Youth on the Move
Young People and Transport in the 21st Century

Corporate Partnership Board Report

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The International Transport Forum

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Executive summary

Key messages

1. **Choices and constraints:** Young people have different needs, expectations and constraints regarding transport than other age groups. Their mobility choices depend on a combination of socio-economic factors and limited resources.

2. **Transport's future:** Young people's travel behaviour and aspirations could influence how sustainable transport will become in the long run.

3. **Give youth a voice:** Young people's views rarely figure in transport policy decisions. Traditional transport planning does not always consider their needs. Involving young people in transport planning and decision-making could better align solutions with the challenges.

Main findings

While there is no fixed age bracket to be called young, the words "youth" and "young people" are used here to refer to the age group from 15 to 29 years. This is based on the OECD Youth Action Plan definition, the literature reviewed and interviews with experts on youth and transport who have advised on this project.

Young people are not a homogenous group, and their travel choices are dynamic. As with any societal grouping, they are driven by factors that extend beyond mere individual preferences, notably by socio-economic conditions and limited resources. Living arrangements, financial constraints and where young people live play important roles. The proliferation of information and communication technologies, safety and security concerns, and the (un)availability of transport options are other significant aspects that influence choices. Gender can be yet another factor. These factors act in conjunction, each having a push and pull effect on others, to influence choices and youth travel behaviour.

Young people in low- and middle-income countries primarily travel on foot and bicycles and use formal or informal shared transport. Yet, they strongly aspire to own private motorised transport. In high-income countries, young people mostly rely on cars for their daily activities, although they drive less than previous generations. Car dependency can vary between urban, sub-urban and rural areas. Car usage, ownership and level of driving licensing in high- income countries are lower among young people than among older people and continue to decline. A significant overall increase in active or shared mobility or public transport trips does not accompany the decline in driving. Walking is young people's second-most popular way to get around, followed by cycling and public transport.

The number of trips young people make has declined even more strongly than the downward trend in trips among the adult population in the past 15 years or so (considering data from the early 2000s), as online activity has replaced some shopping trips and other errands in high-income countries. Since this reduction in the number of trips by young people partly results from enhanced digital accessibility and, therefore, a reduced need to travel, it is not in itself a cause for worry.

However, policy makers should be attentive to whether young people wish to make more trips but cannot, for instance, because of financial constraints or lack of transport options. While it is challenging to show a causal link between making trips and access to opportunities, there is some available evidence which indicates such a link. Such mobility constraints for young people can be mitigated through good public transport services and active mobility infrastructure. Providing access to sustainable modes of transport that are affordable, rather than to cars, is a key point for enabling youth mobility.

Governments in the Global South are investing in public transport, yet the impact of these investments on the youth, especially from an affordability perspective, remains to be seen. Generally, a lack of data makes it difficult to establish whether young people in low- and middle-income countries are making fewer or more trips compared to previous generations, whether their dependency on private motorised transport (e.g. cars and two-wheelers) is increasing or decreasing, or whether trip distances and commute times are getting longer or shorter.

Regardless of the context, affordable, reliable, and safe public transport services, along with infrastructure for walking and cycling, are essential for young people and, in fact, beneficial for all age groups. Good mobility options can affect long-term outcomes for young people, from skills development and future income via personal and professional networks to health.

Importantly, youth are pragmatic when it comes to mobility. Young people make more use of multimodal travel options than other age groups. They are also typically early adopters of innovations in the transport sector. Young people living in urban areas especially have a variety of transport alternatives and online mobility and lifestyle services at their disposal, which can support sustainable travel behaviour.

Top recommendations

Include young people in transport planning and decision-making

Young people should be actively involved in planning and decisions on transport-related issues. Creating youth advisory committees and engaging youth organisations will ensure their voices are heard, and their specific needs are considered. While there are barriers to youth participation, it could improve decision-making and, in turn, improve facilities and services for young people. Understanding and addressing mobility challenges young people face requires proactively engaging youth from the national to the local level. Youth advisory committees should also collaborate with sectors linked to transport, such as health, education, environment, housing and urban planning, to ensure the best outcome for youth mobility.

Proactively shape youth mobility behaviour for long-term sustainable transport outcomes

Car dependency is reducing among young people in high-income countries. In low- and middle-income countries, young people travel on foot, on bicycles and by informal or formal shared transport. Policy makers should seize this opportunity to proactively shape long-term sustainable travel behaviour by investing in well-connected public transport services, a dense network of shared mobility options and well-developed walking and cycling infrastructure. Additionally, offering tax credits to cycling commuters, subsidies for purchasing e-bikes and subsidies on public transport can support youth mobility as young people typically have lower incomes and struggle to cover rising transport costs. Young people use multimodal transport more than other age groups, and policy makers can leverage this. Delaying car-based lifestyles by providing alternatives is essential to behavioural change. Ensuring affordability, accessibility and safety in transport systems should be the priority for policy makers, as these still do not exist in many places.

Adopt "soft measures" to influence young people's travel choices

"Soft measures" that complement investments in infrastructure and incentives such as tax credits or subsidies can increase an individual's inclination to walk, bike or use public transport. Policy makers can shape youth mobility from an early age through educational, awareness and promotional campaigns. This should be done through training programs and by encouraging active mobility and public transport use. Promotional events should position sustainable transport options as healthy, enjoyable and trendy to influence young people's choices. For example, schools can offer cycle training skills and familiarise students with public transport use if the option exists. Schools should be accessible by walking and cycling along with school buses. Walking school buses where a group of children walk to school supervised by adults can also be useful. Further, schools and universities can hold informational campaigns to increase awareness about the links between transport, health and the environment.

Collect data on young people's mobility patterns, needs and expectations to enhance policies and planning

Providing decision makers with robust data on young people's travel patterns, choices and views on transport will help better calibrate transport policies. National travel surveys should collect data disaggregated by age, gender, income and other demographic factors. Such data collected consistently, at regular intervals, will provide nuanced insights and help to assess the impact of policies that target youth mobility. While one-off surveys provide insights, such surveys cannot be used to analyse trends over time. Qualitative data must also be collected to differentiate between the travel patterns, preferences and safety concerns of young men and women. This added perspective will enable inclusive and effective policies.

Youth mobility and transport in the 21ˢᵗ century

Youth and transport are closely connected because the ability to travel independently enables young people to develop themselves and meet their aspirations. Young people have unique needs for transportation systems that are shaped by their financial circumstances, the places they go to and the modes they use to get around. Young people's transport needs are typically different from older age groups because they usually have less disposable income; they travel for education, training, apprenticeships and first jobs, which existing transport options may not serve well; they are more likely to use public transport than older age groups; and car ownership is lower among young people compared to other age groups (Sustrans, 2022). Young people may spend time in youth centres, libraries, parks and public spaces with their friends and in places that cost less or are free for leisure. Hence, they need affordable, reliable and safe transport options that connect them to these specific places that serve their needs.

How frequently, how far, by what modes and for what purposes young people move (or refrain from moving) matters from a sustainability, economic, liveability, health and well-being perspective. Yet rarely are the aspirations, travel behaviours and expectations of youth directly or explicitly integrated into transport policy. The aim of this report is to understand:

- Why do young people travel, and how?
- What factors influence the travel choices of young people?
- How can policy makers shape youth travel behaviour?

Youth: Definitions and contextual nuances

There is no universally accepted definition of the term "youth". The United Nations (UN) defines "youth" as those persons between the ages of 15 and 24 years (UN, n.d.). This statistical marker evolved from the lead-up to the preparations for the International Youth Year (1985) (UNGA, 1981). Subsequent United Nations General Assembly (UNGA) Resolutions (UNGA, 2002; UN CSocD, 2007; UNGA, 2008), the UNESCO (UNESCO, n.d.), and the "United Nations' World Programme of Action for Youth to the Year 2000 and Beyond" (UN, 2010) also endorse this definition of youth as the age cohort of 15-24. However, the European Union (EU) institutions (European Commission, 2011; Eurostat, n.d.) and the OECD Youth Action Plan (OECD, 2021) use the term "youth" to refer to young people aged between 15 and 29.

While no consensus exists on the statistical definition of the term, there is consensus about the existence of nuances that lead to the interpretation of the term being dependent upon social, political and economic conditions. The UN Secretary-General's Report to the General Assembly noted that "a chronological definition of who is young, as compared with who is a child or an adult, varies with each nation and culture" (UNGA, 1985). UNESCO also cites "context" as an important guide for defining youth (UNESCO, n.d.). Further, there is a discrepancy regarding the statistical definition of youth even within European states. Researchers have observed that the period of youth is marked with important life changes such as achieving milestones in education, job market transition, gaining residential independence, becoming financially independent, starting a family and so on (Perovic, n.d.).

The 2009 Eurostat report on youth in Europe notes that youth may be considered as a transition phase and be defined as "the passage from a dependent childhood to independent adulthood when young people are in transition between a world of rather secure development to a world of choice and risk" (Eurostat, 2009). It is a period characterised by experiences of liminality, rupture and conflict but also possibility, aspiration and hope (Simpson and Collard, 2019).

The transport literature reviewed for this report draws on two distinct approaches to defining young adults: transitional and generational. The transitional approach to identifying the age range for young adults focuses on life course as a series of culturally constructed phases. This approach has evolved to include new stages, such as adolescence and emerging adulthood. The age ranges of these constructed stages are contested, with some scholars arguing that emerging adulthood lasts from age 18 to the late twenties. Others focus on a more extended period from age 18 to 34. This approach functions on the idea that individuals undergo a series of transitions as they move through different life stages, and their mobility behaviour and transport choices vary accordingly. The traditional markers of reaching adulthood in this approach include living independently, being employed, getting married and having children. Box 1 explains the delays observed in attaining the markers of adulthood in the Global North and the Global South.

Box 1. Delays in attaining the markers of adulthood

At the turn of the century, sociologists noticed that young people were taking longer than before to attain the so-called markers of adulthood (Shanahan, 2000; Settersten, Furstenberg and Rumbaut, 2006; Cohn et al., 2011) such as living independently, having stable employment, getting married, and having children. According to research, there are several factors behind this delay. These include structural macroeconomic challenges, which started well before the 2008 financial crisis but were exacerbated by the crisis, increased enrolment in higher education, delayed employment, increasing cost of housing and so on. In this context, it is important to understand that delayed adulthood is a relatively recent trend in high-income countries. Whereas in low- and middle-income countries, such as those in Africa, limited resources have pushed youth, especially young men, to delay attaining these so-called markers of adulthood since well before the turn of the century (Porter, 2023). Transport researchers in the Global North have attempted to understand the relationship between mobility patterns and transition through different life stages, including the changes in mobility due to delays in achieving adulthood.

In contrast, the generational approach identifies distinct cohorts based on the year of birth (refer to Figure 1). The generational approach classifies individuals into generations, such as Gen X, Millennials and Gen Z. Each generation is associated with a set of stereotypes and characteristics (Ralph, 2015). For example, Millennials are defined as individuals born after 1980 and up to 1996, regardless of their current age. This approach focuses on shared experiences and characteristics, including mobility patterns, of individuals born in a specific period rather than on the transitions they undergo as they move through different stages of life.

While this plurality of factors makes it difficult to assign a precise age bracket to the youth, this publication focuses primarily on the population aged between 15 and 29 when referring to "youth" or "young people". This is based on the OECD Youth Action Plan definition (OECD, 2021), the literature reviewed and the interviews with experts on youth and transport who have advised on this project.

Figure 1. The Generations Defined

Silent Generation Born: 1928-1945	Baby Boomer Born: 1946-1964	Generation X Born: 1965-1980	Millenial* Born: 1981-1996	Generation Z Born after 1996**
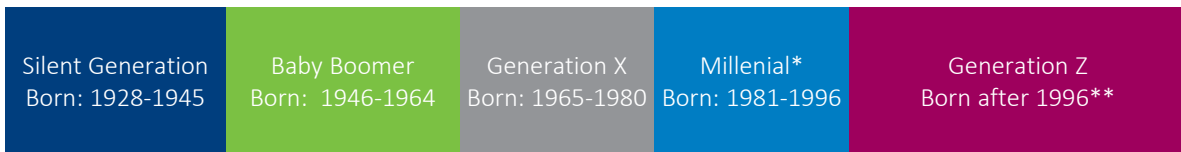
Source: Adapted from Parker and Igielnik, Pew Research Center, 2020.

Note: *Millenials are also refered to as Gen Y in some literature. **No chronological end point has been assigned yet for GenZ.

The importance of including the voices, needs and aspirations of the youth in transport policies and planning

Young people aged 15 to 24 currently account for approximately 16% of the global population (UN, n.d.). The percentage of youth as a share of the total population by region is shown in Figure 2. The "youth bulge" explained in Box 2, which is currently being experienced in Asia and Africa, has exposed the inadequacies in the existing transport infrastructure.

> **Box 2. What is "youth bulge"?**
>
> As countries develop economically, shifting towards more industrialisation, urbanisation, and skills-dependent economic production, they experience a demographic transition wherein fertility and the share of the population of child-age dependents decline. As the relative number of children decreases, populations experience a growth in youth as a share of the total population, resulting in what is known as a "youth bulge".
>
> Source: UN, 2018.

Including the voice of the youth in transport policies and planning is, therefore, pertinent to ensure equitable representation. It is equally important to consider youth needs in the formulation of transport policies, as the everyday mobility experiences of young people are unique and diverse, shaped by age, gender, location, socio-economic and cultural background, and growing environmental fragility (Porter and Turner, 2019). The diversity of the youth is more than what meets the eye and is further explained in Box 3.

