



Towards More Sustainable Student Mobility

Best Practices, Challenges and
Leverage Points for European
Higher Education Institutions

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Editor

Sustainability Hub

Authorship

Dr. Rebecca Leber
with contributions from
Somara Gantenbein
Linde Warland
Afra Schacher (Global Student Experience)

Photography

Pixifant via Pixabay

Contact

University of Zurich
Sustainability Hub
Stampfenbachstrasse 73
8006 Zurich
info@sustainability.uzh.ch
www.sustainability.uzh.ch



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List of Abbreviations of mentioned Higher Education Institutions

DTU = Technical University of Denmark
EPFL = Swiss Federal Institute of Technology in Lausanne
ETHZ = Swiss Federal Institute of Technology in Zurich
KUL = Catholic University of Leuven
UKN = University of Konstanz
UZH = University of Zurich
WU = Vienna University of Economics and Business
ZHAW = Zurich University of Applied Sciences

Introduction

Student Mobility and Environmental Impact

Student mobility can foster personal and professional growth by enhancing skill development, intercultural competences, networking and employability¹. Higher Education Institutions (HEIs), on the other hand, can benefit from international student mobility reputationally². However, the resulting drive to pursue internationalization creates a dilemma with rising sustainability targets³, as increased student mobility can also increase greenhouse gas emissions (hereafter: “emissions”). Indeed, worldwide student mobility has grown from nearly two million internationally mobile tertiary students in 1998 to almost seven million in 2022⁴. Emissions were estimated to be a potentially significant share of HEI travel emissions⁵, with air travel being the most popular means of transport by far even within Europe⁶. To assess the extent of student mobility emissions and set goals on reductions, data and evaluation criteria are necessary. However, as opposed to staff mobility, data on student mobility is usually not readily available via evidence of reimbursement processes and therefore, emissions calculations are impaired. Thus, to date, only a few HEIs report on their emissions caused by student mobility.

Scope and Aim of the Report

When referring to student mobility in this report, we usually refer to exchange semesters (both Erasmus+/Swiss-European Mobility Programme (SEMP) and “international”), internships and short-term mobilities (summer/winter schools and Blended Intensive Programs (BIPs)). We will also touch upon curricular trips, including field studies. Other aspects of student mobility, such as regular commutes, travels of degree-seeking students with an international educational background and access for disabled students, are beyond the scope of this report.

The aim of this report is to detect leverage points for improving emission calculation of student mobility

and to identify measures to increase the sustainability of student mobility. To achieve this, we interviewed representatives of sustainability and international (student) offices from eight renowned European HEIs on their current practices, challenges and ideas. This report shall provide inspiration and guidance for HEIs across Europe that want to reduce emissions caused by student mobility and want to shape awareness on sustainable travel of their students – the academic staff and leaders of tomorrow.

Data Collection and Analysis of Student Travel Emissions: Current Approaches, Challenges and Ideas

Data Collection Approaches

Based on our interviews with eight European HEIs, most of the **data collection** on student mobility is done centrally by international (student) or academic service offices as part of an exchange program’s application process, credit transfer or final report. Depending on the HEI, data is gathered before or after an exchange program or a longer internship. Some gather it during the application process (e.g. Catholic University of Leuven (KUL)), while others include questions in final reports (e.g. University of Zurich (UZH)) or derive it from credit transfer systems (Technical University of Denmark (DTU)). Data collection before the mobility is less accurate, since the actual means of transport might differ from the declaration in the application. Here, optional student-reported updates could be a pragmatic solution to make data more reliable. On the other hand, collecting data via final reports adds to the administrative burden on students after their mobility – a time that is already quite busy with different tasks. Thus, additional questions might overwhelm students or overstretch their goodwill, potentially leading to incorrect or less precise answers. As a trade-off between good data quality and low burden for students, a reasonable number of questions on the means of transport could be developed and included

