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# What does it mean to be less mobile? Insights from COVID-19 lockdown

Anna Nikolaeva, Ying-Tzu Lin, Samuel Nello-Deakin, Ori Rubin  
& Kim Carlotta von Schönfeld

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#### **Centre for Urban Studies**

University of Amsterdam

Nieuwe Achtergracht 166

1018 WV Amsterdam

The Netherlands

Website: [urbanstudies.uva.nl](http://urbanstudies.uva.nl)

Email: [urbanstudies@uva.nl](mailto:urbanstudies@uva.nl)

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## What does it mean to be less mobile? Insights from COVID-19 lockdown

Anna Nikolaeva (corresponding author)<sup>a</sup> [a.nikolaeva@uva.nl](mailto:a.nikolaeva@uva.nl),

Ying-Tzu Lin<sup>a</sup>, [Y.T.Lin@uva.nl](mailto:Y.T.Lin@uva.nl)

Samuel Nello-Deakin<sup>a,b</sup> [samuel.nello@uab.cat](mailto:samuel.nello@uab.cat)

Ori Rubin<sup>a,c</sup> [ori.rubin@wur.nl](mailto:ori.rubin@wur.nl)

Kim Carlotta von Schönfeld<sup>c</sup> [kcvschoenfeld@posteo.net](mailto:kcvschoenfeld@posteo.net)

<sup>a</sup> Department of Human Geography, Spatial Planning and International Development Studies, University of Amsterdam, Postbus 15629, 1001 NC Amsterdam, The Netherlands

<sup>b</sup> Barcelona Institute of Regional and Metropolitan Studies, Autonomous University of Barcelona, Plaça del Coneixement, edifici MRA, 08193, Cerdanyola del Vallès, Spain

<sup>c</sup> Landscape Architecture and Spatial Planning, Wageningen University and Research, Droevendaalsesteeg 3, 6708 PB, Wageningen, the Netherlands

### Abstract

*Until recently, mainstream approaches to low carbon mobility transitions had largely avoided considering mobility reductions as a serious option, focusing instead on making mobility “cleaner” or more “efficient”. In 2020, however, not going to work or not going anywhere became a reality for hundreds of millions of people as a result of restrictions related to COVID-19. The paper proposes that experiences of a less mobile life under COVID-19 may offer us insight into both the taken-for-granted meanings of mobility in daily life before COVID-19, now made visible, and into the potential hurdles faced by low-carbon mobility transitions ahead. Drawing on the analysis of written interviews with 50 people from various countries, the paper explores what living without commuting means for different people, what experiences they miss, and what they find enjoyable. The results indicate that the majority of respondents miss quite a few aspects of daily mobility, but have also discovered new experiences, routines and meanings that hold their daily life together and make it pleasant. Not commuting, thus, just like commuting itself, simultaneously entails positive and negative experiences for most people. Building on these findings, the paper suggests that mobility transition policies need to accommodate this complexity by looking at which needs particular mobilities fulfil. In a context of reduced mobility (e.g. due to teleworking), this means thinking about how needs related to mobility can be accommodated and orchestrated through employer policies, transportation planning and urban design in a way which strengthens sustainable, inclusive mobilities.*

*Keywords: COVID-19; working from home; teleworking; mobility transitions; commuting; written interview*

## Introduction

Despite ongoing discussions on the contribution of high carbon mobilities to climate change, reducing individual mobility remains a political “taboo” (Gössling & Cohen, 2014; Nikolaeva et al., 2019). At the same time, access to high carbon mobilities is unevenly distributed: it is estimated that a mere 10% of the world population accounts for 80% of all car travel (IPCC, 2014, p. 606). For those who already enjoy the benefits of high carbon mobility, a less mobile life is hard to imagine. This manifests itself in the mainstream societal discussion in most countries, which usually invests hope into some sort of techno-solutionist approach – from the electrification of mobility to making multimodal journeys more attractive via Mobility-as-a-Service platforms (Ferreira et al., 2020; Morgan, 2018; Papa & Ferreira, 2018). Reducing mobility is hence not part of usual sustainable mobility policy packages. Up to 2020, cutting one’s own high carbon mobility voluntarily was seen as an unusual, activist stance – even among sustainable transport academics (Caset, Boussauw, & Storme, 2018; Mkono, 2020). In 2020, however, the global pandemic caused by the spread of the COVID-19 virus completely changed this for dozens of millions of people.

Measures limiting individual movement to minimise the spread of the virus have led to an opportunity to explore how a less or a differently mobile world could look like. From the perspective of the ‘new mobilities’ paradigm (Adey 2010; Cresswell 2006; Sheller and Urry, 2006), this ‘natural experiment’ offers a unique opportunity to see the meaning of mobility crystallizing at an individual level and, possibly, at a societal level. In other words, now that once completely normal and taken-for-granted daily practices of mobility are no longer possible for many people, the meanings of those practices may become clearer. What do people miss, and what do they appreciate about this situation? Does their relationship with their socio-spatial environment change? How does this experience of immobility (or greatly reduced mobility) impact other daily practices? Exploring these questions is important if we aspire to transition to a world less relying on high carbon mobility, since such a transition requires not just a change in the sheer amount of physical *movement*, but also a change of *practices* and *meanings* of mobility (Nikolaeva et. al, 2019, based on Cresswell, 2010). Experiences of a less mobile life under COVID-19 may offer us insight into both the taken-for-granted meanings of mobility in daily life before COVID-19, now made visible, as well as into the potential hurdles for the low-carbon mobility transitions ahead.

Most of the empirical research on the impact of COVID-19 on mobility<sup>1</sup>, however, has been quantitative, focusing on reduction in and changing patterns of mobilities, experiences with working from home across different population groups, and the role of working from home in the aftermath of the pandemic (e.g., Beck et al., 2020; Borkowski et al., 2021; Fatmi, 2020; van der Drift et al., 2021). A few studies have explored the differences in commute appreciation during the lockdown between, for instance, people using different modes of travel or spending different amounts of time on commute prior to the pandemic (Aoustin and Levinson 2021; Rubin et al., 2020). Their findings indirectly point out that mobilities have a non-instrumental dimension and are missed for a variety of reasons, especially by people who cycle and walk. However, from the results of these surveys it is difficult to deduce what the reasons for “longing to travel” are, and mobilities are still interpreted largely instrumentally: for instance, active modes are seen as physical exercise and using public transportation as an opportunity to multitask (Aoustin and Levinson 2021). Except for a few reflexive commentaries (i.e. not based on empirical research) on the meaning of mobility as both exposed and challenged by the global pandemic (Cresswell, 2020; Freudendal-Pedersen and Kesselring 2020), the topic of meaning of mobilities as revealed through new individual experiences of a less mobile life has not been prominently addressed in scholarly debate.