Figure 2. Projected population of youth aged 15 to 24 years in 2020, 2030 and 2050 (as a share of the total population by region)
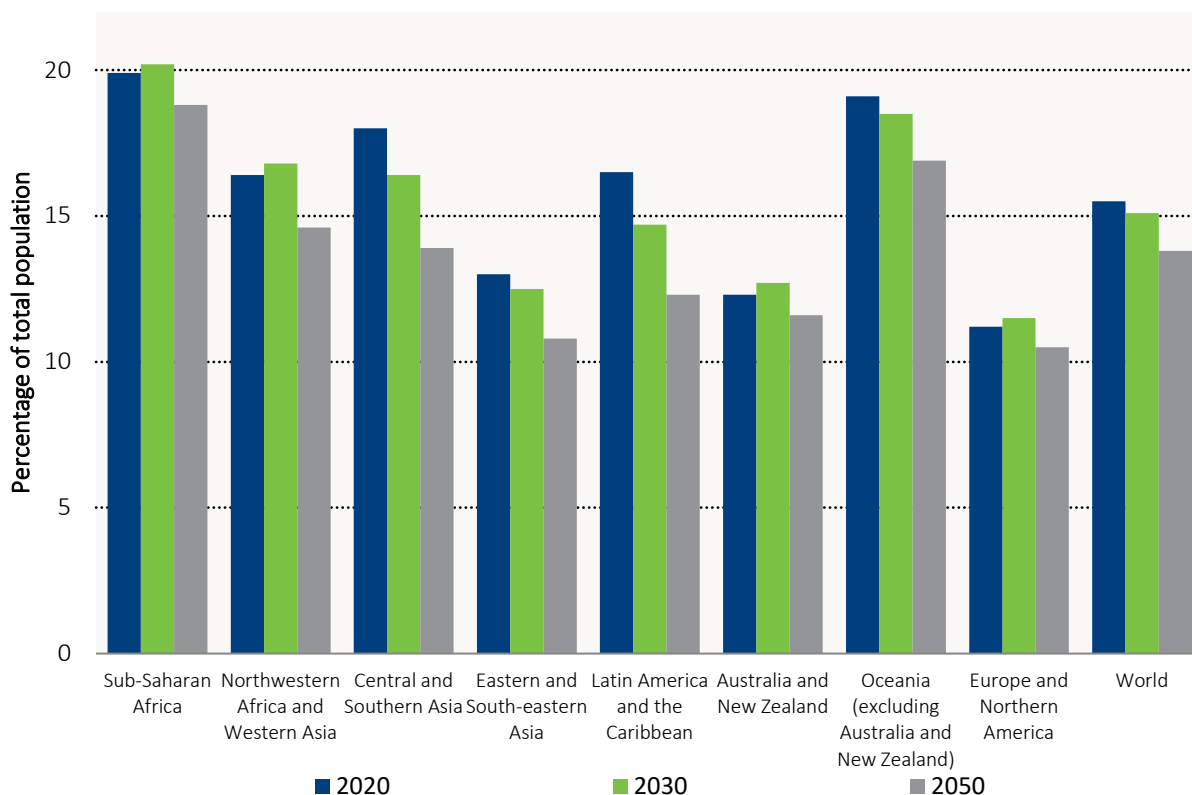
Source: UN, 2020.

Traditional transportation planning is based on household surveys and travel diaries, which should theoretically capture all trip purposes. However, transport planners and transport models often prioritise predictable daily commutes, focusing on peak periods due to their significant impact on congestion. This approach may not fully account for the diverse travel patterns and schedules of young individuals. Their typical daily journey may differ from other transport users as they may travel outside peak hours. Their schedules may vary from day to day depending on their educational and employment situation. The destinations that young people go to may not be well served by existing transport options, and they may use multiple modes of transportation. These destinations could be education or training centres, first jobs or part-time jobs, and specific places for leisure, such as parks, public spaces and youth centres that are free to access.

The cost, safety, timetables and frequency of public transport services may not always match the needs of young people and can negatively affect education and employment choices. These challenges disproportionately affect the youth as they rely more on public transportation, where available, than older age groups, and they have lower incomes to cover rising travel costs (Sustrans, 2022). The lack of transport availability can impact long-term outcomes on skills development, future income, personal and professional networks and, ultimately, health outcomes (Transport to Thrive, 2022). Engaging the youth to understand their perspectives on neighbourhood and transport network planning and redesign could provide valuable insights.

Box 3. Diversity of youth

While geography, age and gender characterise a part of the diversity of youth, young people constitute a heterogeneous group with multiple elements of identity that inform widely different experiences. Certain groups, such as youth with disabilities; young people from minority groups; indigenous youth; migrant, displaced and refugee youth; youth in conflict and post conflict situations; and rural youth, among others, often face challenges and barriers specific to their situation (UN, 2018). Many young people identify with more than one group, and their challenges are often multiple. Promoting the inclusion of young people across the entire youth spectrum is a challenge, as it requires removing multiple types of barriers and taking steps to ensure the reform of systems, institutions and sociocultural practices.

Source: UN, 2018.

As young people will be the future users and inheritors of the transportation systems formulated today, their aspirations must be considered. They expect the public sector and private actors to listen to them on aspects of infrastructure, innovation, urban planning and safety (Rio-Lopes, 2023; MOVIN'ON, 2021).

Planners and policy makers can understand the needs of the youth by involving them in the decision-making process from the onset. Barriers to youth participation include negative perceptions of young people within the context of the complex planning system, their perceived lack of interest and capabilities and the time and cost of involving youth in an already lengthy process. Planning and policy making are seen as adult professions, whereby policies are made *for* the youth rather than *with* the youth (Bertram, 2019).

Academic literature (Bertram, 2019) promotes extensive benefits that could result from involving youth, including:

- improved decision-making, in turn improving facilities and services for young people

- improved awareness of and engagement with democratic processes, which could be especially useful for those previously deemed marginalised

- enhancement of young people's skills, such as communication, co-operation and understanding of other people's perspectives.

This participatory approach allows for the design and development of transport solutions that align with the concerns and aspirations of the future generation. Practitioners and authorities have adopted this approach in several cases with initiatives such as the Growing Up Boulder initiative (Boulder, USA; see GUB, 2015), the Traffic Agent App (Oslo, Norway; see hundrED, 2023) and The PEP initiative (see Box 4) which empowers youth and involves them in community solutions.

Moreover, policy makers can actively engage youth through educational and awareness campaigns about the transportation sector. They can also provide guidance on why the youth need to get involved, how it impacts their future and, more importantly, what tangible actions the youth can take to help align transport policies with their needs. Giving due consideration to the voices of the youth, policy makers can address their diverse needs. This ranges from safer routes to affordable and reliable transport services, better educational and employment opportunities, enjoyment of public spaces for leisure and boosting social cohesion.

Box 4. The Transport, Health and Environment Pan-European Programme

One example of an active platform for the youth to engage with policy makers is the Transport, Health and Environment Pan-European Programme (THE PEP) on child and youth-friendly mobility. The programme is a unique three-party Pan-European (a region constituting of the 56 member states of the UNECE) policy platform that brings together the ministries of transport, health and environment of Member States and is supported by the secretariats of the United Nations Economic Commission for Europe (UNECE) and the World Health Organization Regional Office for Europe (WHO/Europe).

Under THE PEP, the partnership on child- and youth-friendly mobility aims to allow the youth to take action to implement the Vienna Declaration (adopted at the fifth High-level Meeting of THE PEP in Vienna in 2021). The declaration reaffirms efforts to pay more attention to children and young people and their needs, create opportunities for exchanging knowledge and good practices, and develop guidelines, toolboxes and a summary of good practices. Finally, it aims to create a pan-European master plan on child- and youth-friendly mobility. Under THE PEP, three international youth forums were organised by the Austrian Federal Ministry for Climate Action, whereby young people directly engaged in mobility management, active mobility, public transport systems and digitalisation. They developed targets, strategies, and an overall vision for each topic.

The final output of the youth forums was a Youth Position Paper that was presented and handed over to the Ministerial Chair at the fifth High-level Meeting of the THE PEP in 2021.

Source: UNECE, n.d.; Klimaaktiv, 2021; 2022; Kathrin Chiu, 2023.

Why do young people travel, and how?

Young people travel for a myriad of reasons. They travel for education, work, social activities, and, at times, for healthcare, like all other age groups. While there are global similarities regarding why young people travel, there are significant context-specific differences when it comes to mode choice or how they travel. For example, the lack of adequate public transport and the prevalence of informal paratransit services in the Global South affects young people's mode choices. Informal transport services in this context remain indispensable to serve the transportation needs of large parts of the population. In African countries, the majority of trips by young people are made on foot in urban and rural areas (Porter et al., 2017a). Demand for private motorised two-wheeler transportation remains high in Africa, Latin America and Asia (UNEP, n.d.). In contrast, data indicates that in the United States, the population predominantly uses or depends on cars, except in dense cities where public transportation exits.

Youth face similar mobility challenges in low-density rural areas of the Global North and the Global South, where destinations are further apart, and public transport may not exist. The choice of mode is, therefore, largely context-specific. This section will further summarise the trends observed from the Global North and the Global South.

It is to be noted that, where available, this report has used data from national-level travel surveys conducted periodically by national governments for all travel (urban and non-urban). These travel surveys, although sometimes old (for example, the last survey in the United States was in 2017), are most representative of the population, and data can be compared over time to analyse patterns. Most academic papers referenced in this report also use national travel survey data, where available, or data from independent surveys.

Why do young people travel?

Although the motivations for young people to travel or not travel vary markedly on an individual scale, they also depend on the level and type of infrastructure development of their surroundings. Not only does cultural context, socio-economic background and personal aspirations shape these motivations, but also the presence or absence of infrastructure. This infrastructure includes all-season roads, public transport, educational facilities, health centres, affordable housing, parks and open spaces, cultural centres, libraries, etc. within a certain accessible distance shapes travel patterns, motivations and youth (im)mobility. Lastly, safety and security matters for young people when choosing to travel. Understanding these motivations and the constraints can enable policy makers to design transportation systems and infrastructure that harness the potential for greater youth mobility. Again, there are similarities and differences between the Global North and the Global South regarding the motivations and constraints for the youth.

Education is among the principal drivers of youth mobility. Young people often travel to attend school or university. The time spent on travel, both in the Global North and the Global South, is higher if they live in areas with limited educational opportunities or transportation services. While private and public transport is more widely available in the Global North, youth in rural areas may still face additional mobility disadvantages than youth in urban areas. This is primarily due to the lack of alternatives and infrequency

of public transport services. For example, a young individual in a rural area may need to wait significantly longer for a bus to take them to their destination than their urban counterpart.

The same holds true for the Global South. According to a study that draws on a statistical analysis across 21 low-income countries, one of the main costs of schooling is the travel time to school (Filmer, 2007). In other words, the distance from school or university is one of the factors that impact enrolment and continuing education.

Travel conditions are also important to take into consideration. For example, studies have shown that affordable and reliable transport is essential for encouraging parents in low- and middle-income countries to permit girls to continue their education and participate in social and economic activities (Cook et a., 2005). In Porter et al.'s (2017a) study in Africa, parents were particularly reluctant to allow girls to walk long distances, on major roads or unsafe paths or cross rivers to get to school. Seasonality is yet another factor affecting travel, not only in Africa but also for countries in other continents. The lack of basic all-season road infrastructure connecting destinations, such as schools, results in avoiding trips. This is because walking paths and poorly constructed roads get flooded or washed away during heavy rainfall.

Young people also travel for paid and unpaid work, depending on the context. For example, in Africa, children from low-income households may start accompanying parents from an early age on long expeditions to support livelihood activities and counter poverty. In terms of career building, the availability, reliability and cost of transport shape young people's access to employment across the world (Porter and Turner, 2019). Access to broader mobility options can play a role in youth career development by providing opportunities to gain work experience, even when work is available at a distance.

Further, young people require access to health services for a wide variety of reasons, both curative and preventive (Porter et al., 2017a). The cost and difficulty of travel can impede accessing health services if a dense network of health centres is unavailable. An example is provided below (in Table 1) from a study in three African countries (Ghana, Malawi and South Africa). Young people were asked in a survey whether they faced travel difficulties, excluding costs, using health services. Unsurprisingly, travel difficulties were raised more frequently as an issue in rural areas than in urban areas. Further, it was more of a constraint in Malawi than in Ghana or South Africa since motorised transport is much more available in Ghanian and South African rural areas than in Malawi (Porter et al., 2017a).

Table 1. Percentage of young people (aged 9-18) reporting difficulties travelling to health services

Settlement	Ghana (in %, N = 922)	Malawi (in %, N = 990)	South Africa (in %, N = 877)
Remote rural	34.7	56.5	38.9
Rural with services	27.2	57.3	13.7
Peri-urban	7.4	31.3	17.9
Urban	4.0	18.0	6.6
All settlements	16.8	40.8	19.8

Source: Porter et al., 2017a

Note: N refers to the number of participants in the survey.

In addition to education, health and work, young people also travel for leisure, entertainment, and social activities in most contexts. They may travel to meet their family and friends, attend cultural events like concerts, festivals, and religious occasions, or participate in community engagement activities. They may explore their local parks, public spaces and landmarks, thus engaging in an active lifestyle that enables them to form deeper connections with their surroundings.

How do young people travel?

While the reasons young people travel may not be very different from older age groups, how they travel and the constraints they face can vary greatly depending on the context.

Summary of trends from the Global North (insights from Europe and North America)

The trends over the last decade in high-income countries indicate that overall trip-making for the entire population is declining, with larger declines noted for younger people (US DOT, 2017; Chaterjee et al., 2018; Kuhnimhof et al., 2012). Figure 3 illustrates this trend in England, even though the significant drop in 2020 can be attributed to the reduction of data collected during the Covid-19 pandemic and temporary changes in travel behaviour at that time.
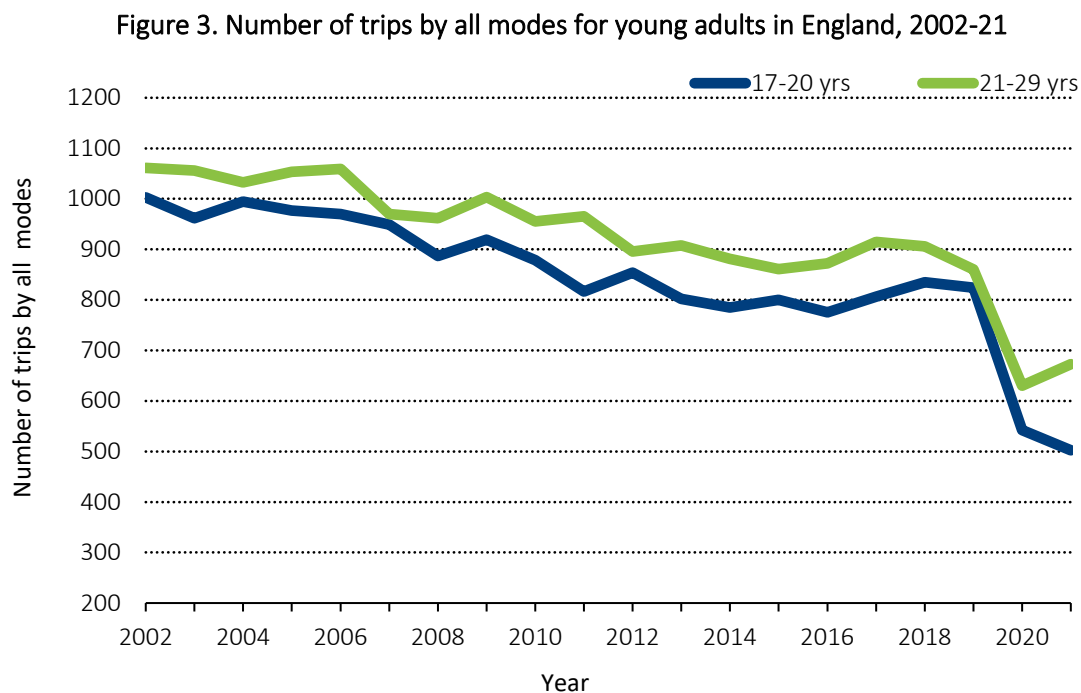
Figure 3. Number of trips by all modes for young adults in England, 2002-21

Source: NTS DfT UK, 2021.

Note: 2020 and 2021 NTS Disclaimer: Due to changes in the methodology of data collection, changes in travel behaviour and a reduction of data collected during 2020 and 2021, as a result of the COVID-19 pandemic, care should be taken when interpreting this data and comparing to other years, due to the small sample sizes.