¹ European Commission (2017). <https://erasmus-plus.ec.europa.eu/eche/the-erasmus-impact-study-effects-of-mobility-on-the-skills-and-employability-of-students-and-the-internationalisation-of-higher-education-institutions>

² Reinold, J. 2018. <https://www.maastrichtuniversity.nl/blog/2018/06/item-benefits-internationalisation-higher-education>

³ McCollum, D. (2023). <https://www.hepi.ac.uk/2023/09/15/university-sustainability-agendas-is-international-student-mobility-the-elephant-in-the-room/>

⁴ UNESCO Institute for Statistics. Accessed 17.01.2026

⁵ Davies, J. C. & Dunk, R. M. (2015). Flying along the supply chain: accounting for emissions from student air travel in the higher education sector. Carbon Management, 6(5–6), 233–246. <https://doi.org/10.1080/17583004.2016.1151503>

⁶ Erasmus Student Network (2024). ESNsurvey XV edition. https://esn.org/sites/default/files/news/xv-esnsurvey_final-report.pdf

in already existing applications or reporting structures. Such questions could gather data on the main means of transport between the home location and destination and distinguish between the outbound and return journeys, to allow more accurate calculations.

Some HEIs stated that data collection on **incoming students** is difficult, observing lower commitment than from their own institution's outgoing students and facing more restricted time periods for monitoring them. In general, incoming student data collection proved to be a controversial topic. A few HEIs strictly do not collect incoming students' data, while most gather this data but only keep it for internal purposes or clearly separate it from other emissions in their reporting. An integration of emissions based on incoming students at all HEIs would lead to double counting with outgoing students' emissions of their home HEIs. However, to date, there is no clear rule for this matter, and the (partial) responsibility of the emissions is a matter of debate.

For **long-term mobilities**, different views existed on whether or not to assess travels and emissions beyond the student's one-time outbound and return journey. Such journeys could include additional travels between a student's home HEI and the exchange destination, the students' trips during their exchange stay (e.g. to travel neighboring countries), or even travels caused by visiting relatives and friends. While all of this concerns private travel, most HEIs acknowledged that these travels are at least in some way connected to the exchange stay. Even if they cannot be attributed to an HEI's emissions, grasping the extent of these additional travels, even if only vaguely, could point to priorities for awareness-raising efforts.

Student mobility entails more than the above-mentioned mobility formats. There are also **decentrally managed student mobilities**, such as curricular trips managed by faculties. The decentralized structure of most HEIs makes it difficult to collect data on these travels and to do so in a comparable manner. The sustainability office of one of the interviewed HEIs had gathered air travel data on these forms of such student mobility from their

different organizational units in the past via spreadsheets but had to stop this effort due to the related high workload of the decentral units. One interviewee suggested getting an overview on **curricular travels** by including information on travel requirements (i.e. destination and overall means of transport) for each course in existing course catalogues and using this data in combination with the listed number of attending students. In addition to the resulting data availability, the visibility of a course's necessity to travel and the estimated emissions could help students to make informed decisions in their curriculum.

Some HEIs use **central travel booking systems** or travel agencies, providing them with exact data on the means of transport. However, these are often exclusive for flights, and either mostly used for curricular mobilities (e.g. excursions) or else not mandatory for students.

Data Types

If collected, data on the **means of transport** are based on self-reporting of students reflecting the means of transport used for the greater part of the traveled distance (i.e. > 50 percent, outbound and return journey combined). This information is often voluntary. If students request sustainable travel funding – most commonly the “green travel support” (Erasmus+) and the Swiss equivalent, hereafter “grant for eco-friendly travel” (SEMP), which is usually granted if more than 50 percent of the distance is traveled by train, bus, carpooling (and since 2026 boats and ferries when combined with the aforementioned means of transport) – some kind of evidence is required (e.g. train tickets). This offers a basis for emission calculations. Thus, there is a lack of granular data on high-emission travel, most commonly flights. This depicts a challenge, as, for example, the airline and the travel class strongly influence travel emissions^{7,8}. Short-term mobilities (including internships shorter than two months, BIPs and summer/winter schools) usually do not have the same procedures of application or final reporting. Thus, most HEIs have a data gap concerning the means of transport.