This paper explores how individuals experienced not being able to commute to work or study as a result of COVID-19 restrictions. More specifically, the paper examines what the lack of (previously regular) daily mobility for commuting purposes meant for people *in their own words*. We intentionally focus on the experiences behind the numbers: quite literally so, as the study is a follow-up of a survey with 1009 respondents globally (Rubin et al., 2020). The study employed the written interview method, which, in the context of mobility restrictions and social distancing, was challenging yet appropriate and rewarding. This narrative approach to interviewing, aiming to elicit a free-flowing story, and a two-stage coding process, not driven by a predetermined theoretical framework, allowed us to center our participants’ individual perceptions and provide a unique insight into lived experiences of immobility around the world as a qualitative counterpart to quantitative research on mobility during the global pandemic. In the section that follows, we outline the research design and methods of data collection and analysis in more detail. We proceed to present the results, structured according to the main categories developed during the analysis.

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<sup>1</sup> Reviewing research on transportation and COVID-19 is beyond the scope of this paper. The reader may find overviews of studies, citizen initiatives and policy actions on <https://nacto.org/program/covid19/> and <https://www.urbanmobilityfutures.com/covid-19>

In the closing section, we summarise the main findings, review their implications for understanding daily mobility and low carbon mobility transitions, and suggest directions for future research.

## **Research design and methodology**

### **Interviewee sample**

This research is a follow up of a non-representative survey with 1009 respondents globally that aimed to explore people's experiences with working from home and not commuting in April 2020 (Rubin et al., 2020). The target audience of this survey consisted of people who had not (or had hardly) worked from home before the global pandemic started, and began working from home all or most of the time since the introduction of COVID-19 related restrictions.

In June 2020, written interview requests were sent to 300 people from the pool of survey respondents who had expressed interest in participating in a potential follow-up study. As a result, 50 people (22 women and 28 men) from 12 countries completed the written interview (see Table 1). The interview request was written in English, and participants were encouraged to respond in any of the 11 languages spoken by the members of the research team. At the moment of participation, all respondents worked exclusively from home or, in some cases, most of the time (after a period of having worked only from home).

We thus used a combination of purposive and convenience sampling techniques, which resulted in a *relatively* diverse sample in terms of places of residence, mostly in Global North countries, yet relatively homogenous in terms of types of occupation, and in the sense that all respondents were able to continue exercising their occupation. Partly due to the selection criteria for the survey and, hence, for this study, for the most part our respondents were white-collar workers who could perform their work tasks almost fully from home. In Section 4 we offer some reflections on the implications of the characteristics of our interviewee sample for the results of the study. For now, we wish to emphasize two reasons for us to be satisfied with this sample.

Firstly, the aim of this study was to elicit different stories about the meaning of mobility in daily life and the absence thereof from the perspective of individuals, rather than to provide definitive answers on the impact of COVID-19 on people's relationship with mobility. For this purpose, it sufficed that the differences between interviewees' life circumstances and experiences of restricted mobility were significant – from enjoyment and a sense of peace to feeling trapped, from experiences of stress and exhaustion from juggling work and family obligations to a sense of discovery and freedom. Secondly, it appears that white-collar workers are the primary target group of current discussions on the rediscovery of telework and its potential implications on mobility

and mobility transitions (Beck & Hensher, 2021; Hensher, 2020). It is this group who, theoretically, could most easily make the switch to teleworking (and had to make it in 2020).

<b>Gender</b>	<b>Language</b>	<b>Age</b>	<b>Country</b>	<b>Occupation</b>
F	English	64	UK	Advocate
F	Hebrew	38	USA	Scientist
F	English	29	Belgium	Doctoral researcher
F	Dutch	55	Belgium	Project officer
M	English	41	Netherlands	Civil servant
M	Dutch	26	Netherlands	Road engineer
F	English	51	Austria	Musician/teacher
F	English	52	Australia	Local government
M	English	32	UK	PhD student
M	Dutch	64	Netherlands	Consultant
M	Dutch	47	Netherlands	Public servant
M	English	53	Australia	Climate scientist/academic
M	Dutch	25	Netherlands	Software Engineer
F	English	52	Spain	Cellist/cello teacher
M	English	32	UK	Active travel officer
F	English	28	Australia	Urban planner
F	English	55	Germany	Employee
M	English	40	Netherlands	Lecturer

M	English	56	UK	University professor
M	English	43	Germany	Marketing consultant
M	English	26	Netherlands	Mobility consultant
F	English	30	Netherlands	Researcher at a government institute
F	English	32	Poland	Economist/lecturer
M	English	27	USA	IT engineer
F	Dutch	51	Netherlands	Consultant
M	English	43	Netherlands	Facilitator
F	Dutch	40	Netherlands	Office worker
M	English	35	Germany	Research associate
M	English	33	USA	Security Operations Center Supervisor
F	English	30	Germany	Events and communication
M	German	31	Austria	High school teacher
M	Dutch	46	Netherlands	Government/public servant
M	English	51	Netherlands	Personal development coach
M	English	26	Netherlands	Consultant
F	English	55	USA	Senior office administrator
F	French	45	France	Civil servant
M	English	47	UK	Charity worker
F	Dutch	38	Netherlands	General remedial educationalist
F	Hebrew	55	Israel	Teacher

F	English	31	Malaysia	Lecturer
F	Dutch	48	Netherlands	Jurist
M	English	38	Italy	Researcher
M	English	34	Spain	Project manager
F	English	56	UK	Public health practitioner
M	Dutch	57	Germany	Social engineer
M	English	53	Netherlands	HR director
M	English	23	USA	Student
F	English	58	Israel	Scientist
M	English	47	Netherlands	Senior lecturer at uni
M	English	30	Italy	Research fellow

**Table 1. List of interviewees. Source: Authors' own research.**

#### **Data collection: written narrative interviews**

The written interview format – instead of traditional conversational format – was chosen for a number of reasons. Firstly, we decided to adopt a *narrative interview* approach: instead of asking people a series of questions, we wanted to encourage them to tell us a *story* about their experiences, thoughts and feelings with as little as possible guidance on our side (Connelly & Clandinin, 1990; Ayres, 2012). In such narrative approaches, the narrator is given the conditions to develop their narrative structure depending on their own experience (Hollway & Jefferson, 2008) and is encouraged to take responsibility for the meaning and making sense of their story (Polanyi, 1985; Chase, 1995). Our goal was to explore people's experiences in an unprecedented situation and to chart temporary, yet dramatic change in daily mobilities. The uniqueness of this moment, in our opinion, demanded an open-ended, exploratory approach; *written* narrative interviews aiming to elicit a story, shared in a free form, were a good fit for this approach.