Figure 4 illustrates the average daily person trips by age in the United States, declining from 2001-17. Moreover, research indicates that car ownership and driving licensing are lower amongst young people than for older people and is declining. Evidence points primarily to financial constraints. Other reasons behind this trend include delays in starting a family, enrolment in higher education, increase in housing and motoring costs, late entry into the job market and living in urban areas with alternative transport options.

Figure 4. Trends in the average daily person trips by age in the United States, 2001-17
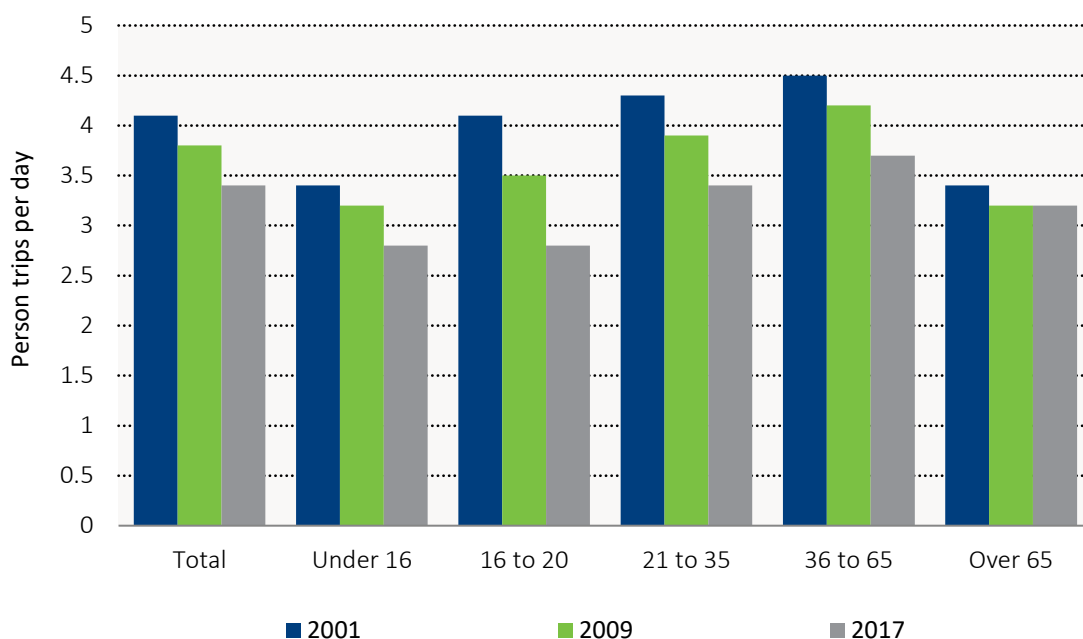
Source: NHTS US 2001; 2009; 2017.

Analysis of travel patterns across several high-income countries shows that today's youth tend to drive less than the cohorts that came before them (NHTS US, 2009-17; NTS UK, 2002-21). Figure 5 shows a reduction in the number of car driver trips in England for young people from 2002-21. The data is from the National Travel Survey (NTS) conducted by the UK Department for Transport (DfT). There is a significant drop in 2020 and 2021. However, this reduction is likely due to the Covid-19 pandemic, and it remains to be seen if this significant decrease holds.

Research in the United States attributes the decrease in automobility to decreased employment, delayed household formation, increased online interaction, differing attitudes to mobility and the general dampening of travel demand (McDonald, 2015). Broader macroeconomic trends, such as the exacerbation of financial hardships by the 2008 financial crisis, impacted youth mobility, especially those dependent on cars. The increase in fuel prices also discouraged driving and specifically affected lower-income households and individuals disproportionately (FHWA NHTS, 2019; NHTS US, 2017). Further, according to US National Travel Surveys, there is a decline in the reported number of miles driven between 2009 and 2017 for all age groups, with a substantial decline noted for drivers in the 20 to 34 age group (NHTS US 2009, 2017) as shown in Figure 6. NHTS data from 2001 to 2019 also shows that driving licensing is declining over time for the youth in the United States.

Figure 5. Number of car driver trips per year for young adults in England, 2002-21
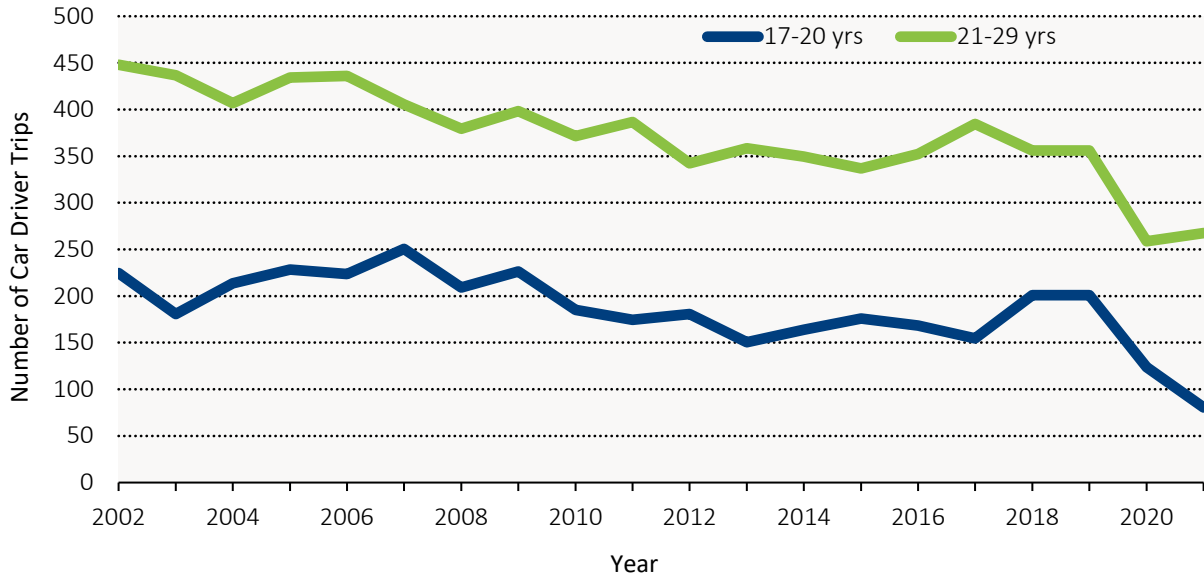
Source: NTS DfT UK, 2021.

Note: 2020 and 2021 NTS Disclaimer: Due to changes in the methodology of data collection, changes in travel behaviour and a reduction of data collected during 2020 and 2021, as a result of the COVID-19 pandemic, care should be taken when interpreting this data and comparing to other years, due to the small sample sizes.

Figure 6. Average annual vehicle miles travelled by age group in the United States, 2009 vs. 2017
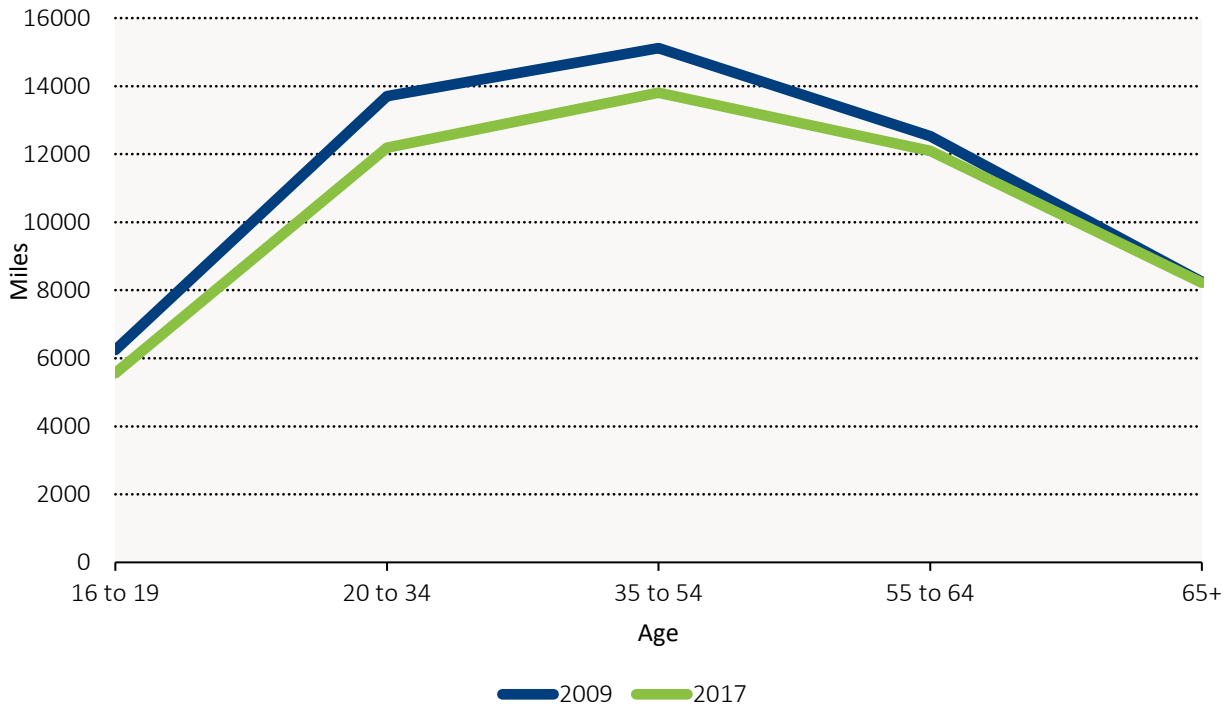
Source: US DOT, 2017; 2019.

Furthermore, sustainable transport policies adopted over the past decade have discouraged driving and encouraged sustainable mobility. Transport policies that focus on improving liveability in cities have reduced car usage and offered affordable alternatives. These policies include congestion charging, low emission zones, reallocation of road space, reducing parking and high cost of parking, providing shared micromobility facilities in urban areas (bikes, e-bikes, e-scooters), pedestrianising zones in city centres and improving public transport and active mobility infrastructure.

For non-car trips, walking is the most popular mode of transport for young people in most of the EU and England, followed by cycling and public transport (refer to Figure 7 for the EU and Table 3 for England). In the United States, the number of people (overall population including young people) who cycled or walked at least once a week has increased considerably from 2001 to 2017 (US DOT, 2021). Although most Americans, including young people, continue to rely on private vehicles as their primary mode of transportation, 21 of the country's 50 most-populated cities saw a significant drop in driving over the last decade (US DOT, 2021).

Figure 7. Distribution of the number of trips by main travel mode by age group in EU-27 in 2022
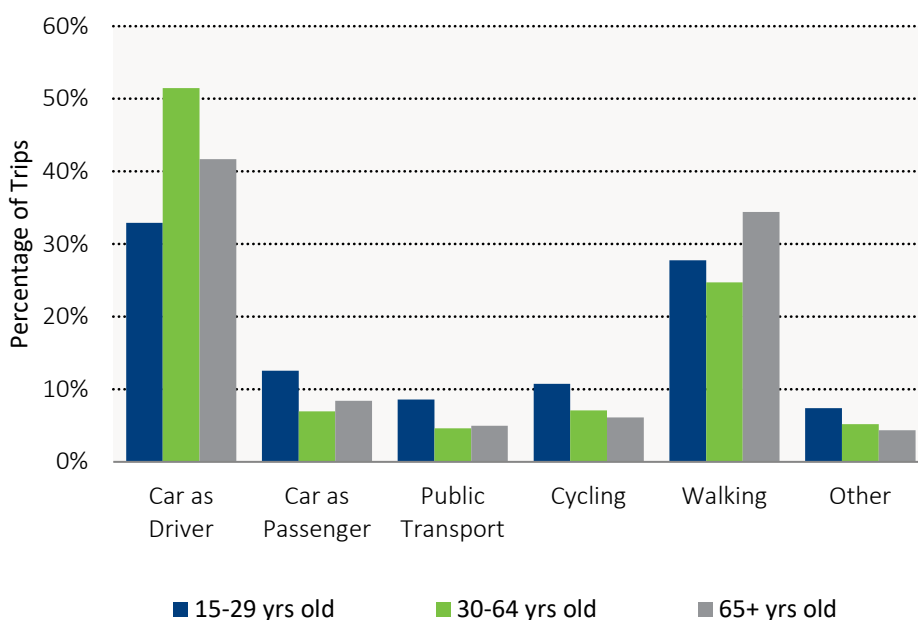
Source: The Department for Mobility and Transport (DG MOVE), European Commission, European Passenger Mobility Survey, 2022.

A critical insight from how the youth travels is that the trend to drive less is not necessarily accompanied by a significant increase in the use of other modes of travel, such as walking, cycling and public transport (McDonald, 2015). Instead, an overall reduction in trip-making is observed among young people (for example, see Table 2 for the trips per person per year in England).

Another insight is that even though young adults are more likely to use public transport where available when compared to older adults, these preferences are often a result of life-cycle factors (student status, not having children, lower income), demographic factors (racial/ethnic minority) and locational factors (living in densely developed, transit-rich neighbourhoods) (Brown et al., 2016). When youth transition to a different life phase or change their location to a less dense area, their travel choices will adjust.

Finally, notwithstanding this decline in the use of personal motorised transport, cars still dominate as the primary mode of transport for a large percentage of trips made by young people in high-income countries.

Table 2. Trips per person per year by mode for 21-29-year-olds in England 2002, 2010 and 2019

Mode	Trips per person per year and mode share percentage					
	2002	Mode Share (%)	2010	Mode Share (%)	2019	Mode Share (%)
Walk *	349	33%	325	34%	311	36%
Pedal cycle **	22	2%	18	2%	19	2%
Car/van driver	448	42%	371	39%	356	41%
Car/van passenger	155	15%	149	16%	118	14%
Bus ***	80	8%	89	9%	62	7%
Rail ****	60	6%	55	6%	71	8%
Taxi/mini cab	21	2%	16	2%	17	2%
All modes (incl. above and all other modes)	1061		955		860	

Source: NTS DfT UK 2002, 2010, 2019.

Note: While data for 2020 and 2021 is available, it is not provided in this table due to the following NTS Disclaimer: Due to changes in the methodology of data collection, changes in travel behaviour and a reduction of data collected during 2020 and 2021, as a result of the Covid-19 pandemic, care should be taken when interpreting this data and comparing to other years, due to the small sample sizes.

*Walk includes all travel on foot and "Walks of over a mile" category from the NTS surveys.

** E-bikes are included within the main mode of pedal cycle.

*** Bus includes "Bus in London", "Other Local Bus" and "Non-local Bus" catagories from the NTS surveys.

**** Rail includes "London Underground" and "Surface Rail" catagories from the NTS surveys.

National travel survey data from the United States and England was also analysed for gender, as that data is available. No significant differences were observed in the overall trip-making for the youth age bracket at the national level in the United States and in England. Young men and women roughly made the same number of trips, with women making slightly more trips than men in some cases. In England, young women made slightly higher walking trips than men, while men cycled much more than women, even though the overall number of trips made by bike for both men and women remains low (approximately 2% of all trips). For driving, no significant differences are observed concerning the number of driving trips or driving licensing. In fact, in the United States, since 2005, there have been more female than male licensed drivers (NHTS, 2017). Women in the United States are also closing the vehicle miles travelled (VMT) gap. Although men drive more average annual miles than their female counterparts across all age groups, the NHTS (2017) data show an increasing trend in VMT among women: they represented 39% of driver VMT in 2009, rising to 43% in 2017.

