suggests that this is due primarily to three factors: i) better access to long-distance transport infrastructure such as airports in cities; ii) a greater concentration of people with an immigrant background and dispersed social networks in large urban areas; iii) an association between urbanity and various attitudes and lifestyles that are more conducive to long-distance travel [2]. There are obviously interactions between these factors as, for example, someone with a cosmopolitan worldview will be more likely to develop friendships with foreigners, and to choose to reside in a 'global city' with greater opportunities for international travel. At the same time, being born in such a city might increase the likelihood that one will develop a cosmopolitan outlook and will take advantage of the long-distance travel infrastructure that is available. On the other hand, one might expect cosmopolitanism to be associated with greater climate concern – as one cares about the negative impacts of climate change on vulnerable groups worldwide – which in turn could result in people flying less.

Policy: what can be done about long-distance travel?

There are various policy issues connected to long-distance travel, related primarily to its growing environmental impact, and to large social inequalities in levels of participation in this form of travel.

With regard to environmental impact, the International Transport Forum estimates that globally, intercity travel accounts for 38% of CO2 emissions from passenger travel (ITF, 2021). The actual share in terms of climate impact is likely to be even higher than that, because of the non-CO2 emissions from air travel, which double or triple its climate impact. While currently aviation is estimated to account for just 3.5% of global climate forcing (Lee et al., 2021), this is likely to increase in the future. Both air travel activity and emissions have increased rapidly since 1960, and further accelerated since 2000, and this has been only marginally offset by technological and operational efficiency improvements. International aviation is one of the transport subsectors where greenhouse gas emissions have increased most rapidly at the global level since 2010 (+2.7% per year). Globally, intercity travel mileage is expected to grow by 81% between 2015 and 2050, and related greenhouse gas emissions by 25%, mostly due to aviation, unless stringent decarbonisation policies are implemented (ITF, 2021 ; see above, fig. 1). This has led the ITF to state that the "fight to lower transport emissions could be won or lost outside cities" (2021, p.130).

Overall, the message is that the growth in long-distance travel activity, if left unchecked, is likely to offset technological improvements, resulting in growing emissions at a time when countries are aiming at carbon neutrality. The consensus among experts is that this requires the introduction of travel demand management measures such as higher taxes on air travel.

With the growing focus on its environmental impact, the high levels of inequality in long-distance travel participation have started to draw attention as well. The broad pattern is that large sectors of the population participate (very) little in long-distance travel, while a minority of privileged 'frequent travellers' are responsible for a large share of travel distance and emissions. This pattern is even more pronounced for air travel. Even in countries with a high average frequency of air travel, typically (much) less than half of the population flies in a 12-month period, and a minority of the population is responsible for a large share of flights and emissions. The use of high-speed rail, while less carbon intensive, is also rather unequal along the lines of income, gender, age, education and occupational group.

Contrary to popular narratives, inequalities in participation in long-distance travel and air travel are still very large and have decreased only slowly over time (Demoli & Subtil, 2019).

There are both synergies and trade-offs between the goals of reducing the environmental impact of long-distance travel and addressing social equity. For example, environmentalists often advocate investment in high-speed rail infrastructure, to shift passengers away from air travel. However, this would also mean allocating substantial public resources to the benefit of the privileged sectors of the population that frequently use these modes. One might argue that, from a social equity perspective, those resources would be better allocated to local public transport, which is disproportionately used by lower-income groups. An example of a measure that would reconcile both goals is the idea of a 'frequent flyer levy' (Fouquet & O'Garra, 2022). This would exempt the first flight per year from additional taxes – ensuring that infrequent flyers can still participate in air travel at no additional cost – but apply an increasingly hefty levy to each subsequent flight. This way, the frequent flyers who are responsible for most of the environmental impact would bear most of the tax burden. This might curb the growth of air travel, while also generating revenue for funding technological solutions such as e-fuels.

These considerations notwithstanding, the future of long-distance travel is made more uncertain by the risk of recurring pandemics, which would put several aspects of globalization into question, including perhaps the viability of the aviation industry in its present form. Changes in the cost of travel and technological innovation might also lead to changes in social norms about long-distance travel and physical copresence, with consequences that are difficult to predict. As things stand, however, the most likely scenario is one where long-distance travel resumes its growth after the disruption brought about by the COVID-19 pandemic [3].

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Notes

1 See Yoann Demoli, Do environmental values challenge mobility practices?, Mobile Lives Forum, https://forumviesmobiles.org/en/videos/15842/do-environmental-values-challenge-mobility-practices and Swann Thommen, Sébastien Munafò, Living environments, lifestyles and leisure mobilities, Mobile Lives Forum, https://forumviesmobiles.org/en/project/2694/living-environments-lifestyles-and-leisure-mobilities

2 See Johannes Volden, Flying Through a Perfect Moral Storm: How do Norwegian environmentalists negotiate their aeromobility practices?, Mobile Lives Forum, https://forumviesmobiles.org/en/new-voices/13819/flying-through-perfect-moral-storm-how-do-norwegian-environmentalists-negotiate-their-aeromobility

3 See Weiqiang Lin, https://forumviesmobiles.org/en/opinions/15894/revenge-travel-aeromobilities-and-aviation-industry-after-pandemic

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En savoir plus x

Mobility

For the Mobile Lives Forum, mobility is understood as the process of how individuals travel across distances in order to deploy through time and space the activities that make up their lifestyles. These travel practices are embedded in socio-technical systems, produced by transport and communication industries and techniques, and by normative discourses on these practices, with considerable social, environmental and spatial impacts.

En savoir plus x

Associated Thematics :

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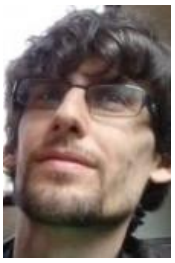
- Diversity of lifestyles
- Leisure & tourism

Policies

- Aviation
- Ecological transition
- Public transport



Giulio Mattioli

Researcher in Sustainable Transport

Giulio Mattioli is Research Fellow at the Department of Transport Planning, TU Dortmund (Germany). His research interests include the social drivers of long-distance travel, car dependence and carbon lock-in in the transport sector, transport poverty, affordability and energy vulnerability, and the political economy of transport systems.

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