Secondly, the decision to opt for written interviews done via email, called by some 'email interviewing', instead of interviews in person (or, due to COVID-19 restrictions, most likely with

the use of programmes such as Skype or Zoom) was also driven by practical and ethical considerations. We needed to take into consideration potentially challenging personal situations of our interviewees (including, for instance, work and household demands, lack of privacy at home, “Zoom fatigue” etc). A written interview that could be filled in within two weeks allowed for more flexibility for respondents. For the research team, it made it possible to collect more stories from all over the world than in-person interviewing would have due to scheduling issues.

Written interviewing or ‘email interviewing’, though still relatively uncommon among qualitative researchers, has been considered as having not only clear advantages in terms of efficiency (saving time and travel costs, reaching wider populations) but also ethical advantages. Participants may have a greater sense of control when they have time to consider questions, edit their responses and send them back when they are comfortable to do so (Fritz & Vandermause, 2018; Hawkins, 2018). There are potential risks and disadvantages associated with the method<sup>2</sup>, such as the necessity to rely on a written narrative without any non-verbal cues, possible interpretation limitations as well as potential exclusion of people for whom such a method may not be a good fit. Yet, since we were engaging with working adults who were computer-literate (they had already participated in an online survey) and, in the view of considerations outlined above, the advantages of this method outweighed the disadvantages.

The narrative interview consisted of a single question: “How has COVID-19 changed your daily mobility, and how do you feel about these changes?” It was followed, after a large blank space, by an elaboration and some optional questions that could be used as writing prompts. Both the text of the interview and the research information sheet were discussed by the research team and shared with colleagues for feedback prior to sending, as in e-mail interviewing this is the key moment in communication (Fritz & Vandermause, 2018). A consent form, in which the handling of personal data and the rights of the participants were explained, was sent alongside the interview request for signing.

### **Data analysis**

The gathered data was analysed using a two stage qualitative coding technique: during the first stage, open coding was applied, which led to four main categories of codes which could be paired into two opposite sets, resulting in a quadrant model as indicated in Table 2. The numbers in brackets indicate the number of people who shared experiences that we coded under a particular category. We use the term ‘immobility’ as a complex label that does not necessarily refer to literal

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<sup>2</sup> For an overview of advantages and disadvantages of email interviewing see Fritz & Vandermause (2018).

lack of mobility, but captures *the absence of regular, usual, routine mobility* – commute, first and foremost. All our respondents used to go to work or school regularly prior to COVID-19 and stopped doing so after the restrictions were introduced. Pandemic-related restrictions also made impossible or changed other mobilities, in some contexts more severely than in others, depending on local policy. These ‘absences’ also inevitably surfaced in the responses, for instance not travelling to see family or friends. While our central focus in the analysis is the lack of commute, those other absent or reduced mobilities often shaped the stories and hence are mentioned in the analysis where relevant.

	Positive impact of the change	Negative impact of the change
Reflection on previous experience	Immobility as relief (18)	Immobility as loss (41)
Discovery of new experiences	Immobility as boon (36)	Immobility as burden (17)

**Table 2. Main coding categories. Source: Authors’ own work.**

During the second stage, the research team members went through the data, coding each story along these categories as well as inductively assigning codes to capture particular themes within each category – specific reasons for experiencing lack of daily mobility as a relief or loss, and so forth. This process consolidated the four top categories and resulted in identifying eleven main themes (Table 3). Main themes were distinguished not only on the basis of the frequency, but also on the basis of their richness and prominence within the narratives. Team members coded stories that were written in their native language or the language they were fluent in. The lead researcher coordinated the coding and checked it for consistency.

## Results

In this section we present our results, beginning with each of the four main categories in subsections 3.1-3.4. Table 3 presents an overview of the main themes within each category. Themes belonging to the categories *Immobility as Loss* and *Immobility as Boon* came up in data more often than others, so the respective sections are also longer. Secondary themes, if applicable, are briefly summarised at the end of each subsection. In Section 3.5, we proceed to discuss interviewees’ accounts of their feelings related to not having to commute and consider what these

reveal about the meanings of commute in their daily lives. Finally, in Section 3.6 we discuss the ambivalence and complexity felt by many interviewees in relation to being less mobile: typically, most interviewees experienced immobility *both* as a positive and negative experience.

<b>Immobility as a relief</b>	<b>Immobility as loss</b>	<b>Immobility as burden</b>	<b>Immobility as boon</b>
<p>Not having to spend time and energy on commuting</p> <p>Relief from the stress of commuting</p>	<p>Loss of previous work-life balance and separation between different spheres of life</p> <p>Loss of time for oneself</p> <p>Missing the physical movement</p> <p>Missing the commute itself associated with freedom, spontaneity and encounter</p> <p>Missing social contact as a result of not ‘going to work’</p>	<p>Monotony, boredom and loneliness</p> <p>Poor concentration</p>	<p>A more leisurely sense of time</p> <p>Deeper engagement with the local community</p>

**Table 3. Overview of the main themes, compiled by the authors.,**

An important recurrent element in the stories was a certain sense of *relief* that the reduction in mobility brought with it. Eighteen interviewees mentioned factors they related somehow to commuting and that they were happy to no longer have in their lives. Two key themes in this category were (1) not having to spend time and energy on commuting and (2) relief from the stress of commuting.