Some context-specific gender differences may exist at specific locations; however, such in-depth analysis is beyond the scope of this report. This report encourages policy makers to investigate the gender aspect on a case-by-case basis and further disaggregate on demographic factors where necessary.

Beyond the traditional modes, the market penetration of shared mobility services over the past decade in high-income countries has also impacted how young people travel, especially for those living in dense urban areas. In this context, shared mobility refers to new and emerging business models that provide personal access to transportation modes that, earlier, could only be used if the traveller owned, borrowed, or leased that mode (US Federal Highway Administration, 2021). The ITF Transport Outlook includes taxis, taxi buses and ridesharing in defining shared mobility (ITF Outlook, 2023). Shared mobility is transforming urban areas, primarily in high-density locations, offering new ways to access services. It encompasses services like carsharing, bicycle sharing, and scooter sharing. Micromobility covers small, low-speed transportation devices like bicycles, e-bicycles, scooters, e-scooters, and compact wheeled conveyances. Although the overall share of these services is smaller than other modes of transport (see Figure 11), they still account for a considerable number of trips and are growing over time.

For example, in 2019, in the United States, 136 million trips were made using shared micromobility (taken by all age groups), of which 63 % of trips were made using e-scooters. In comparison, 84 million trips using shared micromobility were made in 2018, and 46 percent were made using e-scooters (US Federal Highway Administration, 2021). While the above numbers are for the overall population most likely living in cities, research indicates that young people are early adopters of these innovative services and form a significant proportion of users, especially for e-scooters. While these services are currently mainly replacing walking and public transport trips, there is a vast potential that these modes can reduce personal car usage in the future and support the car-free urban lifestyles of the youth.

The bottom line is that today, young people are travelling less than previous cohorts. Where this is due to financial or other constraints, and hence may reflect poorer access to opportunities, policy makers should be concerned. Young adults are also driving less, even though cars are still used considerably more than other modes of transport. A significant overall increase in active or shared mobility or public transport trips does not accompany the decline in driving. It should be noted that the data reviewed is for urban and non-urban trips combined, and therefore, context-specific differences may exist. The reasons behind the decline in driving, how policy makers can use this opportunity to shape sustainable travel behaviour and additional factors influencing youth travel choices are explored later in the report.

Summary of trends from the Global South (insights from sub-Saharan Africa and Asia)

Data (aggregate and disaggregate) in the form of consistent national travel surveys is not as readily available for countries in the Global South as for some high-income countries. It is unclear if youth in low- and middle-income countries are making fewer or more trips than previous generations and if trip distances and commute times are increasing or decreasing. In recent years, the number of vehicles on the roads has increased significantly in low and middle-income countries. However, how many of these are used by the youth, especially compared to walking, cycling or using public transport, is also not captured comprehensively. Therefore, one of this report's recommendations is for policy makers to prioritise data collection.

The literature reviewed for this section includes scholarly studies, one national travel survey, country census data and research undertaken by development banks, international organisations, and well-known think tanks. Often, the data, from which broad insights are drawn for the youth, are for the overall

population and can be old. Insights are also drawn from expert interviews involving scholars with field experience working in Africa and Asia.

Walking, cycling and using informal transportation services are typically the main mobility modes for young people in low- and middle-income countries. In urban and rural areas of such countries, the constraints of public transport (formal and informal) fare costs or simply the unavailability contribute to the heavy dependence on pedestrian travel (Porter and Turner, 2019). Modes of paratransit, like the minibus taxis in South Africa, are also commonly used by young people in their everyday commutes (Porter et al., 2017). The lack of safe active mobility infrastructure, personal safety and security concerns and financial constraints shape youth mobility in the Global South context.

Insights about youth travel can be drawn from the national household travel survey from South Africa, published in 2020 (NHTS RSA, 2020). The survey indicates that nationally, travelling to an educational institution was the primary purpose of undertaking a trip by household members. Trips to the workplace were the second most common reason for household members to travel (NHTS RSA, 2020). About 17.4 million South Africans walked all the way to their destination, followed by 10.7 million individuals who used taxis and 6.2 million who used a car/truck as a driver. Trains were the least used by household members (NHTS RSA, 2020).

The survey is not fully disaggregated by age. However, insights about youth travel patterns can be drawn by analysing the travel to educational institutions since it is the primary purpose of travel by the population surveyed. The survey provides detailed statistics about travel patterns of learners by region, further disaggregated by urban and rural areas. According to the survey, a learner is a person who regularly attends a preschool institution, school, college or technical or any other tertiary education or training institution (NHTS RSA, 2020). While the specific age bracket for learners is not defined in the survey, it can be assumed, based on the definition of the learner, that it includes young people between the ages of 15-29 years. Moreover, according to experts, young people in Africa typically complete higher education at a later age than in high-income countries (Porter, 2023). A total of 18.5 million learners were identified across South Africa in the survey. Figure 8 compares the modes of travel of learners to their educational institutions in 2013 and 2020.

Figure 8. Main modes of travel for learners to educational institutions in South Africa, 2013 and 2020
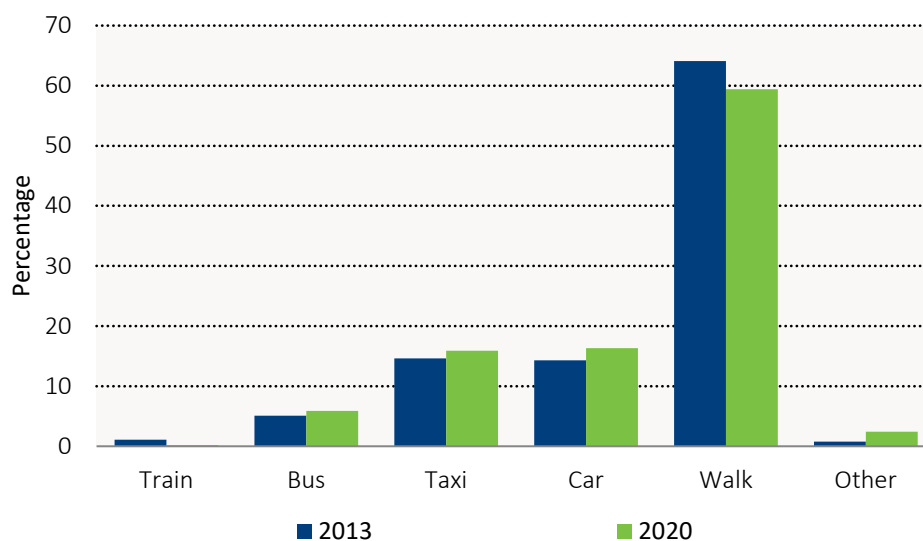
The survey shows that the primary reason learners walked was that their destination was nearby or close enough to walk (as stated by 76.9 % of respondents). Eleven per cent of respondents also mentioned that they walked because public transport was too expensive. According to the survey, travel time has increased across all modes of transport from 2013 to 2020, except for learners who drove to their educational institutions.

The survey also includes workers from the age of 15 years and upwards. Nationally, the primary mode of transport used to go to work is a private car as a driver, followed by taxis. Walking all the way was also indicated as a popular mode of transport. There was a slight increase in the proportion of workers who walked all the way to work in South Africa between 2013 and 2020 (NHTS RSA, 2020). Again, this data is for the overall population but will also be applicable to the youth.

Further, about one million South African households reported owning at least one bicycle in working order and using this for transport purposes (NHTS RSA, 2020). More than half of the households surveyed remained dissatisfied with the services of minibus taxis and public buses. Regarding public bus services, households were most dissatisfied with bus stop facilities, the level of crowding on the bus and security at the bus stop (NHTS RSA, 2020). Although the above data is not specific to any particular age group, youth are included in the above statistics.

Similar trends can be observed in other sub-Saharan African countries. For example, in Ghana and Malawi, walking is almost exclusively the only mode of transport on journeys to school. Young people (between the ages of 9 to 19 years, N= 3 000) surveyed in an academic research study were reported to prefer walking in groups, especially when concerned about safety and security. For most children and young people in Africa, in the absence of alternative modes of transportation, walking is commonly viewed as a "necessary but wearisome evil rather than a health-giving exercise." Exhaustion and pain are often associated with walking in this context. (Porter et al., 2017)

According to the same study, cycle use on the journey to school is remarkably low in Ghana, Malawi and South frica, with a maximum of 0.9% in Ghana. In many areas, bicycles are relatively expensive and, therefore, unavailable to young people. Even if a bicycle is available, the fear of theft stops young people from using them for their daily trips. Further, there is a gender aspect to cycling. In Malawi, 44% of girls knew how to cycle compared to 72% of boys; in South Africa, 48% of girls compared to 82% of boys; and in Ghana, 58% of girls compared to 87% of boys. From a social perspective, cycling is seen as a more appropriate mode of travel for boys and young men than for girls and young women (Porter et al., 2017a).

In India, over a quarter of the population falls into the youth bracket (NSO, 2022). Census data (from the last and most recent census conducted in 2011) shows that walking and cycling are the primary modes of commute from residence to work, with motorised travel dominated by two-wheeler and bus usage for the overall population. This is indicated in Figure 9, where the working-age population (15-64 years) is represented. No youth-specific disaggregate data is available in India at the national level. Hence, this report used the last Census data to indicate youth travel behaviour. India's current population is 1.3 billion, with an estimated 254 million young people between 15-24 years of age (MEA GOI, n.d.). Given that currently the average age of the population in India is 29 years, some insights can be drawn from Figure 9 about the travel patterns of young Indians: their commute to work is mostly by foot. Additionally, women rely a lot more on walking when compared to men, while men utilise two-wheelers and bicycles a lot more than women (Census of India, 2011).

In metropolitan parts of India, 40% of the youth participating in a survey from the six biggest cities said they preferred using public transport, even though an overwhelming majority also expressed a desire to own a personal vehicle, be it a car or a two-wheeler (Kundu, 2018). Another study by WRI India on improving metro access in India surveyed 7 200 metro commuters in three cities to find that Indian metro

systems attract young (19-35 years old) middle-income commuters. Affluent users are not attracted to the system, and low-income users are priced out of it (Mukherjee et al., 2023).

Notably, a large portion of the youth remains unemployed in India. Unemployment (% of total labour force) is around 23.2% for 15-24-year-olds, according to 2022 World Bank data (World Bank, 2023). The travel patterns of the unemployed youth or youth in informal employment must be accounted for, as they may not always be represented in studies.

Figure 9. Modes of travel to the workplace for the working population (ages 15-64) in India, 2011
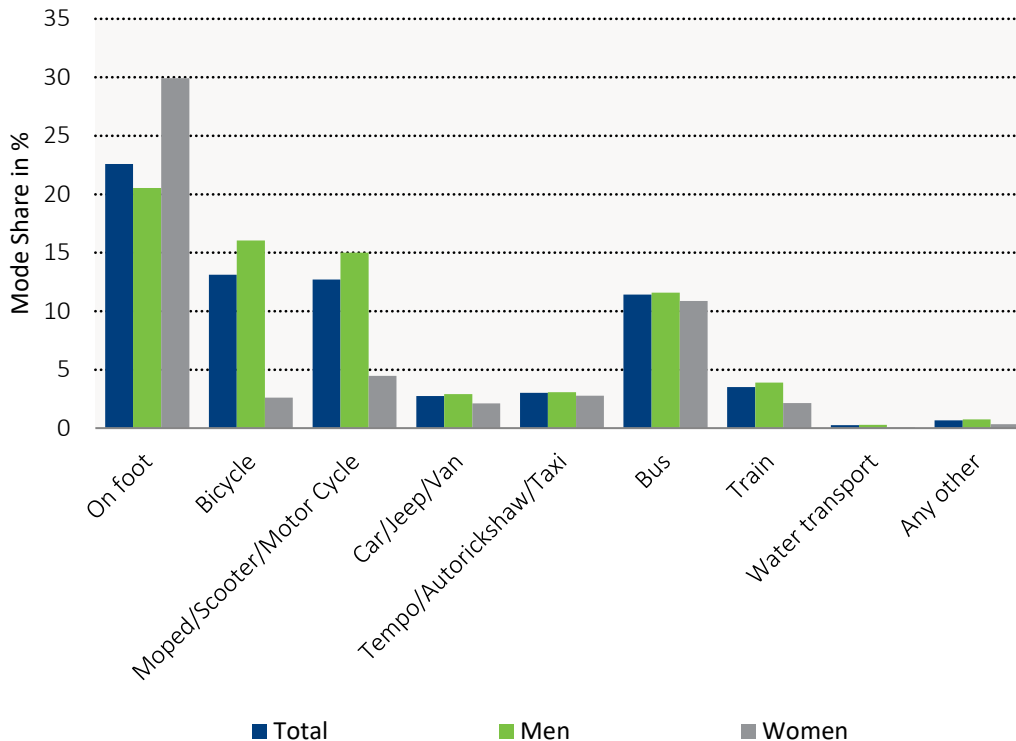
Source: Census of India, 2011.

Note: The chart does not represent the "not travelled" category, which is also documented in the Census.

Lastly, in the context of low- and middle-income countries, the importance of informal transportation systems that serve the population's needs must be recognised. They serve areas where public transport does not exist and where public transport, like metros, exists, but first- and last-mile connectivity is missing. While concerns exist regarding the older, more polluting vehicle stock, difficult working conditions, sometimes unreliable service, safety concerns and uncertain fare structures of para-transit operations (ITF, 2023), policy makers should seek to integrate them into transport planning and policies as legitimate transport services alongside formal public transport systems. The aim should be to address the social and environmental concerns associated with informal transit while recognising the vital service it provides. Figure 10 provides a snapshot of the different modes of travel used in several cities of the Global South. Although the data is for the overall population and has been collected at different points in time, it presents a picture of the extent of informality that exists.