⁷ Gössling, S., Klöwer, M., Leitão, J.C. et al. (2026). Large carbon dioxide emissions avoidance potential in improved commercial air transport efficiency. *Commun Earth Environ* 7, 13. <https://doi.org/10.1038/s43247-025-03069-4>

⁸ Bofinger, H. & Strand, J. (2013). Calculating the Carbon Footprint from Different Classes of Air Travel. <https://documents1.worldbank.org/curated/en/141851468168853188/pdf/WPS6471.pdf>

Box 1: Questions on the Means of Transport at UZH

At the University of Zurich, data had been gathered by the Global Student Experience office from exchange programs, internships longer than two months and funded short-term mobilities, but has so far not been used for emissions calculations. As part of the Sustainable Erasmus+ Travel (SET) project⁹, UZH's Global Student Experience office and the Sustainability Hub developed more precise, but still concise questions on the means of transport that are scheduled to be included later this year in the students' final report. The questions, among other things, distinguish between outbound and return journey, capture the times traveled between starting location and destination and ask for travel class and the IATA code of the traveled airports for flights (see Appendix). These questions appear based on dependencies, keeping the effort to a minimum for each student and shall provide the basis for sustainability targets regarding student mobility.

Calculation Methods and Tools

Most HEIs reported that they do not focus on student but rather staff mobility due to limited resources. One HEI reported that they had done the same, but after assessing emissions, found out that student mobility causes roughly the same amount of emissions as staff mobility. Overall, HEIs that calculate student mobility related emissions found that 10-50 percent of their HEI's emissions from flights are caused by student mobility. These numbers, however, should not be directly compared between HEIs, as HEIs use different data as shown above. A basic calculation that can be conducted and used as a reference point for internal goals is the share of student mobilities with granted sustainable travel fund requests of overall student mobilities. Although this does not provide emission values, it is a comprehensive proxy for the share of sustainably traveled mobilities. The most recent values of the interviewed HEIs that calculated this share range from 15-50 percent for Erasmus+/SEMP exchanges.

Granular mobility data of travels that are booked centrally by some HEIs, like the Swiss Federal Institute of Technology in Lausanne (EPFL), can be analyzed analogously to staff mobility. Apart from that, HEIs have either not calculated student travel-related emissions yet or base their calculations on several

assumptions, like economy class flights. The main shared assumptions are:

- Students who do not request a sustainable travel fund use airplanes to travel, unless their destination is in neighboring countries of their home institution and
- students use direct flights between the airports closest to their destination and home institution.

Beyond that, approaches between HEIs differ.

- Several HEIs use the Erasmus distance calculator¹⁰
 - an online tool that provides the distance in a straight line between two locations. One of them (Vienna University of Economics and Business (WU)) uses a pragmatic approach, where flights are then grouped into four categories, based on their distance (domestic flights, up to 1.000 km, up to 4.000 km and > 4.000 km). These categories are universal throughout their country, based on an Austrian tool. While this approach creates low precision emission data, it offers an easy-to-implement solution for limited resources. Other HEIs use these distances as an input for emissions calculations done by external providers.
- DTU uses a tool specifically designed for student mobility from the International Education Sustainability Group (IESG). It allows for different granularities of input data and is used to provide a benchmark on international student travel emissions.

Some interviewees argued that it would be favorable to have a shared tool to make emissions calculated at different HEIs more comparable. However, for internal purposes, HEIs might prefer to compare student mobility emissions to their staff mobility emissions. This would suggest the usage of the same tool/provider for staff and student data, if the granularity of student data allows it.