In terms of time and energy spent on commuting, many people saw the new situation under the restrictions as time and energy won back, to use for things they enjoyed more. For example,

“My daily life feels less rushed in terms of the need to be out of the house on time to commute to work – never quite knowing what the traffic would be like and hold ups was a stressor.”<sup>3</sup> (F, 56, the UK<sup>4</sup>)

“From a world where I spent on average 15 hours a week in my car, commuting to [and] from work, I found myself with a lot of extra time and energy. Although driving can be a relaxing and energizing activity for some, I found it dreadful.” (M, 53, the Netherlands)

As these examples also highlight, interviewees often explicitly noted that they were glad to be rid of their commuting experience, especially because they associated it with stress, the second key theme in this category. The theme of relief from stress manifested in other ways too, however; for example, in relation to the stress experienced specifically from commuting by a particular transport mode. Whenever a specific mode was mentioned explicitly in relation to relief to be rid of the commute, this was either the car or the train. In relation to the car, the previous quote exemplifies this, as well as the following one:

“There is nothing about my car commute to work that I miss. I hate driving and try to do it as little as possible, so having back the 50-60 minutes that my round-trip commute takes up is great.” (M, 33, the USA)

The car was thus frequently associated with stress and loss of time when used for commuting. Examples of relief felt due to having no more train commute are given by two other respondents:

“I didn’t miss the anxiety of getting the train at the right time, in order to be able to arrive to work or home in time for all the already planned things. I didn’t miss the frequent and regular delays of the trains. I didn’t miss the crowd on the train (I often travel standing and squished among tens of other people within two square meters). I don’t miss the loss of time (2,5 hours per day) to commute.” (F, 30, Italy)

“The train journey that I mention is not unpleasant in that it is almost entirely along the beautiful east coast but the trains are crowded and it takes a lot of time which I have been able to make better use of usually doing some extra exercise.” (F, 64, the UK)

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<sup>3</sup> All quotations in language other than English were translated by the research team members. Table 1 provides information on the original language of each written interview.

<sup>4</sup> Hereinafter we will provide gender, age and the country of residence as they were indicated by the interviewees.

Less traffic and crowded environments were noted also in more general terms. One interviewee, for instance, noted that less traffic has meant cycling is much more enjoyable:

“It’s been great riding in central London, there have been so much fewer cars, trucks, etc that it’s been fun, and you can’t always say that about cycling in central London.” (M, 47, the UK)

Less car commuting thus appeared to relieve both drivers and people using other modes who would normally be unhappy or unable to commute alongside the cars. Two people noted a relief from the noise of airplanes overhead, and traffic noise in general:

“As we are on the flight path it has been wonderful not having so many planes. We can hear the birds and enjoy our garden.” (F, 64, the UK)

Relief was thus an important feeling people were left with in relation to how the pandemic affected their mobility, or lack thereof. It was perhaps not the most dominant feeling, when seen in comparison to the following sections, but it is a crucial one because it highlights very particular negative associations with commuting among the surveyed group, related mostly to the loss of time, energy and the increase of stress.

### **Immobility as loss**

For forty-one out of fifty interviewees, the transition to working from home meant a loss of what was once appreciated about commuting itself, as well as the destinations. A sense of longing for previous circumstances was repeatedly expressed. Within this category, we identified five main themes: (1) the loss of previous work-life balance and separation between different spheres of life; (2) the loss of time for oneself (3) missing the physical movement; (4) missing the commute itself for the sense of freedom, spontaneity and encounter (5) the loss of social contact as a result of not ‘going to work’ and other restrictions.

Before the pandemic, the delineation between the work sphere and the private sphere was formed in a multitude of ways. First, simply as the physical separation of office space from home, and the different activities conducted in each of these spaces. In the eyes of this interviewee, this separation has disappeared:

“My table in the living room was at the same time my desk and dining table, and my living room was also my office space, eating space and leisure space. I found that very difficult, everything constantly flowed into the other without a clear separation in space and time.” (F, 55, Belgium)

Conducting work from a location otherwise reserved for social activities with family and friends removed the clear boundary between the two worlds. The work environment and the social environment seem to have particular characteristics that serve as signals for the transition from one to the other. The disappearance of these signals due to the absence of commute led to a growing awareness of their role in daily life:

“The change of surroundings, the people around you and the physical distance between home and work are pleasant and these ones you miss now.” (M, 64, the Netherlands)

Second, work and home were separated temporally as two different time frames during the work day, where commuting demarcated the transition between the two. Since commuting was now unnecessary, if not impossible, also this separation has vanished:

“But I do miss my commute. I also miss the activity which created such a good break between work and home, and find it harder to differentiate now, spending many more hours working because there is no clear end point.” (F, 52, Australia)

“Travelling to and back to work helps to build focus and also to gradually relax afterwards.” (M, 41, the Netherlands)

Commuting as a transition activity was perceived as important emotionally. Interviewees repeatedly reflected on the general feeling that travelling gave them: simply the act of arriving and leaving served as an important ‘ritual’ for them to mark the beginning and the end of the work day. Some mentioned small symbolic acts, like putting on office clothes to re-recreate that sense of transition.

Beyond the loss of the ability to emotionally prepare for upcoming tasks, for several interviewees commuting served as a period of time which could be claimed for oneself, unlike activities in the work and family sphere that usually involved others. Depending on the mode used, travel time offered for some interviewees a unique opportunity to engage in solo activities, in an otherwise busy schedule. Especially transit commuters noted how commuting also meant pursuing leisurely activities or doing nothing in particular. Although this interviewee appears to have experienced the way to work as long and complicated, commuting by train and walking for her was a time to enjoy aural activities:

“The only thing I miss is the time alone, listening to music or podcasts. Unfortunately, I do not have a lot of time to do that without travelling.” (F, 38, the USA)

Another interviewee, who commuted by train as well, expressed similar sentiments:

“Having a moment in the day which is only yours and not of the work or the family/friends and in which you can relax and think by yourself, while reading a book, or listening to music, or sleeping, or just thinking.” (F, 30, Italy)

The third theme prominent in this category is the experience of loss of physical movement and exercise, both in terms of their role for one’s health and well-being as well as the sheer pleasure associated with movement. This theme was especially pronounced in the stories of those who used to commute by bicycle. Two interviewees referred in surprisingly similar terms to the positive feelings cycling provided them:

“I miss riding my bike on a regular basis very much. Riding to work helped me to get awake and feel more energetic at the beginning of the day.” (F, 30, Germany)

“I missed the fact that even if I had a bad morning and I was sleepy and moody, after my bike ride to work I always felt great. This was always better than a cup of coffee.” (F, 32, Poland)

Being able to travel offered freedom to combine regular activities with irregular activities and to make haphazard decisions on where and when to go, a sense of spontaneity and encounter (with people or environment). One interviewee talks about the freedom of movement that “does not feel like freedom anymore” (F, 38, the Netherlands). Attempts to mitigate this seemed insufficient to this interviewee:

“I miss walking into town from the university campus to go and have a drink and read books and articles in the pubs and coffee shops I sit and work in. My movement is now relocated to upstairs downstairs around the garden (when weather permits). Walking around the village just for the sake of walking is an unnatural process...” (M, 56, the UK)

Others, urged by a similar feeling of loss, also began to move around more and appeared to have found some contentment:

“I cycle and I walk much more, though it can also surely have to do with the fact that it was spring. Very rarely I go for a car drive, because it is nice. I never did that before. More than half of my trips by car, bike or on foot have no goal except for clearing my head, enjoying the surroundings, doing sports or just seeing the sun.” (M, 25, the Netherlands)

These statements resonate with the idea expressed by a few interviewees who pointed out that commuting is a unique experience that is difficult “difficult to replace” (F, 30, Germany). Seeing people and places is important part of this:

“Travelling itself – I miss that, but then mostly being on the move and seeing things spontaneously and encountering people ... Everything has become more efficient, and maybe that sounds like music to economists’ ears, but for me there is something essential that I miss.” (F, 51, the Netherlands)

“I really like my ride because it makes me feel connected to the neighbourhoods I ride through and to people along the way. I often run into friends along the way and can catch up, so there is also a social element.” (F, 52, Australia)

Until now, all four discussed themes in this section focused on the experience of mobility itself. However, another prominent theme in this category is more related to destinations that people could not go to: missing social contact as a result of not ‘going’ to work (as well as other places). For many interviewees, colleagues form an important part of their social network. Interestingly, for some, interacting with colleagues for social purposes was what made work a spatially constrained activity, that preferably is done at the designated workplace, unlike the actual work tasks, for which the home was a suitable alternative:

“The only part it’s made me realize is how little of my work is really necessary to be in the office for. I could do 90% of work from home, however the social aspect of seeing colleagues is VERY important for mental health and productivity.” (M, 26, the Netherlands, emphasis in the original)

What makes the workplace attractive seems thus to be the opportunities it offers for informal contact, gossip and for “accidentally” hearing “new things and updates” (M, 48, the Netherlands), which according to some respondents were very difficult to replace using digital tools.

Certainly, the negative impact the constrained movement had on interviewees was especially significant for their social contacts outside the work sphere: “I find this quite difficult; as most of my friends do not live close-by, nor does my family, I have not seen many of them since March” (F, 30, the Netherlands). A few people also mentioned international travel both work-related and private as something they miss. While these “missed” mobilities are not central for the aim of our paper, one may plausibly suggest that their absence also may have had an impact on a sense of loneliness and boredom that the next section will discuss in more detail.

### **Immobility as burden**

Seventeen interviewees wrote about negative experiences as a result of not going to work or study. Quite predictably, these themes revolve around both unpleasant experiences with the actual process of working (or studying) from home during the global pandemic, which is not directly connected to a lack of commute, as well as around feelings directly caused by a greatly reduced mobility.

Two key themes recurrently appeared: (1) monotony, boredom and loneliness, and (2) poor concentration. A myriad of very different conditions could lead eventually to one of these themes being mentioned.

The experience of monotony, boredom and loneliness was for many related to fatigue from exclusively digital communication and lack of movement, and even led some interviewees towards feeling depressed. One interviewee summarises these feelings as follows:

“Due to this change of my travel behaviour, my daily rhythm has also changed. During the first two weeks of lockdown I found [it] really difficult to force myself to follow a routine. I couldn’t focus and I couldn’t follow any schedule. [...] Partially because being at home all the time, waking up alone, living alone, eating alone, working in the same room every day and never changing the environment was not giving me the motivation to have regular days, regular meals, regular working hours. But this was making me sad and even more demoralized.” (F, 30, Italy)

“With lockdown I did feel separated from my workplace and work colleagues, my work involved travel between different local towns and meeting different groups of people which I very much enjoyed. So being restricted just to my kitchen table for work has been a mental challenge.” (F, 56, the UK)

“I no longer wear my watch with its fitness/activity tracker. It’s too depressing and besides, I am constantly in front of a computer screen with its nagging timestamp in the lower right-hand corner measuring the substance of the day.” (M, 56, the UK).

For others, the technological solutions for working from home were challenging at best, if not annoying and tiresome.

“Obviously there is a limit to working virtually. You find after a period of 1-2 months that the communicating tools are also tiring and connections can be grueling.” (M, 53, the Netherlands)

Another interviewee combines several burdens in relation to monotony in the following quote:

“Work has come to dominate life in an unpleasant way. Going to the office normally allows me to have some distance, now everything is absorbed into [an] amorphous blob and a small house does not allow for separation between intimate domestic space and the domain of my employer. I hate the communications technologies available. The way that they level all communication to a single undistinguished plane of distorted visual and compressed audio signal.” (M, 56, the UK)

Overall, working from home brought depressing feelings to several interviewees: they spoke of mentally challenging, lonely and monotonous situations. One interviewee felt “like a tiger in a cage”( F, 30, Italy) while another was much more separated from family than usual, as no one could visit each-other and all were spread over several countries:

“I also felt very lonely: my husband was stuck in South Italy, I was stuck in Belgium, our eldest daughter was not allowed to leave Barcelona (where she lives and is writing her PhD), and our youngest daughter is a doctor in a hospital in Munich (where she lives with her partner).” (F, 55, Belgium)

The second theme, the burden of poor concentration, was felt often by respondents who either had difficulty with the lack of distance between work and home, or those who had children living at home. One interviewee made this very visual by describing,