Figure 10. Modes of transport used by all age groups in countries in the Global South
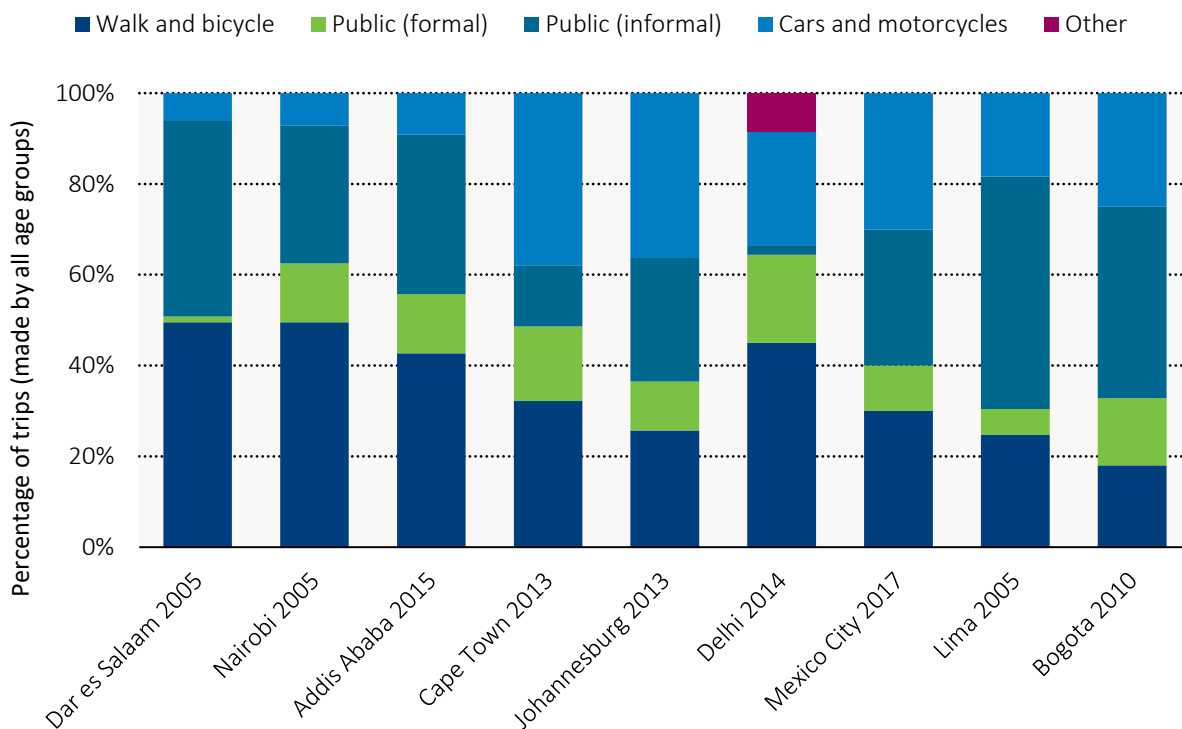
Source: Mahendra et al., 2021.

While some challenges faced by young people in the Global South are similar to those faced by young people in the Global North, stark differences exist. This is especially the case in the development of infrastructure and low funds available to governments to provide or improve infrastructure, which perpetuates a vicious cycle. Limited or no access to affordable public transport, walking or commuting long distances in congestion, often in extreme weather conditions, lack of road safety regulations and enforcement, poor pedestrian infrastructure, absence of all-season roads and paying multiple fares affect youth mobility. The under-served are burdened by higher time, money and health costs, with fewer resources and limited opportunities (Mahendra et al., 2021).

The bottom line is that youth in the Global South predominantly use sustainable modes of travel. However, the main reasons are financial constraints and lack of alternatives rather than preferences. Young people do not necessarily prefer to walk, cycle or take public transport due to the poor conditions of infrastructure and safety and security concerns. Young people use shared mobility in the form of carsharing, ride-hailing, motorcycle taxis and three-wheelers (tuk-tuk), but many remain financially constrained to access these services. Some Global South cities have undertaken pilot projects in shared micromobility, but such initiatives are yet to take off. For all these reasons, young people aspire to own private vehicles. While governments in the Global South are investing in public transport, the impact of these investments on the youth, especially from an affordability perspective, remains to be seen. Policy makers, therefore, need to act urgently to encourage and reward young people in the Global South for their sustainable travel behaviour rather than allowing bad experiences to shape unsustainable future transport choices.

Figure 11. Percentage share of modes of transport used by all age groups in urban areas of world regions for current policy ambition and high ambition scenarios
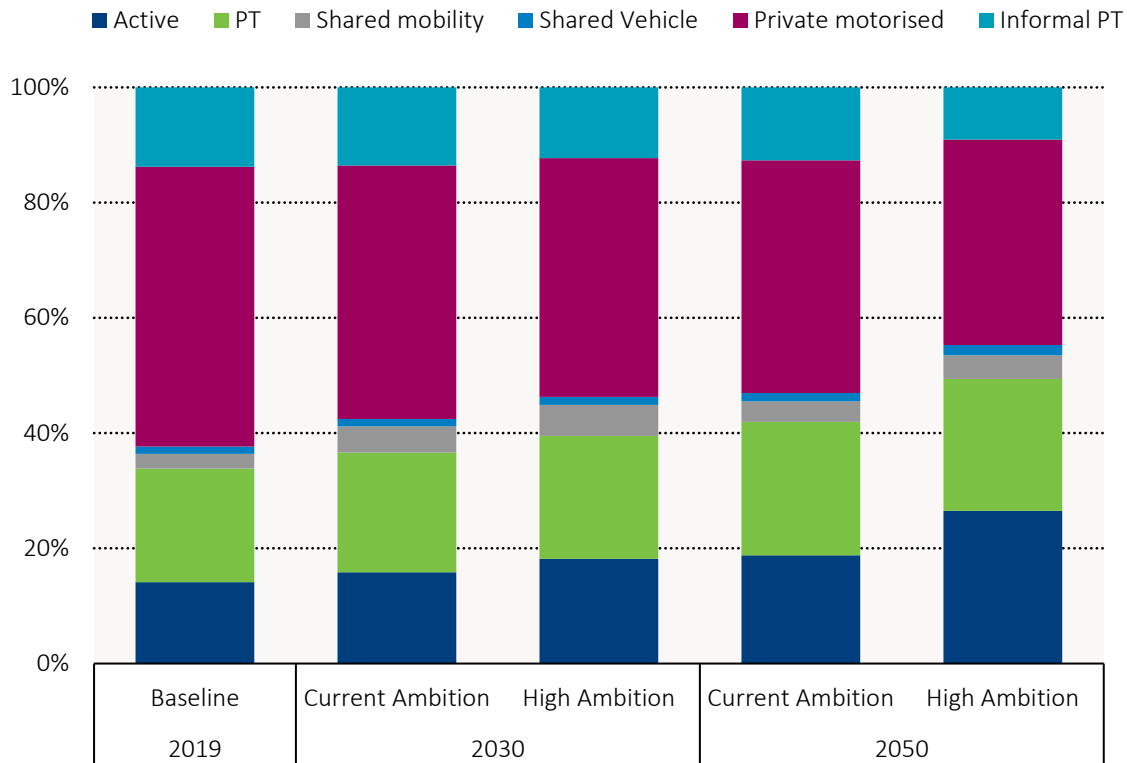
Source: ITF, 2023a.

The impact of mobility patterns on life trajectories

Interviews with young people conducted by experts provide further insights into why young people travel and how. The academic literature reviewed for this report includes several first-person interviews with young people, and these interviews inspired the hypothetical stories of the young people provided in Box 5. The aim is to show that the lack of transport options when young can impact life trajectories. A young person may have to forgo educational, job or training opportunities if they cannot reach their destinations due to lack of transport options and affordability, which can have a long-term impact.

Box 5. The Impact of mobility patterns on life trajectories

The impact of mobility patterns on the life trajectories of youth can be seen through the journeys of the following hypothetical young people whose stories are inspired by the literature reviewed for this report.

***

Jonathan and Selena are two young people who grew up and attended the same school in a Texan suburb.

Jonathan had access to a car while growing up, which gave him the freedom to participate in after-school activities, especially sports, and attend social events without relying on public transportation options. He excelled in sports, winning a sports scholarship to attend a prestigious university in New York City (NYC) for higher education. Owing to congestion, limited parking, and cost-related impracticalities of car ownership in NYC, Jonathan switched to using public transport options like the subway and buses, and shared bike services to get around the city. The extensive public transport network in NYC and the availability of shared micromobility options enabled him to enjoy the city's thriving social life and employment opportunities. He interned with a finance consulting firm, which he later converted into a full-time job. While he had minor safety and security concerns regarding the transport system, they did not weigh heavily on his mobility decisions. He has adjusted comfortably to this dynamic and fast-paced lifestyle, and the well-connected transport system and familiarity with the city make him feel at ease while travelling for work and leisure activities.

Selena grew up without access to a car, which limited her mobility options. She had to primarily rely on walking and biking to get around her neighbourhood and rides from friends and family to occasionally get beyond. This lack of mobility resulted in fewer opportunities for her to participate in after-school activities and cultural events. After graduating from high school, Selena attended a local community college, primarily due to her financial constraints. The lack of access to a car, compounded by the sparse public transport infrastructure, made distant educational options less appealing. Eventually, Selena took employment at a local supermarket close to where she grew up and lives. While public transport options are available, she has concerns about safety and security and low frequency of services, mainly when commuting late at night or in poorly lit areas. She has recently acquired her driving license, but the high insurance cost has stopped her from buying a car for the time being.

Jonathan's access to a car while growing up allowed him to pursue his interests, which, along with other factors, may have positively impacted his career trajectory. On the other hand, Selena's lack of mobility options may have curtailed her education and employment opportunities.

***

Vuyo and Lindiwe are students at a university in a metropolitan area in South Africa.

Vuyo grew up in a village a few kilometres from a metropolis in South Africa. Her journey to school was mostly on foot, characterised by safety and security concerns, which led her parents to send her to school only when her brothers accompanied her. She was not allowed to use the motorised two-wheeler at her house, which was reserved for only male members. Compounded by the unreliable para-transit options, Vuyo's mobility was minimal, and consequentially, she often had to miss school. Undeterred by these impediments, Vuyo made the most of the resources available and got admission to a prestigious university program in the closest city. She managed to get a mobile phone with internet access. However, unstable electricity services in her village often meant her phone could not be charged, and she could not connect virtually with friends or services. Moreover, due to the lack of transport options between her home and the university, Vuyo had to pay for and find accommodation near the university. Vuyo aims to look for jobs

in the city after graduation and aspires to save enough money to buy a car to commute to her home or use it as a taxi to earn a livelihood.

Lindiwe grew up in an affluent urban neighbourhood in a metropolis in South Africa. Her travel to school was by a safe and reliable exclusive school bus service as her parents wanted to avoid exposing her to the public transport in the vicinity. She had access to a car while growing up and participated in several after-school activities, including taking private tuition for better academic results. She excelled at academics and got admission to a prestigious university program in the city. The availability of a car at her residence, better access to information and communications technologies and services, and more stable electricity compared to rural areas ensured that Lindiwe saved a lot of time and money with respect to commuting. She used this free time to look for internships and study opportunities abroad. Eventually, Lindiwe won a scholarship to study in London, and her outlook is now global regarding employment opportunities.

The socio-economic and (virtual/physical) mobility advantage Lindiwe enjoyed while growing up may have influenced her outlook to not be constrained by geography or scale. At the same time, the limited financial and mobility options that hampered Vuyo's advances may have made her ambitions more limited and modest.

Source: adapted and inspired by the works of Ralph (2015) and Porter et al. (2017a).

What factors influence youth travel choices? How can policy makers shape youth travel behaviour?

This chapter investigates the question: why do the youth make the travel choices they make? First, some specific factors influencing licensing, car ownership and usage among young people in the Global North are discussed. Next, a host of other factors that influence the travel choices of young people both in the Global North and the Global South are discussed. The travel choices of the youth are dynamic, driven by an intricate web of factors that extend beyond mere individual preferences. The interaction of these factors is complex, as they can both reinforce and counter each other's influence at times. Overall, they act in conjunction to shape the mobility patterns of young people.

Factors influencing youth driving licensing, car usage and ownership in the Global North: Opportunities for policy makers

The previous chapter indicated a decline in driving licensing, car usage and ownership among young people in high-income countries. This section will examine why there is a decline and how policy makers can use this opportunity to proactively shape long-term sustainable youth travel behaviour. This section focuses only on young people in the Global North. The Global South is not included in this section because extensive data and studies are not available to compare trends over time for the youth age bracket. In any case, driving is typically not the main mode of transport for young individuals in countries of the Global South – at least for the time being. That said, with improving economies and a growing middle class, the number of personal vehicles, both cars and two-wheelers, is increasing rapidly in the Global South. This should be of concern to policy makers. Authorities must start collecting data and commissioning studies to better understand youth mobility in the Global South to shape sustainable travel behaviour before it is too late.

Focusing on the Global North, the above-mentioned decline in automobility for the youth is primarily due to financial constraints, changing employment patterns, dynamic living arrangements and, in some cases, a shift towards urban centres that is potentially complemented by a proliferation of information and communications technologies (ICTs). Moreover, transport policies that facilitate active mobility, public transportation, shared mobility usage and restrict car usage, especially in urban areas, have also helped reduce car dependency for the overall population in high-income countries, especially for young people.

Financial constraints and employment status

Financial constraints and employment status often shape young individuals' access to private motorised transport across geographies. The decline in car ownership and licensing among youth in high-income countries can be attributable to a surge in higher education (Chatterjee et al., 2018; Bayart et al., 2020); delayed workforce participation (Chatterjee et al., 2018); a rise in part-time and precarious employment (Chatterjee et al., 2018; Bayart et al., 2020; Delbosc and Currie, 2014); rising housing costs (Bayart et al., 2020); the high costs of motoring that includes cost of licensing, fuel, maintenance and insurance; and ultimately, a decrease in disposable income (Bayart et al., 2020; Delbosc and Currie, 2014). Other findings support the proposition that structural economic woes, exacerbated by the 2008 financial crisis and the

ensuing challenging economic climate, are the primary reason behind the decline in driving among young adults.

The decline in car usage is not worrying by itself, and in fact, should be seen as a positive trend. However, when coupled with a non-uptake in the use of alternative modes of transport, it may lead to young people making fewer trips, thus curtailing their access to opportunities. This is based on the assumption that young people want to make those trips but cannot do so due to the lack of affordable alternatives. It is particularly relevant for young people living in rural, suburban or low-density areas that are car-centric and for low-income households. For example, Ralph (2018) notes for young people in the United States: "Young adults who were carless growing up did indeed complete less education than their matched peers who always had access to a car. They also worked for pay less often and earned less."

Earlier findings from Ralph (2015) indicate that a large part of the decline in driving in the United States is attributable to young people with limited resources, such as those without jobs or those with low incomes and low educational attainment. On the other hand, according to another analysis of the most recent NHTS data in the United States, higher-income Millennials are driving fewer miles annually than their lower-income peers – presumably due to their ability to live in higher-priced cities, where they are closer to work and where alternative modes are available (Bliss, 2019).

Notwithstanding financial constraints and employment status, the main point here is that policy makers should not facilitate the use of private cars for young adults to enhance youth mobility but rather use this opportunity (the trend of declining car usage) to shape long-term travel behaviour by providing affordable and sustainable alternatives. This requires investing in public transport, active mobility and shared mobility infrastructure and incentivising their use. It also requires reducing sprawl, working cross-sectorally to provide affordable housing, protecting youth in unstable or part-time employment, and ensuring that urban planning promotes density and reduces travel distances to common destinations. Further investments in youth training and education can align young people with the job market. This way, youth mobility and access to opportunities are not limited while supporting sustainable transport goals.

Living arrangements

Living arrangements, whether living independently, with parents, with a partner or as a family, significantly shape the interaction of youth and cars. Living alone and without children are key determinants of declining car ownership and usage (Oakil, Manting and Nijland, 2016; Chatterjee et al., 2018).