Box 2: Emissions Estimates at EPFL

A unique approach to create estimates for student mobility emissions is conducted at EPFL: Based on emissions from accurate staff mobility calculations, the mean value of emissions to a certain destination is taken as a proxy for student travel emission. For example, if a student did an exchange semester in Boston, the resulting emissions are estimated by taking the mean of the emission values calculated

⁹ <https://set-project.eu>

¹⁰ <https://erasmus-plus.ec.europa.eu/resources-and-tools/distance-calculator>

from granular data on staff that traveled to Boston and back to EPFL.

Calculation approaches based on assumptions do not capture additional emissions if students used several flights with transfers instead of direct flights. Further, the assumption that students take airplanes between the closest airports to their home HEI and their destination HEI does not necessarily reflect the actual distance traveled by plane. Depending on the data gathering system, this distance might be 0 (e.g., if the HEI does not collect data on the means of transport and assumes flight, but the student traveled by train). If the HEI does collect data on the means of transport for the largest share of the distance, the actual distance flown might be between 0 and 100 percent of the estimated distance. For instance, a student might have traveled 60 percent of the distance by plane and 40 percent by train, thus, stating the plane as the main means of transport, resulting in an overestimation of the flown distance of 40 percent. While more granular data is preferable, calculations based on assumptions are a good starting point for policy purposes, if done consistently.

Measures to Support Sustainable Student Mobility

The following section provides an overview of measures and ideas of the eight interviewed HEIs to support more sustainable student travel.

Financial Incentives and Support

For students, higher costs of train travel compared to flights can be a challenge. Costs for train travel can be up to 30 times higher than the costs of flights on the same day¹¹. Financial incentives for sustainable student mobility include the grant for eco-friendly travel (SEMP)¹² with 100 CHF per mobility and the green travel support for Erasmus+ travels¹³. The latter was recently changed from a fixed rate of 50€ per mobility to a distance-proportionate amount of up to 205€. Sustainable travel funds are often still perceived as too low to cover the higher costs of train tickets

compared to flight tickets. Beyond these funds, and in addition to existent interrail ticket subsidies for Erasmus+ students¹⁴, some HEIs raffle a free interrail ticket among students that report on their motivation for sustainable travel or offer national rail ticket subsidies. One interviewee's idea for achieving even better student price conditions was to increase negotiations with rail providers by collective bargaining of European HEIs, instead of focusing on individual deals. Further, some HEIs have an internal carbon tax within organizational units on flights, which is then used, among other things, to support sustainable means of transport, such as train travel. These systems are mostly relevant for staff; however, they depict a leverage for curricular mobilities organized by these units.

Information and Raising Awareness

Financial incentives can only address part of the challenges. International travel by train is significantly more difficult to plan and book, while also consuming more of a highly precious resource: time. Therefore, making sustainable travel more straightforward and raising awareness on the environmental impact of decisions before students prepare to travel abroad is another important aspect. According to one interviewee, there is a need for a European travel app that makes the process of planning and booking sustainable travels as easy as booking the cheapest flight. Most HEIs have some form of digital resources on sustainable travel. Additional information material and inspiring inputs are available from the SET project, such as the recorded webinar of green travel story tellers¹⁵. Thus, the potentially overwhelming task of organizing a sustainable travel is broken down to an easy-to-follow step-by-step process. HEIs share their practices in networks, like the Climate Action Network for International Educators (CANIE)¹⁶ and the Swiss Network for Sustainable Academic Travel (SNSAT)¹⁷.

¹¹ Greenpeace Central and Eastern Europe (2023). <https://greenpeace.at/uploads/2023/07/report-ticket-prices-of-planes-vs-trains-in-europe.pdf>

¹² Movetia (2021). <https://movetia.ch/en/magazine/a-toolkit-for-greener-mobility>. Accessed 04.05.2026

¹³ European Commission (2025). Erasmus+ Programme Guide 2026. <https://erasmus-plus.ec.europa.eu/resources-and-tools/documents-and-guidelines/erasmus-programme-guide-2026>

¹⁴ <https://www.interrail.eu/en/interrail-passes/erasmus>. Accessed 04.05.2026.