“Another thing that was really difficult: I am in a two-hour teams meeting, my wife is teaching and having conferences on teams and our son is on skype, doing homework with a friend. Three people talking, using the same internet connection. It’s not pretty.” (M, 43, Germany)

Another interviewee noted that, due to trying to work at home,

“I got so stressed that I called my supervisor. I arranged with work that I would only work two days a week and take care of my children on the other days.” (F, 40, the Netherlands)

And for many with kids at home, the challenge was also in taking on teaching tasks, and organizing the schedules of kids as well as their own, meaning that each day felt like constant work although for the formal job not much had been accomplished. For example, one interviewee noted that,

“Anyways it was quite a job to get outside on a daily basis after half a day of work and half a day taking care of the kids and doing homeschooling. To then save some time to go outside and look for a quiet rather than full playground was difficult.” (F, 38, the Netherlands)

For some, working from home has worsened their concentration because ‘home’ conditions were not suitable for working from home, for instance due to traffic noise, or limitations of variety in the local area for catching a breath in between work. One interviewee had recently moved houses and describes,

“During working from home I learned much about the place where I live. I speak more frequently with the neighbours, but there are apparently also a lot of cars and scooters driving past my house - often too fast. The noise of that traffic is louder than I had expected before and I’ve had more difficulties with it during working from home than I expected.” (M, 25, the Netherlands)

### **Immobility as boon**

Thirty-six respondents discussed new positive experiences in their lives without commuting. Their stories suggest that positive appreciations of not commuting were clustered around two main subjects: (1) a more leisurely sense of time, and a (2) deeper engagement with the neighbourhood and local community. Interviewees’ responses also show that that these two themes are closely interlinked: being largely restricted to the local neighbourhood and not having to commute was for some interviewees a major factor leading to having more time, and this increase in available time made it possible for them to engage more deeply than usual with their immediate surroundings.

In contrast to people experiencing higher pressure to work more of their time (see section 3.3), nineteen out of fifty interviewees recounted the opposite experience: they felt they had more time, better time control or flexibility, or felt that the pace of their daily life had slowed down and become more leisurely. This was experienced in a positive light by most interviewees, who considered their previous “regular” lives to be excessively busy or stressful in certain respects. As an interviewee succinctly noted, “My life is much less frantic, which is most pleasant” (F, 64, the UK).

For many interviewees, this new sense of having more time was largely attributable to the time gained from not having to commute to work. As one interviewee put it:

“Thanks to not having to travel I’ve lost that hurried feeling; we can eat a bit earlier, or I have extra time for small chores in the house or the garden. I also find it nice<sup>5</sup> to be home with my family.” (F, 48, Netherlands)

In some cases, this gain in time was also attributed to the fact that interviewees had experienced working from home as more efficient, productive, or more conducive to concentration (although, as the previous section discussed the opposite was true for other interviewees). Indeed, various interviewees were surprised to discover that new IT technologies made adapting to working from home much easier than they had expected, and in certain respects more effective than their previous work routine.

In addition, many interviewees remarked that working from home had resulted in a more flexible schedule which had also freed up extra time within their daily routine:

“I am saving a little more than an hour per day that I used to spend on commute. I had to drive about 30 km to the office. I am spending these hours on doing more sports and mental health (meditation). I walk for an hour regularly and, unlike before, I bike now two or three times per week (on a racing bike). I use this extra flexibility sometimes also to sleep an extra hour or for some extensive cooking”. (M, 25, the Netherlands)

Various interviewees noted that being at home better allowed them to manage their time and balance the competing demands of work and home activities. The following quote nicely illustrates this point:

“I truly enjoy my new morning routine. I get to have lunch with my husband, check on my flowers in the garden, take an hour off when I am waiting on materials from others, and can fill that time with something useful at home” (F, 55, Netherlands).

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<sup>5</sup> The interviewee used the Dutch word “gezellig” which can be translated in a number of ways, including “cosy”, “convivial”, “enjoyable”, “entertaining”.

As a result of having more time on their hands, various interviewees reported that they had been able to devote more time and energy to other activities: hobbies, DIY, cooking, creativity, introversion as well as more physical exercise and local walks. As one interviewee wrote, “[My] rhythm of daily life is now much nicer (-: Involves a lot more walking on my local hills and making brioche for breakfast more often” (F, 51, Austria). Another account expressed itself in similar terms:

“My work day starts earlier - despite getting up at the same time as previously and I finish earlier too - so I also have time after cycling to prepare a meal from scratch more often whereas previously meals would often be quick convenience foods.” (F, 56, England).

Admittedly, these responses need to be understood in the light of the context of the pandemic, which not only resulted in people having more spare time, but also severely limited the range of recreational and leisure options available to people, generally encouraging and home-based or solitary activities over more social or commercial ones. Furthermore, various interviewees also noted that they simply had less work to do as a result of the effects of COVID-19 pandemic on their job.

For many interviewees, the result of having more free time and simultaneously facing restrictions in terms of movement and activities, was a renewed sense of engagement with their local neighbourhood. Indeed, seventeen out of fifty interviewees emphasized that being more immobile (at least as far as long distances are concerned) had led them to discover, enjoy or get to better know their local neighbourhood. This was strongly associated with an increase in daily walks in the local area (reported by ten interviewees), often without a clear purpose. As the following quote notes,

“Since mid-March, almost all my mobility is on foot or by bicycle. This also results in a rather limited travel area: I’m in my own city or in its immediate environs most of the time. While this can feel limiting at times, I also have the feeling it contributed to getting to know my own city and region better and appreciating it more.” (M, 47, Netherlands)

In some cases, interviewees had also started cycling or even driving more frequently as a means of exploring their surroundings, rather than to reach a specific destination (see Section 3.2). The upsurge in local walks also appears to have led to an increasing appreciation of nature. As an interviewee noted, “because I try to go on a daily walk through my neighbourhood (about 45 mins) I spend a lot more time in my direct environment than before. I have noticed things that I didn’t really notice before – breeding birds, for example...” (F, 30, the Netherlands). In part, this increasing appreciation of nature was also enhanced by the fact that many streets and urban areas were quieter than usual, largely as the result of a drop in noise pollution from motorized transport

(see Section 3.1). Likewise, spending more time at home and going for more frequent walks in the local neighbourhood appears to have led to more direct contact with neighbours, as well as a greater sense of local community. The following quotes all clearly illustrate this process in a strikingly similar manner:

“I do think the street and neighbourhood are coming together a bit... You see each other more often. The traffic in the neighbourhood has calmed as well, which makes them more enjoyable...” (M, 43, Netherlands)

“...I have been taking my dogs for much longer walks around the local neighbourhood. They used to get just ten minutes a day, and now it is half an hour or more, up to 5km. This helps me get some exercise that I miss from commuting, and the social element, since I often see people I know and can have a quick chat. It has developed relationships with neighbours more than before.” (F, 52, Australia)

### **The meaning of commuting**

Previous sections focused on what it means not to commute, that is, not to have those daily routines associated with mobility that people had relied on before the pandemic. In this section, we make an additional analytical step, and attempt to reconstruct what commuting meant to our interviewees. We have done this by carefully ‘translating’ the themes capturing the meaning of immobility (see Table 3) into the corresponding meanings of commuting (see Table 4). Most of these are complex, as we wanted to stay close to our data. Some of these meanings are mutually exclusive, while others reinforce each other. In the next section, we discuss this complexity.

<b>Immobility as a relief</b>	<b>Immobility as loss</b>	<b>Immobility as burden</b>	<b>Immobility as boon</b>
Commuting as ...  1. A time-consuming and tiring activity  2. A source of stress	Commuting as...  3. A transition activity, a way to orient oneself in time and space, to prepare emotionally for tasks and encounters ahead	Commuting as...  8. An activity that “contains” work, naturally limiting working hours	Commuting as...  10. A time-consuming activity that structures the day too rigidly

	<p>4. A possibility to be alone and, if desired, pursue other activities</p> <p>5. Physical movement and well-being booster</p> <p>6. Freedom, exploration and encounter</p> <p>7. Pre-condition for seeing people at work</p>	<p>9. An activity that allows reaching places, seeing other people face to face and having a variety of experiences on daily basis</p>	<p>11. An activity that may disconnect one from their local environment and community, as a side-effect of time spent on commute and connections to other places and social circles</p>
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**Table 4. The meanings of commuting, derived from the interview analysis.**

#### **Diversity, complexity and ambivalence of experiences. Beyond commuting.**

By now, the reader may have developed an ambivalent and complex image of what the absence of commuting meant for our interviewees, since insights from one section may contradict results presented in the other: some people feel they gained no extra time whatsoever, while others enjoy the newly found hours, some feel connected and calm, others isolated and anxious. There are indeed stark differences in how different people felt about not commuting in the context of the global pandemic. Sometimes those differences could be related to differences in life circumstances, while other times they were likely a result of differences in character, attitude, interests and values.

A key finding that we would like to highlight is the complexity and ambivalence *within* many individual stories. Most interviewees described *both* positive and negative experiences, and for many there was no clear bottom line, no simple conclusion. Not commuting meant losing important daily experiences and gaining new ones, and the prominence of these (imposed) trade-offs is somewhat reflected in the fact that the two corresponding categories *Immobility as a loss* and *Immobility as a Boon* were identified in the data most frequently. The following quote illustrates how they manifest within a single interview:

“I do not like commuting and I welcome the increased time for sleep and relaxation. In this respect, I do not mind working from home at all and would like to continue to do so part-time in the future (maybe 2 days a week). Part of the reason for this is also that my train commute takes place on a very crowded route and I often have to stand for part of the journey. I do notice that I do not read as much anymore, as I usually do this during my train ride. I also have to put in more effort to stay active and go for a walk during the day now that I do not have my regular routine of biking 2x15 minutes and walking 2x20 minutes a day.

One part of work commuting that I do miss are the trips to other locations – for example for interviews (a significant part of my work). I enjoy visiting other parts of the country and being ‘on the road’, and these trips usually take place during off-peak hours to have more opportunity to work in the train or to relax.” (F, 30, the Netherlands)

If we turn to Table 4, we find negative meanings of commuting (1) and (2), yet also positive associations (5), (6) and (7). Thus, both mobility and immobility can be seen as mixed blessings. Perhaps, as reflection of this complexity, we observed a recurrent theme in our data that can be labelled ‘compensatory mobilities’: some people attempted to reproduce what they enjoyed about the commute, while simultaneously making use of perceived advantages of not commuting, such as flexibility or extra time:

“Even though my commute before the COVID-19 lockdown by bicycle was less than 10 minutes each way, I feel that I have much more time in the day without it. However, I also feel that my daily routine has become very inactive, and I have had to specifically plan taking walks or bike rides since the COVID-19 lockdown ... On the other hand, taking undirected walks and bike rides allowed me to explore new places in the city, learn new streets, and notice aspects that I had not previously seen. ... I have been quite happy with the change and would like to see it remain going forward.” (F, 29, Belgium)

These ‘compensatory mobilities’ most often meant cycling and walking (see Sections 3.1 and 3.4), yet driving for pleasure also was mentioned, e.g.: “Every now and then I drive for an hour or so, because it’s enjoyable. I never did that before” (M, 25, the Netherlands).

Writing about ‘compensatory mobilities’, interviewees often discussed the role of their surrounding environment. In some cases, the built environment was discussed as hostile to walking to the point of impossibility (two interviewees from large US cities were particularly unhappy about this), while a few others have noted the improvement in the quality of public spaces or conditions on the street for active modes since the beginning of the pandemic.

## Conclusions and Discussion

The majority of interviewees missed quite a few aspects of going to work, yet also discovered new experiences, routines and meanings that held their daily life together and made it pleasant. Daily mobility thus clearly performs a variety of functions in people’s life and has multiple meanings,

even for the same person: the same commute is a source of frustration and discovery, pleasant physical exertion and stress, me-time and time that could be spent differently. Accordingly, both commuting and a lack thereof entail positive and negative experiences. These findings highlight the complexity and ambivalence of people's relationship with daily mobility, which is often missed in transport research. We suggest that mobility transition policies need to accommodate this complexity, by looking at what needs particular mobilities fulfil, how these needs are affected by reduced mobility (e.g. due to teleworking), and how they can be accommodated and orchestrated through employer policies, transportation planning and urban design in a way which strengthens sustainable, inclusive mobilities.