Families with children have more complex travel and activity patterns, including work, school and leisure trips, which might contribute to higher car ownership. Young singles, many of whom are students, may not need a car, especially if they live in urban areas with access to public transport, active mobility infrastructure and shared mobility options. Many European countries and regions provide subsidised public transport passes to young people, which may incentivise their use of public transportation in urban and lower-density areas (Oakil, Manting and Nijland, 2016).

Research conducted in the United States by Ralph (2015) explored the changes in travel behaviour and found that young adults who live independently may increase or decrease travel by automobile, depending on other factors. Those factors include financial circumstances, residential location and employment type. For example, young adults who live independently might be less inclined to own a car than their peers who live with their parents due to less disposable income. Young individuals who reside with their parents do so typically due to financial constraints. As a result, these young adults might also have a lower likelihood of owning a car. Conversely, since these individuals usually spend less on necessities like rent, they may

have more disposable income for car travel. Additionally, these young people might have easier access to a vehicle if they continue to live in a household that already owns a car.

Moreover, compared to single young adults, more married young adults drive, and fewer are in the multimodal and carless categories. Similarly, more mothers are drivers, and fewer are multimodal compared to women without children. This suggests that as young individuals take on adult roles and responsibilities, they move away from alternative modes of travel and increase their reliance on automobiles (Ralph, 2015).

Policy makers need to be aware that certain transitions in life and improvements in financial circumstances can induce changes in travel behaviour. While there is no certainty that trends observed for Millennials will continue for Gen Z, policy makers can shape travel behaviour by providing alternatives to personal motorised transport. While not all car trips can be eliminated, many can be replaced by alternative modes if the possibility exists, and this can support the car-free lifestyles of young people. Research in the United Kingdom (Chatterjee and Collings, 2023) indicates that those who acquire a driving license later in life tend to drive less over the long term.

In addition, with the recent market penetration of shared mobility and micromobility options, Millennials and Gen Z (especially those living in urban areas) have more sustainable transport options than the cohorts before them. Policy makers can encourage the uptake of such options to further support the car-free lifestyles of the youth.

Residential location

The relationship between residential location and youth mobility has been a subject of interest among researchers seeking to understand how the level of urbanisation shapes young individuals' travel choices. Typically, young adults in urban areas are less likely to own cars when compared to those in less urbanised areas, with differences in demographic and economic characteristics like age, household consumption, income, employment status, housing costs and ethnic background partly explaining this discrepancy (Oakil, Manting and Nijland, 2016). Further, the (un)availability and (in)convenience of public transport infrastructure and policies discouraging car ownership in their residential location influence youth transport choices. (Chatterjee et al., 2018).

A study conducted by Bayart et al. (2020) in the city of Lyon revealed that living in the centre significantly reduces the likelihood of young people obtaining a driver's licence compared to those living in the outskirts of Lyon. The authors postulate that the provision of active mobility modes and an improved public transport network may have led to a higher concentration of young adults living in the city centre. Further, Lyon's initiatives like public bikesharing schemes, carsharing projects and pedestrian zone improvements may have contributed to a shift towards sustainable and efficient urban mobility.

The availability of multiple transport options like tram, metro and bicycle stations in the city centre has reduced young people's need to use private cars. Consequently, there is a decline in the number of daily car trips by young adults in Lyon and a notable change in the behaviour of the young adults living in the city centre. They have become used to optimising their travel using public transport and ridesharing options. Interestingly, the study also noted that rising housing costs in city centres also contribute to the reduced priority given to car ownership. (Bayart et al., 2020)

A study by Blumenberg et al. (2017) for the US Federal Highway Administration states that where people live, work, play and travel are intimately related to the built environment. According to the study, younger populations (ages 20-34) are more likely to live in urban areas in the United States than previous generations. However, this often changes as they age and have children. Further, the study suggests that

young people are more likely than older adults to move to central-city neighbourhoods where origins and destinations are more proximate and travel by alternative modes (such as by foot, bike, and public transport) is more common. However, most young adults in the United States still live and move into suburban areas. According to the US Census, nationwide, 49 % of young people between 18-24 years live in suburban neighbourhoods compared to 37% living in central-city areas; a further 14% live outside metropolitan statistical areas as defined by the US Census. The study noted similar trends for those under 18 years and young adults between 25-34 years. Thus, changes in the residential location of young adults today may have important and potentially long-lasting effects on travel behaviour in the years ahead (Blumenberg et al., 2017).

In their analysis, Melia et al. (2018) found that while living in London reduced car dependency, they also revealed variations in the relationship between residential location and travel behaviour across different age groups. For workers aged 16-24, typically in their first jobs, the increase in driving to work was not influenced by population density but rather by factors like job locations that were increasingly inaccessible by means other than driving or job timings incompatible with public transportation schedules/timetables.

Conversely, for workers aged 25-34, living in highly urbanised areas strongly correlated with decreased driving to work. These findings highlight the importance of avoiding generalisations about the commuting trends of young adults and underscore the widening differences in travel behaviour between those residing in large cities, such as London, with access to destinations via alternative transport options versus their counterparts in other areas.

Given that young people may prefer urban lifestyles more than older age groups and cities are attractors because of employment opportunities, policy makers should therefore collaborate across sectors, such as transport, urban planning, and housing, to support young people not just to have access to alternative modes of transportation but also to education, employment and training opportunities. This, in turn, can attract more young people to relocate to cities. However, policy makers should not forget about young people in non-urban areas. Promoting shared mobility options such as carpooling or using electric bikes to cover longer distances for certain trips can support youth travel behaviour in such locations.

Policy makers must, therefore, focus on creating affordable transport systems to capitalise on this decline in driving. It is equally important to ensure that these systems are accessible to all sections of the youth, including young people situated away from urban centres. Moreover, these systems should also cater to the unique needs of young families to minimise their need to resort to private motorised transport.

Additional factors influencing youth travel behaviour in the Global North and the Global South: Implications for policymaking

This section will further investigate factors widely discussed to impact youth travel choices and behaviour across regions and which should be of interest to policy makers.

Proliferation of information and communications technologies

The proliferation of ICTs among the younger generation has revolutionised how they interact, communicate, and navigate the world. The advent of smartphones, tablets, and other digital devices has provided unprecedented access to various virtual activities and online platforms across the globe. As the world undergoes remarkable technological advances, young people are at the forefront of accepting and influencing new ideas for improved transportation systems. These technologies complement various

aspects of physical mobility (Delbosc and Currie, 2012) while making transportation systems seem safer and more efficient for the youth (Porter et al., 2017).

In the Global North, the widespread adoption of ICT has enhanced temporal and spatial flexibility in both personal and educational spheres (Hjorthol, 2016). The introduction of intelligent transportation systems has provided innovative solutions, such as real-time traveller information and mobile ticketing, which could influence travel habits and mode choice decisions (Kuhnimhof, Buehler and Dargay, 2011). Additionally, technology has paved the way for innovative transportation options like ride-hailing, carsharing and shared micromobility services. According to a study in the United States, more change has occurred in the last eight years regarding transport options than in the last 60 years (US Federal Highway Administration, 2021).

Moreover, ICTs can make public transport a more suitable choice for young people seeking mobility and connectivity. Unlike driving, where the use of mobile devices is increasingly restricted due to safety concerns, bus and train riders can engage in activities like phone conversations, texting or work while travelling. This compatibility with ICTs allows young individuals to stay connected and productive during their journeys, further enhancing the appeal of public transport as a mode of choice (Davis, Dutzik and Baxandall, 2012).

While increased online activity may have reduced some trips for education, shopping or entertainment, ICTs have yet to significantly reduce motorised transport and traffic congestion in the Global North. However, the proliferation of ICTs provides an ideal opportunity for policy interventions integrating digital technologies into transport systems and encouraging the usage of public transport and shared mobility services.

In the Global South, ICTs have positively impacted personal safety and financial management in the African context (Porter et al., 2017). For example, in South African urban neighbourhoods, mobile phones have emerged as powerful tools for navigating city streets, where safety concerns and limited financial resources frequently constrain young people's physical mobility. As young people, particularly girls, continue to be concerned about harassment, violence and traffic crashes, they use mobile phones to reimagine their mobility options by organising physical travel with the help of virtual communication tools if required (Porter et al., 2017). Moreover, real-time information about informal transport systems can also be included in apps like Google Maps to facilitate journeys. One such example from Nairobi, Kenya, is provided in Box 7.

Young people can maximise their limited resources by substituting phone communication for physical travel on various occasions. In many cases, phones have become a virtual mobility reservoir, allowing users to combine physical movement with ICT interactions, especially in urban settings. Mobile phones have enabled young people to reschedule their journeys while on the move and avoid hazards associated with physical travel, such as poorly maintained vehicles, harassment and robbery. (Porter et al., 2017)

Further, mobile phones have enabled young people to check if the intended recipient is available or at home before embarking on a journey, reducing the possibility of wasted journeys and saving time, money and effort. This practice has become a general norm as mobile phone ownership among young adults increases. It enables young people to make more informed travel decisions, optimising mobility and reducing unnecessary trips. Mobile phones have become security tools, allowing them to organise transportation and access help in emergencies. This combination of physical and virtual mobility has led to the creation of newer avenues for enhancing connection, fostering inclusion and potentially saving lives in emergencies. (Porter et al., 2017)

While digital technologies promise greater freedom and convenience, young people are worried about fair access to these advancements (Simpson and Collard, 2019). Furthermore, not all young people may have the necessary skills or resources to navigate digital interfaces and access mobility services. This digital divide may result in disparities in accessing transport options and reinforcing existing inequalities. Additionally, care should be taken to ensure that online activity is not pushed at the expense of social and interpersonal interactions, as isolation could affect the quality of relationships and mental health of the youth. Addressing these issues is critical to ensuring no one falls behind in transitioning to digitally-driven transportation.

Box 6. Digital Matatus: Improving mobility in Nairobi

Matatus are private minivans that serve as the primary form of informal public transportation in Nairobi, Kenya. However, the matatu system is chaotic, with the routes and pick and drop timings varying across operators. This unsystematic approach makes it difficult for commuters to navigate the system and for urban planners to make informed decisions about transportation planning.

Digital Matatus is a research project in Nairobi that aims to improve mobility in the city by collecting and analysing data from Matatus' network that serves the Kenyan capital. The project involves MIT, Columbia University, the University of Nairobi and Groupshot Design Consultancy. The open-source data collected by Digital Matatus has been transformed into a free, publicly available paper map and is searchable in Google Maps as a transport option. This innovative project has enabled anyone with a smartphone or a paper map to navigate the city using a matatu.

The success of the Digital Matatus project in Nairobi demonstrates the potential for similar projects to improve mobility and transportation planning in other cities where people depend on matatu-like informal transport systems. By collecting and analysing data on these networks, cities can gain valuable insights into how informal transport networks operate and how they can be more integrated into urban planning initiatives.

Source: Shulman, 2015; see http://digitalmatatus.com/.

New mobility trends

The age of digitalisation has also ushered in a new era of mobility. Shared micromobility options such as e-scooters, electric bikes and pedal bikes allow transportation systems to "better connect people to public transport, reduce reliance on private cars and make the most of scarce space for mobility in cities." (ITF, 2021). In high-income countries such as those in Europe, the ridership and trips per day of shared micromobility services are increasing despite the removal or reduction of the number of micromobility vehicles in some cities by local authorities (Fluctuo, 2023), underscoring the potential of these modes of mobility. Figure 12 illustrates the rapid increase of micromobility trips in the US cities. The number of US cities with shared micromobility services has grown from 65 in 2015 to 205 in 2019 (US Federal Highway Administration, 2021).

Figure 12. Number of micromobility trips by mode in the United States, 2010-19
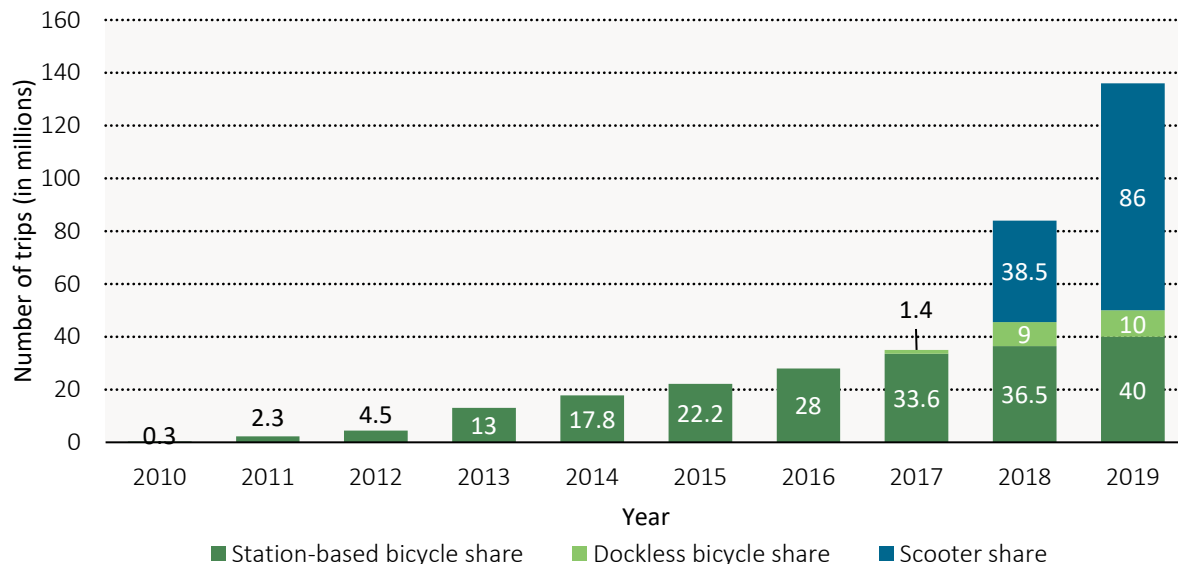
Source: US Federal Highway Administration, 2021.

Young people are often at the forefront of embracing new changes. E-scooters, for example, are generally used a lot more by younger cohorts of the population (Chatterjee et al., 2023; Wang et al., 2022). In Europe, bikesharing has emerged as the fastest-growing mode of shared transport, with local urban authorities in cities like Bordeaux coming together to frame broader shared mobility plans to regulate this growing sector (Fluctuo, 2023). As the usage of new mobility services increases innovation, uptake and regulation of these alternative modes of transport must be greatly encouraged. While these modes mainly replace walking and public transport trips currently, they can potentially replace some automobile trips and support car-free lifestyles.

One pilot study of e-scooter trials in the West of England (Chatterjee et al., 2023) offers encouraging insights into young people's usage of new mobility services, with those aged 18-24 representing 49% of the registered rides. There were more than 10 million trips on rental e-scooters during the trial period between 2020-23. A gender bias is also noticed in the study, with 2.8 times more rides made by men than women. Younger users (aged 18-29) have also indicated that they find accessing e-scooters easier than older users. Around 53% of the respondents aged 18-24 in Bristol, one of the cities in the study survey, affirmed that the trial enabled them to access new destinations. Of the youngest e-scooter users (aged 18-24), 66% did not have access to a car, while 59% lacked access to a bicycle. The most cited reasons for using e-scooters were quickness, convenience, cost, flexibility, the joy of using them and the lack of access to a car (Chatterjee et al., 2023). Furthermore, the study also identifies modes replaced by an e-scooter in Bristol: walking (32%), bus (18%), car (15%), bicycle (14%) and taxi/ride-hail (9%) (Chatterjee et al., 2023).