¹⁵ <https://www.youtube.com/watch?v=rscTHNxZIEE>

¹⁶ <https://canie.org/>

¹⁷ <https://www.swissuniversities.ch/themen/nachhaltigkeit/gemeinsame-initiativen-der-hochschulen-1>

The following table displays additional awareness-raising measures and examples of HEIs conducting them.

Measure	Target Group	HEI
Sharing student experiences of sustainable travel on websites/social media (e.g. Youtube Video ¹⁸)	Outgoing students	ETHZ ¹⁹
Mandatory sustainability course before mobility departure	Outgoing students	DTU
One-on-one counseling during nomination process (e.g. including the promotion of immersion in local culture instead of frequent travel during exchange)	Outgoing students	UKN ²⁰ , KUL
Obligatory decision for or against environmentally friendly travel at an early stage of the application process, including helptext on the requirements of sustainable travel support and related links (decision-making aid and tips for sustainable travel)	Outgoing students	ZHAW ²¹
Slide decks for staff or international offices to use at info sessions for future mobile students	Outgoing & incoming students	KUL, UZH
Welcome events with interactive sustainability workshops	Incoming students	DTU
Welcome emails with information on ecological footprint and handprint	Incoming students	KUL
Campaigns and exhibitions (e.g. visualization of CO ₂ emissions on campus ²²)	Students (general)	EPFL

Podcasts and interviews addressing sustainable mobility

Students (general) KUL

Exchanges with student initiatives to increase student engagement by peer-to-peer outreach

Students (general) ETHZ

Beyond these measures, interviewees had several ideas, including the visualization of mobility impact (emissions) during application, developing a joint Digipass²³ sustainability module with other European HEIs and transparent indications of required (air) travel in course catalogues.

Structural and Policy Measures

While most HEIs have binding sustainable travel policies for staff, such policies for students (beyond recommendations) are not in place at most of the interviewed HEIs, with two partial exceptions. At UZH, short-term mobilities where air travel will most likely be necessary are only promoted and funded if the duration is at least three weeks. EPFL, on the other hand, anchored in a directive that any curricular travel (including summer schools) must be traveled by train if the destination is reachable within six hours. An interviewee suggested that such an approach could potentially be applied to any kind of scholarship, requiring sustainable travel as a condition for short distances, or even longer distances if they can be reached by train (leaving room for rare exceptions dependent on individual student impairment). Another possible example of the development and establishment of sustainable travel policies, referred to by the interviewee, could be for joint European study programs such as the Una Europa Bachelor in Sustainability (BASUS). BASUS is an international joint degree offered by eight universities from different European countries. As part of the program, both teaching staff and students have to travel repeatedly between European universities. Since this increased mobility requirement is in tension with the program's emphasis on sustainability, BASUS could be a particularly suitable framework for developing and

¹⁸ <https://www.youtube.com/watch?v=T1G1zbxBsbY>

¹⁹ Abbreviation of Swiss Federal Institute of Technology in Zurich

²⁰ Abbreviation of University of Konstanz

²¹ Abbreviation of Zurich University of Applied Sciences

²² <https://www.epfl.ch/campus/mobility/mobility-and-travel/academic-travel/travel-environmental-impact/exhibition-on-the-carbon-footprint-of-air-travel/>

²³ <https://digi-pass.eu/>

testing the implementation of a sustainable travel policy for staff and students.

In the case of Erasmus+ exchange programs, the Erasmus Charter for Higher Education (ECHE) builds the foundation of quality standards. Some of the interviewed HEIs stressed their hope for a stronger inclusion of sustainability in the upcoming revised version of the Charter, as this would provide a better basis for justifying adaptations of HEI policies and guidelines. For international mobilities beyond European destinations, there is a lack of realistically feasible sustainable travel options. Since long-distance flights cause markedly more emissions than short-distance flights, this depicts a serious challenge. One approach to address this challenge to some extent could be the stronger promotion of Europe as an attractive destination, portraying its diversity in culture, landscape and languages.