### **The rich, complex and elusive meanings of daily mobility**

The majority of our interviewees missed at least some aspects of commuting; some missed their daily journeys a lot and sought ways to compensate, confirming some findings on the surge of travel for travel's sake during lockdown (Hook et. al, 2021). These findings once again underscore how simplistic the notion of mobility as a wasted time that needs to be shortened or eliminated altogether is (Humagain & Singleton, 2020; Mokhtarian & Salomon, 2001; te Brömmelstroet et al., 2021). While the promises of hyperloops and autonomous vehicles center on efficiency, i.e. increasing speed and cutting “unproductive time”, efficiency was not the key heuristic our interviewees used to make sense of their experiences. Moreover, for some interviewees it is precisely this lack of productivity, this “in-betweenness” associated with time for which they do not need to be accountable during their commute, which is missed the most. This meaning of commuting as a pleasant individual or social activity, often associated with active modes (Rubin et al., 2020; Humagain & Singleton, 2020) and as a more conscious choice can be seen as “cultural niches” of low-carbon transition (Sheller, 2012). Such “cultural niches” are not technological innovations, but alternative *meanings* of mobility, the nurturing and upscaling of which can at least partly contribute to a more sustainable mobility future.

### **The promises and pitfalls of telework**

Mobility scholars around the world have focused on the experiences of working from home, often driven by an interest if teleworking can be a ‘solution’ to congestion or to the negative impacts of high carbon mobility in general (Bojovic, Benavides, & Soret, 2020; Beck & Hensher, 2021; Elldér, 2020). Our material shows that while some people experience relief if they do not have to commute, the very same people also see downsides of working from home, including lack of boundaries between spheres of life, poor concentration and missing social contact at work. Knowing more about what people miss about ‘going to work’ we might question whether telework

in itself is a solid and sufficient solution to the issue of mobility-related pollution and carbon emissions.

Crucially for the field of mobility research and low carbon transitions we might also ask what these results mean for how the experience of travel could be organised in a way that supports more sustainable mobility choices? Research indicates that people do not miss long and stressful commutes, but do miss relatively short, pleasant commutes, especially by foot and by bike (Aoustin & Levinson 2021; Rubin et al., 2020; Humagain & Singleton, 2020) which also have well-known health and well-being benefits (Wild & Woodward, 2019; Willis et al., 2013). As our findings suggest, people do not miss stressing out about catching the train and the rigidity of their office work schedule, but they miss a boundary between activities, transition time, physical movement, solitude as well as encounters both at work and on the way. This suggests that car-centric planning, lack of provisions for cycling, poorly designed public spaces, inadequate public transport services as well as some factors related to how work is organised (e.g. lack of flexibility) represent important hurdles for transition to low-carbon mobility, even if more people switch to working from home. Here, a discussion of ‘compensatory mobilities’ is particularly relevant. Car dependency and car-centric planning may essentially cancel the effects of working from home on CO<sub>2</sub> emissions, if people still drive a lot while working from home (Su et al., 2021). We thus propose that, especially if working from home gains prominence in low carbon mobility policies, more research is needed on these ‘compensatory mobilities’, especially on how they are shaped by various factors, including built environment. More generally, we suggest that a transition to low carbon mobility may incorporate supporting telework, yet it also demands investing into safe, accessible, enjoyable public spaces, as well as reliable and inclusive public transport and cycling infrastructure.

### **Commute and the socio-spatial fabric of daily life.**

Our analysis confirms what studies of mobility from a social practice theory perspective (Cass & Faulconbridge, 2016) have highlighted before: commuting is a practice that not only shapes morning and evening routines but is linked to the timing and spatialities of various other practices throughout the day. When commuting disappeared, interviewees recombined the remaining elements of their daily schedules and sought to develop new ones to (re)create a life they found productive and enjoyable. If we are to understand how high carbon mobility systems can change, we need to understand better what kind of practices are or used to be dependent on commuting. This question is inextricably linked to the organisation of space. While the majority of interviewees lived in urban neighbourhoods, the perception of these neighbourhoods ranged from places where interviewees felt they could not safely walk to places where interviewees missed walking and cycling

to work because of how pleasant it was. Cities around the world are designed for regular daily mobilities, with massive amounts of space allocated to catering for commuters, with some forms of mobility and some groups being better catered to (Nello-Deakin, 2019). Experiments with urban public space, pop-up bike lanes and roads closing in cities around the world reflect the growing awareness of the mismatch between the needs of less mobile society, a society relying more on proximity and active modes, and urban design (Bertolini, 2020).

Our study also contributes to the discussion of the impact of mobility on everyday sociality. Many interviewees commented on their new interest in their neighbourhood and local community and on how walking and cycling has facilitated developing that (re)discovered bond. Our study thus confirms the idea that active modes encourage a sense of connectedness and building social capital (te Brömmelstroet et al., 2017), yet our results also point out to a peculiar trade-off: not commuting also meant feeling isolated from other important social circles and missing fleeting encounters with strangers. This loss of social engagement due to reduced mobility indirectly suggests that mobility infrastructures are not only physical structures but also should be viewed as social infrastructures to the city (Tonnelat & Kornblum, 2017; Klinenberg, 2018). Thus, planning for mobility (or reduced mobility for that matter) also means intervening in the social fabric of the city, facilitating some connections and cutting others. These findings generate many questions for further research: does this mean that people who commute regularly were very disconnected from their neighbourhoods in their “normal” pre-corona life? Is this new sense of connection the result of the total impact of the pandemic (diminished options not just to travel but to socialise and go out), or does the lack of commuting play a decisive role here?

### **Limitations**

Our sample was limited to (mostly) white-collar workers who did not mention significant personal hardship and for whom this situation may be likelier to work out than for some others. There is potentially some self-selection bias at play, as people who may have very negative experiences during the period of the original survey (Rubin et al., 2020) and our follow-up study were not willing to engage. Also, the responses focusing on mobility might have been influenced by various circumstances related to the pandemic, including stress, anxiety and a sense of isolation resulting from restrictions, other than the imperative to work from home. Another important factor that we could not account for is how respondents' experiences were influenced by their perception of the temporary nature of the restrictions. Future studies could engage with more diverse populations and combine mixed methods strategies to better understand the patterns and

experience of immobility among different groups, as well as follow up how mobility patterns evolve after COVID-19-related restrictions are lifted.

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