The Santa Monica E-Scooter Pilot Program also offerss similar demographic insights, with 64% of the users aged 25-34 (City of Santa Monica, 2019). Similarly, a 2019 study conducted in the French cities of Paris, Lyon and Marseille found that more than half of local e-scooter users are younger than 35. The age group of 25-34 accounts for 28% of the users while representing only 14% of the French population (6t-bureau de recherche, 2019). Twenty-three per cent of e-scooter trips recorded in this study were multimodal, with public transport (66%) and walking (19%) accounting for the other multimodal components (6t-bureau de recherche, 2019). While the usage of e-scooters did impact walking and public transport

options, the impact was minimal (6t-bureau de recherche, 2019); thus, e-scooters acted as another mobility option to complement other modes of transport.

This supports the proposition that access to new mobilities, e-scooters in this case, provides multimodal mobility options to young people who do not have access to a private vehicle (Chatterjee et al., 2023). However, it is also essential to ensure that effective frameworks are in place to regulate these new mobilities, especially in light of concerns about safety and potentially adverse environmental impacts (attributed to the production and disposal of vehicles and batteries and electricity generation) (ITF, 2021).

There have also been rapid developments in ride-hailing and carsharing services. A survey on new mobility patterns in European cities found that 23% of the population use ride-hailing, and 12% use ridesharing services. Only a few people use them to meet their daily transportation needs – 1% for ride-hailing and 4% for ridesharing (Armoogum et al., 2022). Most of the population (60-70%) uses them less than once a month. Ride-hailing and ridesharing services have enabled some users to avoid vehicle ownership, even though the trip share relative to private motorised modes is marginal and limited to primarily urban areas in the United States (US DOT, 2021). Nevertheless, there is still an uptake. For example, in 2015, only 15% of Americans used ridesharing services. By 2018, this number had increased to 36% (US Federal Highway Administration, 2021).

Further, with the increasing provision of EV-friendly infrastructure, carsharing services might see a boost. This was observed in Germany, where a 30% jump (compared to the previous year) in the number of people registering with a carsharing company was recorded in Q1 of 2023 (Fluctuo, 2023). Analysis of 2017 NHTS data also shows that public transport users are three times more likely to use Transportation Networking Companies (TNCs) applications (like Uber and Lyft) when compared to the general public (Godfrey, Polzin and Roessler, 2019).

The adoption of ride-hailing services is noticeably higher among young adults, who typically live in urban areas and are well-educated (Lavieri and Bhat, 2019; Gomez et al., 2021). A study by Kooti et al. (2017), which analysed Uber's usage trends in the United States, found that 38% of the riders were aged 18-27 and took shorter but more frequent rides when compared to older adults. According to a United States Department of Transport (U.S. DOT) (2021) report, there is limited information available from TNCs about age profiles. However, the limited data still indicates that TNCs primarily serve younger, more educated users with higher incomes. Information on shared micromobility indicates a similar user profile. In the nine densest metropolitan areas of the United States (i.e., Boston, Chicago, Los Angeles, Miami, New York City, Philadelphia, San Francisco, Seattle and Washington, DC), TNC use is highest among those aged 25-34, followed by those aged 18-24 and 35-54; those residents with a college degree; and residents living in households with incomes of USD 50,000 or more.

In low- and middle-income countries, young people have also embraced ride-hailing applications for convenience and autonomy, allowing them to access comfortable transportation while avoiding long walks to their destinations. Ride-hailing services have also adapted to the local context. For example, ride-hailing companies provide not only car services but also three-wheeler services (commonly known as auto-rickshaw or tuk-tuk) to clients in India via their mobile applications. Further, the option to pay with cash for ride-hailing services instead of a credit or debit card has helped youth, as they may not own bank accounts or cards in certain contexts. In the African context, motorcycle taxis are used frequently, and young people report keeping the phone numbers of trusted motorcycle riders whom they can call for transportation services (Porter, 2023). However, it is critical to recognise that access to technology and these services continue to be unequal among young people, potentially compounding existing disparities. (Simpson and Collard, 2019)

Lavieri and Bhat (2019) found tech-savviness to be the strongest predictor of ride-hailing adoption. Therefore, policy makers should account for young people's increasing use of digital technologies when designing transport systems for the youth. However, the demand impacts of on-demand transportation services are yet to be determined. As with the shared mobility service model, it is unclear whether on-demand transportation will help to fill mobility gaps for traditionally underserved populations (including the youth), for whom the availability and accessibility of new travel modes and transportation services are especially important (US DOT 2021). Hence, policy makers should refrain from jumping to conclusions but rather encourage more research on new mobility modes to understand their impact on the youth.

Lastly, the changes in the aftermath of the Covid-19 pandemic have impacted the overall population, including young people. In the United States, for example, the share of adults (aged 18-34) who worked from home increased by 12% between 2019 and 2021 (Anderson et al., 2023). Further, an increase in online shopping and performing other tasks online reduces personal trip-making, even though it potentially increases freight trips. While it is still too early to predict what trends will persist in the aftermath of the pandemic, young people remain at the forefront of several lifestyle and mobility changes brought on by the pandemic. Therefore, policy makers need to pay attention to long-term trends regarding the youth.

In summary, shared mobility services and online activities support a multimodal and perhaps a reduced trip-making lifestyle that young people can benefit from. Young people can use the combination of high-speed telecommunications and shared mobility services to avoid certain trips while making other essential trips using a mix of sustainable modes. The aim is not to restrict youth mobility but to facilitate it with options that fulfil youth needs and sustainable transport goals. However, attention should also be paid to the fact that increased online activity should not increase social isolation for the youth, which can have a negative impact on mental health.

Impact of environmental attitudes

Environmental concerns and the need for climate action are among the most cited reasons in media that attempt to rationalise the decline in youth driving patterns (Osaka, 2023) and the uptake of active mobility or shared mobility usage. While various studies have examined the relationship between environmental attitudes and travel behaviour, only a small portion of this research focuses on young people (Chatterjee et al., 2018). While available academic evidence is neither conclusive nor recent to show that young people are basing their transport decisions on environmental attitudes, there is no doubt that youth are worried about climate change (Hickman et al., 2021) and are at the forefront of the global conversation on climate change and climate action (COE, 2021; UNICEF, n.d.). Younger generations (Gen Z and Millennials) in the United States have displayed a higher willingness to phase out the use of fossil fuels and gas-powered vehicles (Tyson et al., 2021).

Bayart et al. (2020) suggest that young adults have become increasingly aware of the externalities associated with cars and may have developed eco-friendly behaviours, which, combined with the diminished social status of the car, could explain the dissatisfaction of the youth with driving. However, Chatterjee et al. (2018) emphasise that the influence of changing values and attitudes on travel behaviour may be more pronounced among financially secure youth with realistic prospects of attaining the traditional markers of adulthood. Moreover, in car-centric places like the United States, it is reported that "young people were not opting to forgo driving because of environmental convictions or a principled rejection of car culture but rather because they just could not afford it." (Zipper, 2023)

While many Millennials may prioritise environmentally friendly products, Knittel and Murphy (2019) suggest that their preferences regarding transportation choices are like those of the cohorts before them.

While this does not imply that Millennials disregard the environment in their transport decisions, it suggests that vehicle ownership may not be a voluntary choice for many. Therefore, relying solely on Millennials' preferences to reduce carbon emissions from transportation is insufficient, as they face similar constraints as previous generations and still exhibit a strong preference for personal vehicles (Knittel and Murphy, 2019).

Research by Simpson and Collard (2019) in South Asia and sub-Saharan Africa (an anthropological study of the experiences of 16 participants) highlights that while young people are aware of climate change, it is not necessarily their primary priority. Young people prioritise more urgent concerns, such as securing livelihoods through reliable transportation, over environmental concerns. Nonetheless, young people affirmed that they knew about the transportation-environment link. They focused on various topics, including transportation's contribution to air pollution, electric vehicles' potential role in mitigating pollution and climate change, the impact of road infrastructure development on deforestation and noise pollution from transport. An interview with an expert on youth mobilities in sub-Saharan Africa revealed similar attitudes among African youth who may be aware of the transportation-environment link; however, other priorities top young people's concerns. It is to be noted that the study may not be representative of the overall youth population due to the small sample size of the youth surveyed.

Even though environmental attitudes likely do not influence youth mobility patterns to the same extent that financial constraints do (Knittel and Murphy, 2019) and might not be their priority in certain contexts (Simpson and Collard, 2019), there is no discounting the fact that environmental considerations and sustainability are central to the aspirations of the youth as they are going to be the future users of the transportation systems of today. Young people in various contexts recognise the role of transportation in air pollution and congestion, the need for cleaner alternatives such as electric vehicles and the significance of infrastructure development (Simpson and Collard, 2019). Lastly, regarding the environment, the youth expect public authorities and private sector actors to join forces to speed up change.

Today's policy makers must consider the concerns and aspirations of the youth to steer the development of environmentally-friendly and energy-efficient transportation systems as sustainability becomes an inherent aspect of transportation planning. They should direct the environmental concerns of the youth to shape long-term sustainable travel behaviour by providing better alternatives. Moreover, policy makers should encourage, educate and empower the youth to participate in the process.

Safety and security

Safety and security significantly impact youth mobility patterns and preferences. Across contexts, gender-based violence and harassment greatly influence young women's engagement with transport. A survey by YouGov shows that over half of women in London have been exposed to harassment while travelling on public transport, with only 2% of victims in London reporting such incidents to the police (Prescott-Smith, 2020). A United Nations Population Fund (UNFPA) study revealed that 90% of women in Sri Lanka have been victims of sexual harassment on public buses and trains (UNFPA, 2017). The fear of unwanted attention and violence leads women to modify their behaviour, schedules and transport choices to avoid potential risks.

This fear is not limited to women; young men across geographies also express concerns about theft, pickpocketing (Simpson and Collard, 2019) and assaults (Porter, 2023). Studies show that safety concerns in South Africa have affected children's willingness to walk long distances on foot, leading them to avoid certain areas (Porter et al., 2012). In some cases, young people prioritise safety over other factors and are even willing to make significant trade-offs in education or incur higher transportation expenses to opt for

safer modes and routes. For instance, young women in Delhi, India are willing to forgo better educational opportunities and spend more on transport to avoid harassment while travelling (Borker, 2021).

Young people are also more vulnerable to road traffic crashes. Globally, road traffic crashes are the leading cause of death among young people (aged 5 to 29), especially young men under 25, who account for a staggering 73% of all road traffic deaths (WHO, 2022). More than half of all global road traffic deaths are ascribed to pedestrians, cyclists and motorcyclists (WHO, 2018). While fewer young people and children are losing their lives to road crashes now than a decade ago (ITF, 2022), road crashes remain a major concern for the youth. Statistics show that there are 31 child fatalities in India every day due to road crashes (Kapoor, 2020). Young individuals in studies in Asia and Africa (Simpson and Collard, 2019; Porter et al., 2017a) express fear about poorly skilled drivers, drunk driving, overcrowded transport, badly maintained roads, and crashes resulting from unsafe city infrastructure. Traumatic personal experiences of crashes or witnessing fatal incidents influence young people's choices in transportation (Simpson and Collard, 2019).

Box 7. The role of community engagement in ensuring safety and security

Engaging local communities and all stakeholders is pivotal in ensuring safety and security within transportation systems, especially in contexts where regulations are weak and infrastructure is underdeveloped or requires investment. Public authorities can gain valuable insights, build trust, and develop solutions that cater to the specific needs and concerns of the people they serve by involving local communities, civil society groups and other stakeholders in planning, designing and operating transport networks. As illustrated in the following example, NGOs and communities can make a positive difference where public authorities have weak capacities.

In Cape Town, South Africa, Transaid (an international NGO, transaid.org) worked with the local taxi associations, community members and civil society groups to address challenges to women's mobility in Cape Town's periphery. They held participatory workshops with women residents, taxi association members and drivers to create awareness about women's rights and gender-based violence, create reporting mechanisms and brainstorm practical solutions to improve women's safety. This exercise culminated in preparing recommendations for a "Safe Taxi Charter", which outlined and juxtaposed the passengers' rights with the drivers' commitment to a safer travel experience.

Transaid also conducted gender-based violence sensitisation sessions with male drivers, wherein the training sessions focused on the forms of gender-based violence, contributing factors, and the methods to address it. This sensitisation led to forming a support group among drivers, often moderated by a female driver, to build on the benefits of the sensitisation sessions. Furthermore, "taxi stickers" with special messages on the safety and security of passengers were affixed on taxis to send a signal to people that taxis were a safe and inclusive transport service. These measures have led to the creation of a local transport system where taxi drivers, owners and operators are involved in improving women's safety and security. Transaid also provides professional driver training, transport management systems and rural access to transport to address the transport challenges in low- and middle-income countries.

Source: Shadi Ambrosini, Transaid (Workshop on Youth on the Move: Young people and transport in the 21st Century, 18th-19th April 2023, ITF).

In high-income countries, road crashes have pushed governments to adopt many road safety measures that have lowered fatalities. However, much remains to be done in high-income countries and globally. The Safe System approach is an example of a framework to improve road safety. Today, the Safe System

approach is at the centre stage of global, national and regional road safety policy-making. While it is beyond the scope of this report to explain the Safe System approach in detail, more information is available on leading ITF publications that have successfully promoted the adoption of this framework with governments (ITF 2008; ITF, 2016; ITF, 2022).

Despite the efforts to address the issue, safety and security concerns significantly impact mobility patterns, leading young individuals to select routes and modes of transportation perceived as safer. Addressing these concerns is critical to ensuring inclusive and equitable transportation systems that allow young people to travel safely and independently. While much needs to be done by governments to address safety and security concerns, there are also examples where non-governmental organisations (NGOs) and local communities have come together to address issues. One such example is provided in Box 8. Policy makers should encourage such initiatives as they can make a positive difference and supplement government capacity.

Impact of fragmented public transport fares

Subsidising public transportation, especially bus fares, is often discussed as a policy solution to help young people's mobility. Examples where such subsidies have already been implemented are provided in Table 3. While subsidising public transport for the youth offers numerous benefits, it also presents challenges. The subsidy program's cost, eligibility criteria, and funding sources must be carefully considered, as it can strain public finances and spark debates about fairness and equity. Implementing such a program entails administrative and logistical complexities that governments must be prepared to manage. Impact on fare revenues and negative public perception can affect the long-term sustainability of such subsidies. Therefore, continuous evaluation of the effectiveness of the subsidies and understanding trade-offs and legal compliance are vital for subsidies to remain. Policy makers must balance these complexities while striving to enhance youth mobility and access to public transport.