At ZHAW, all departments consensually decided to focus on and exclusively use SEMP-funding for within-Europe mobility, although not strictly hindering their students to participate in international programs beyond Europe. Ultimately, HEIs that do not want to limit their overall support for long-distance mobilities while reducing the resulting emissions are currently left with the option of compensation payments, if their state legislation allows for such a measure. One of the interviewed HEIs is internally debating this approach, including a resulting reduction of the respective scholarship type.

Regardless of the structural approach, several HEIs stressed the importance of continuous efforts towards raising awareness in key leadership positions for the need for sustainable student mobility.

“What we as a university want to do is to reach a life-changing experience with global competences preparing for global citizenship. Do we really need to send our students that far? I think just already only on the European continent they can learn so many languages, see so many cultures.”

(Matt Tips, KUL)

Conclusion

Based on interviewing representatives from sustainability and international (student) offices of eight HEIs, we outlined current best practices, challenges, measures and ideas for sustainable student mobility. Emissions from student travel remain less systematically addressed compared to staff travel, with data availability being the central bottleneck for accurate calculations. Methodologies of emissions calculation vary, but overall HEIs rely on pragmatic assumptions for distance-based calculations to establish a consistent internal baseline. While this is a good starting point, a shared approach or tool could increase the comparability of emissions between HEIs. Concerning support measures and incentives, sustainable travel funds are mostly perceived as too low to counteract the high costs of train travel compared to flights. To combat the additional complexity of planning sustainable travel, HEIs raise awareness and offer information in various ways like podcasts or workshops during welcome events. However, a systemic approach of reducing the complexity is needed, as well as policies for sustainable student travel for HEI-funded travels as a solid foundation to act upon. Collaboration between European HEIs and exchanges of best practices offer great potential to push for such systemic solutions. While the dilemma between internationalization and sustainability goals persists, also imperfect emissions calculation for policy purposes and pragmatic actions contribute to reducing the climate impact of student mobility without undermining its value for academic and personal growth.

Appendix

Planned questions on the means of transport in the students' final report of exchange programs at UZH (to be implemented later this year).

1. Primary Mode of Transport – Arrival

Question:

Which mode of transport did you primarily use for your journey to your exchange destination? Please select the mode of transport with which you covered the longest distance. If multiple modes were used for exactly the same distance, please select the one listed first.

Response options:

Airplane, Car, Coach (long-distance bus), Ferry, Train, Other

Additional information (if applicable):

If Airplane: Departure airport (airport code), Arrival airport (airport code), Travel class (Economy, Economy Plus, Business, First)

If Car: Number of additional passengers (excluding yourself) who would have undertaken the journey independently (0, 1, 2, 3, more than 3)

2. Primary Mode of Transport – Return Journey

Question:

Which mode of transport did you primarily use for your return journey? Please select the mode of transport with which you covered the longest distance. If multiple modes were used for exactly the same distance, please select the one listed first. Departure is defined as the journey from the exchange study location back to your permanent place of residence after completion of the exchange.

Response options:

See Question 1

Additional information (if applicable):

See Question 1

3. Additional Trips Between Exchange Destination and Home

Question:

How many additional trips (besides your initial arrival and final departure) did you make between your exchange destination and your home?

Response options:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10

Additional information (if applicable):

If one or more trips were made: Which mode of transport did you primarily use? (Airplane, Car, Coach, Ferry, Train, Other)

4. Additional Travel During Exchange (Other than Home Trips)

Question:

Excluding the trips between your exchange destination and your home: How often did you travel during your stay abroad? A trip is defined as non-routine travel of at least three hours in one direction (day trip or overnight stay) that takes you outside your usual environment. The outward and return journey together count as one trip. Flights count as a trip even if they are shorter than three hours.

Response options:

0, 1–5, 6–15, more than 15

Additional information (if applicable):

If one or more trips were made: Which mode of transport did you primarily use? Please select the mode with which you covered the longest distance (Airplane, Car, Coach, Ferry, Train, Other).