It is not possible to discuss in depth all the challenges of subsidising public transport in this report. However, one specific aspect – the fragmentation of bus fares – is discussed to provide insight into the complexity of fragmented fare structures and their impact on youth mobility.

Buses are an important mode of public transport for young people. Typically, bus fares are cheaper than metro/train tickets and can have a greater reach in terms of destinations. Moreover, buses also serve low-density locations and urban areas where metro or tram services are not available. Studies from the United Kingdom and India show that young people greatly value bus services. Hence, subsidising bus fares for young people is often called for to support youth mobility.

However, such subsidies may be challenging to implement due to the fragmentation of fares. Fragmented bus fares refer to a situation in which the cost of bus travel varies depending on the local transportation authority, the type of bus, the passenger's age and different fare policies across different bus operators, zones, routes or times of day. An example of fragmented fares is provided in Figure 14. Fragmentation makes it difficult for young people to understand fares or predict the total cost of their journey and determine the optimum arrangement. For young people, the complexity of fragmented bus fares can be a barrier to travel. They may be hesitant to take buses if the cost is unclear.

Table 3. Examples of free and subsidised youth travel schemes

Scheme	Description
Studentenreisproduct, Netherlands	Allows student to access public transport system for free during weekdays and with a 40% discount on weekends, or vice versa (NS, n.d.).
Free Buzzy Pazz, Hasselt, Belgium	Hasselt residents aged between 6 and 20 can obtain a free Buzzy Pazz for unlimited travel on trams and buses (De Lijn, 2023).
Forfait Gratuité jeunes en insertion, Paris, France	Allows residents of Ile-de-France aged between 16 and 25 to travel for free if they are trainees in vocational training programs (Ile-de-France Mobilites, 2017).
16+ Zip Oyster photocard and the 18+ Student Oyster photocard, London, United Kingdom	Young people aged 16-17 get access to free travel on trams and buses and 50% concessions on other transport services, while students aged 18 and above get a concession of 30% on travel cards (Transport for London, n.d.).
MTC Bus Pass, Chennai, India	Free travel on buses between school and home for school students and 50% concession for college students (MTC, 2018).
Young Persons' (Under 22s) Free Bus Travel Scheme, Scotland	All young people aged 5-21 get access to free bus travel on any bus in any part of Scotland (Transport Scotland, n.d.).

A study in the United Kingdom (Collings, Chatterjee and Cope, 2022) found that young people prefer flat fares and feel the need for more support, with a young person even noting that "being a young person doesn't stop when you are 18". Case studies in the United Kingdom covering special bus fare schemes across South Yorkshire, London, West Yorkshire and Scotland showed that free or concessionary travel schemes have led the youth to use buses more often, with some young people even opting for buses as the default choice for travel. They use buses to save money, explore new areas, travel to leisure and social activities and access education, training and employment opportunities. This enhances the social inclusion of young people, especially in the aftermath of the Covid-19 pandemic. The study calls for concessionary fares to be clear, universal and consistently applied to facilitate youth mobility.

Despite the observed benefits of free or concessionary travel schemes, a lack of consistency in applying schemes can be an issue. The example of the United Kingdom is shown in the maps in Figures 13 and 14.

While subsidising public transport is considered a public good, and several cities, regions and countries have implemented such schemes, further research is necessary to understand the impact of such schemes on youth mobility and their access to opportunities. This may bolster the case for designing policies that require universal and consistently applied flat fares to facilitate youth mobility.

Figure 13. Map illustrating travel scheme provision across the United Kingdom (type of offer by transport authority area)
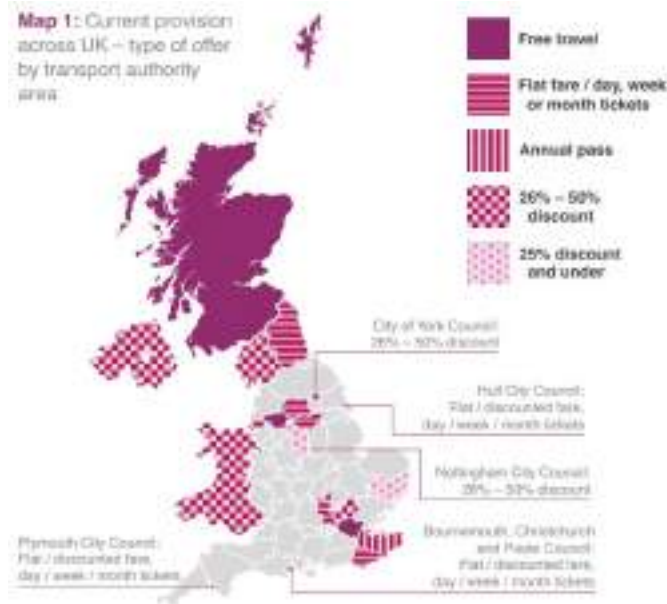
Source: Collings, Chatterjee and Cope, 2022.

Figure 14. Map illustrating travel scheme provision across the United Kingdom upper age limit of those eligible for a fare offer (by transport authority area)
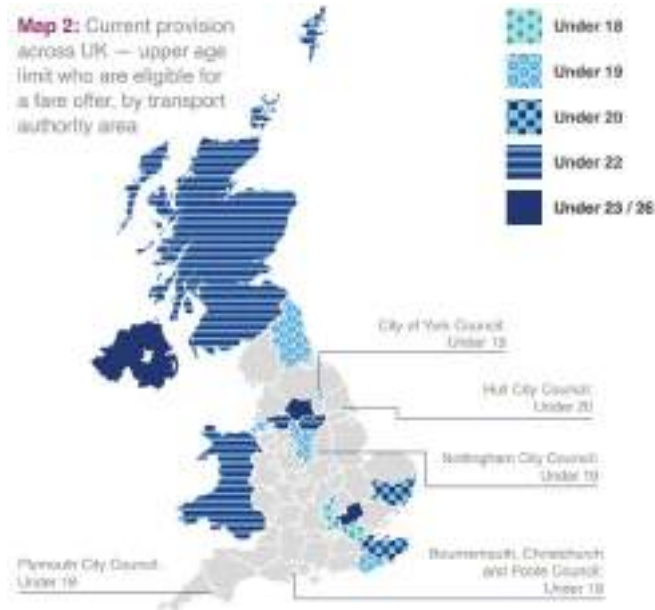
Source: Collings, Chatterjee and Cope, 2022.

Impact of childhood experiences on long-term travel behaviour

While childhood experiences may impact mobility choices, no conclusive evidence exists that childhood experiences alone shape long-term mobility behaviour. Rather, personal and external circumstances often shape long-term preferences and mode choices.

Nevertheless, learning to cycle at a young age increases the propensity to use a bicycle later in life, but that alone does not necessitate continuous usage as children grow older (Chatterjee and Collings, 2023). Similarly, using public transport, where available, from a young age may remove psychological and practical barriers, such as wayfinding and ticketing, while instilling a sense of familiarity. However, long-term usage depends on other circumstances.

While infrastructure and traffic conditions determine the safety and feasibility of active travel, many psychological factors, such as habits and attitudes, could influence transport choices. "Soft measures" that complement investments in bike and pedestrian infrastructure, such as educational and promotional campaigns, training programs and incentivising the adoption of active mobility, can increase an individual's inclination to walk or bike (WHO, 2022a).

These soft measures can start early in life for young people. For example, schools should be made accessible by foot and cycle along with school buses. Walking school buses, where children walk together with adult supervision, can be beneficial. Schools can also offer opportunities to teach children cycling skills and traffic safety rules and regulations. Getting children to become familiar with public transport, if it exists in the location, can start in school. Higher education should not only incorporate sustainable transport into their accessibility plans but also disseminate sustainability knowledge. Young people should be made aware of the links between transport, environment, liveability and health from a young age and be incentivised to use sustainable modes of transport as they grow older. Several countries, such as Belgium, France, Germany, Luxembourg, the Netherlands and Switzerland, have expanded tax credits to cycling commuters (Flemming, 2019). In many countries, employees can purchase a bicycle tax-free through employer programmes (WHO, 2022a; Synek and Koenigstorfer, 2018). These can particularly help young people entering the workforce with lower salaries. Also, subsidies for purchasing e-bikes are quite common and popular (WHO, 2022a).

Moreover, promotional events can take various forms to promote active travel as healthy, enjoyable or even fashionable (WHO, 2022a). One example is Ciclovias, a car-free event originating in Sao Paulo, Brazil, that is increasingly popular worldwide. It is also known under various other names, such as slow-ups, Sunday Streets or Open Streets. The event entails a community temporarily closing stretches of roadways for cars so that streets can be enjoyed as public spaces for walking and cycling (WHO, 2022a).

These incentives, complemented by disincentives to drive, such as transport-related tax provisions, fuel taxes, road tolls, vehicle taxes, or commuter tax credits, as well as congestion charging, low emissions zones, reduced parking and a host of other measures, can shape travel behaviour of the youth.

Studies indicate that the longer young people adapt to a non-car lifestyle, the more promise it holds to avoid car usage for daily mobility, even if they own a car (Chatterjee et al., 2018). Researchers have observed that individuals who delay getting their driving licence – for example, getting it in their forties instead of their twenties – subsequently drive less.

Further, an interview with experts regarding their current studies with youth in the United Kingdom revealed that youth are open to multi-modality and carsharing in transportation. Since the younger generation grew up with technology, they can be expected to adopt new mobility solutions, like shared micromobility, more readily than older age groups. However, youth do not imagine an entirely carless

future as they believe that not having access to a car could impede their future (MOVIN'ON, 2021; Sustrans, 2022). Some additional insights gained for this report through expert interviews also point to the difference in perceptions of using buses versus metro, tram or train among young people. Young adults in the United Kingdom indicate that they prefer trains or trams as they are faster and are perceived as adult modes of transport compared to buses (Chatterjee and Collings, 2023). According to several studies and surveys from India, the United Kingdom and Sub-Saharan African countries, youth also indicate a strong dislike for crowded buses. While youth recognise the value of bus services and use buses, it is not necessarily their preferred mode of transport in many contexts. Making bus services attractive for youth can be a challenge that policy makers must address.

Overall, policy makers need to recognise that basic infrastructure should be in place and serve the needs of young people, along with all other age groups, to ensure they walk, cycle or use public transport for some of their trips every day and use a mix of modes for their daily mobility as they transition through different stages of life.

Conclusions

In conclusion, young people's choices are not solely guided by the time and cost of alternative options as often assumed in transport models, even though this perspective does play a part in their decision-making. Regarding short-term decisions, factors like affordability and safety often carry more weight. However, in the long run, elements such as aspirations offer insights into how young people regard transportation in their present lives and their visions of the future. Insights from quantitative data need to be connected to a broader spectrum of cultural motivations for mobility, security, progress and independence to understand youth mobility and future trends fully.

The findings of this report indicate an overall reduction in the number of trips made by young people in the Global North (as compared to earlier cohorts of youth). Car ownership, driving and driving licencing are lower for young people compared to older age groups and are declining over time. Yet, young people still rely a lot on cars, especially in rural areas with limited alternatives. Public transport, especially buses, is valued by the youth. A key point to note is that the reduction in car use has not resulted in a significant increase in walking, cycling or use of public transport. Rather, an overall decline in trip-making is observed for young people. While it is challenging to show a causal link between trip-making and access to opportunities in the digital age, researchers have found correlations between mobility constraints and education, employment and health outcomes for youth. Hence, the aim should not be to facilitate car use but rather benefit from the trend of declining auto dependency to promote increased use of sustainable alternatives.

Young people are more multi-modal than other age groups. The advent of shared mobility and micromobility services has given youth additional low-cost mobility options, especially in urban areas. Although the services are seen to mostly replace walking and public transport trips, with their rising popularity, it can be expected that these services will further support the car-free lifestyles of urban youth. Policy makers can encourage greater market penetration of shared mobility services while ensuring adequate regulations are adopted for these services that align with safety and sustainability goals. ICTs have also helped reduce certain trips for shopping, errands, education and employment, although they could give rise to new ones. Policy makers must balance the promotion of ICTs with physical trip-making, as online activity should not increase the social isolation of young people.

In rural areas, it is harder to reduce private car dependency; however, much can be done to improve active mobility infrastructure and bus services while encouraging the uptake of shared mobility services for the overall population. Since the youth already depend on these services and modes more than older age groups, it is an opportunity for policy makers to support long-term sustainable travel behaviour.

In the Global South, the youth are, in fact, already using sustainable modes of transport. They mainly walk, cycle or use informal or formal public transport for most of their trips. Yet, where a large share of the trips are made on foot over long distances, young people do not prefer walking. As highlighted in the African study, walking is commonly viewed as a "necessary but wearisome evil rather than a health-giving exercise" (Porter et al., 2017). Moreover, the lack of basic pedestrian or cycle infrastructure, safety and security concerns, as well as social norms around gender and mobility all make walking and cycling undesirable for youth. This is especially true for young women in the Global South. For these reasons, youth in the Global South aspire to own private motorised transport, either a two-wheeler or a car.

The biggest gap remains the lack of affordable and reliable public transport services in large parts of the Global South. Policy makers can do a lot more to support greater mobility for young people in the Global South to reduce the need to purchase a two-wheeler or a car. Young people are already walking, cycling or using shared motorised transportation, and this behaviour needs to be fostered and rewarded by policy makers. Financially, many cannot afford personal modes of transport, and neither would it enhance the liveability of Global South cities. Urban areas in many low- and middle-income countries are already severely congested and polluted by cars and two-wheelers. Instead, policy makers should mobilise resources to build mass rapid transport systems (buses or trains depending on feasibility), invest in high-quality local bus services and include informal transport operators in the formal transport planning system. Policy makers must regulate the safety, operating standards and standardisation of fares of both formal and informal transport systems. Rural areas also require attention with the provision of all-season roads for walking, cycling and some vehicular access. Moreover, an accessible network of education, health and leisure facilities within short travel distances is required for the youth in rural and urban areas.

Finally, country-specific data and studies are required from the Global North and the Global South to fully understand how young adults travel, how this relates to life stages, and how it compares to earlier cohorts. Currently, such in-depth data, both aggregate and disaggregate, at the national as well as at the regional/local level are missing in many countries, especially in the Global South. This hinders the analysis of youth mobility. Experts interviewed for this report also emphasise that more research and evidence are required to comprehend public and private transport's impact on youth life opportunities. Thus, this report recommends that authorities fund surveys, studies and research to fully grasp the complexity of youth mobility and analyse trends and patterns going forward.

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International Transport Forum

Youth on the Move
Young People and Transport
in the 21st Century

How young people use transport matters for society. Transport connects them to education, work, friends and other opportunities. Mobility patterns of the younger generation also matter for sustainability, economic development, liveability, health and well-being. Yet, young people's views are rarely factored into transport policy explicitly. This report addresses the gap by reviewing young citizens' travel patterns and behaviours, identifying their expectations regarding mobility and life opportunities and investigating their mobility-relevant experiences, capabilities and skills. To maximise the potential of youth, it is important that governments, communities, and other stakeholders ensure all young people have access to safe and affordable transport. It is also important to engage young people in the planning and implementation of transport initiatives so that their needs are met.

OECD