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## Notes on the practices and appearances of e-scooters in public space

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## Manuscript Details

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### Abstract

While the legalisation of and policies around e-scooters remain the cause of much debate worldwide, this article sheds lights on e-scooter users' current practices and their interactions with pedestrians in the city. Taking an ethnomethodological approach to public space and mobility, we use video recordings of e-scooter riders to show, firstly, how riders dismount and then move to acquire rights to continue moving, thereby 'playing' with traffic rules, in order to weave rapidly through congested urban environments. Secondly, we examine how e-scooter riders and pedestrians deal with the potentially unexpected appearance of e-scooters via displays of attention, adjustments of speed, and the relative rights and obligations established via category-relevant spaces. The findings offer insights into the integration of e-scooters as one of what may be many new forms of electric powered micro-mobility in urban space.

<b>Keywords</b>	Electric scooters; Ethnomethodology; Public space; Video analysis; Interactions; Accountability.
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<b>Suggested reviewers</b>	Robin Smith

## Submission Files Included in this PDF

### File Name [File Type]

Cover letter.docx [Cover Letter]

Response to reviewers.docx [Response to Reviewers (without Author Details)]

Highlights.docx [Highlights]

Title page.docx [Title Page (with Author Details)]

Blinded manuscript.docx [Manuscript (without Author Details)]

Author statement.docx [Author Statement]

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## Research Data Related to this Submission

There are no linked research data sets for this submission. The following reason is given:  
The data that has been used is confidential

Dear Editor,

We would like to thank you and the reviewers for engaging with our paper. Responding to the requests and comments was very useful to improve the paper. We also used the time we had to re-work the text in order to refine our arguments, and we hope that you and the reviewers will appreciate these revisions. You will find attached a document with our responses inserted in the reviewers' comments.

We will be looking forward to reading back.

Regards,

Sylvaine Tuncer and co-authors

## Reviewer 1

- I have provided two pages of comments on the article, nonetheless if most of my suggestions are followed this would constitute only minor revision. I think the beginning three pages could do with a reorganisation to make it flow better, but in general this is a very good piece of work which makes an original contribution to research on the relatively new phenomenon of e-scooter use in public mobility spaces. The analysis of the video data is well supported by the graphic transcripts and the detail this provides is a very welcome addition to the existing research with its overviewy nature and focus on injury data.

More General Points on ‘A little bit deviant ..’:

- The structure is easy enough to follow, but you could consider some reorganisation/rationalisation of the first three and a half pages. Bits of the Background might better belong in the Introduction, and/or there could be a sub-titled section, effectively about your theoretical stance (EM), which then leads into why video based methodology is so key. For example, I think there are two places in these pages where you get a kind of article-setup ‘our goal for this study’/this paper is about’. So, not a massive rewrite, just with a little editing to make the flow better. **True, we re-arranged the first three and a half pages accordingly.**
- In terms of perspectives utilised, we get mention of EM, EMCA, a nod to Goffman, and a brief nod to Sacks and categorisation analysis. I totally understand the differences and similarities between these and why they are all useful, but readers coming from Geography or other non-sociology backgrounds might have trouble understanding this? Do you really need to offer this much differentiation of source perspectives? For example, the clips analysed are ‘un-worded’, so apart from a general kind of sequential analysis, really there is no explicit CA here, so why not just go with saying this is an EM analysis? Perhaps a footnote could be offered if you feel it important to make the CA connection, and even the Goffman/Sacks connection? **We kept a mention of CA in the methods section, if only because we clearly build on several studies within the field. Overall we have clarified which part of the analysis relies more on which approach, and why.**
- I really like the phrase in the conclusion that e-scooter users ‘have an advantage without taking an advantage’, reinforced by your argument that you have seen coordination and not conflict. However, given the relatively small scale of this study, and that you can only show so much from the video data, is it worth qualifying this a little? That is, I’m sure there is potential conflict between e-scooter users and other users out there on the streets of Paris, so maybe just add that little qualifier. **The interview extract now inserted after Clip 1 (Christine referring to the possibility that the police may see her going through the red light, and be more tolerant because she appears as a pedestrian) does qualify our point that users are indeed trying not to appear too ostensibly as breaking the law.**

Specific Points:

- The title is a little bit wordy, and somewhat strange with the bracketed bit at the beginning. Could you come up with something more succinct? **Yes, we have.** Also, even though the term ‘deviant’ is used only a handful of times, do you want to stick with it? It is a fairly loaded term, and often your use simply means ‘rule-breaking’, which of course is not always ‘deviant’. The trouble with it is that as your paper is sociological, it begs some connection with the sociology of deviance, and that is hardly needed, so perhaps easier to find an alternative term? **Right, we replaced “deviant” with “rule-breaking” or similar.**

- There are a few typos, so a final edit would be good: re-thing (re-think) they can used (p 1); ‘hasting the pace’ (p 8); awkward sentence on p. 7 ‘a very little cumbersome object, these are methods ...’ **We made sure to remove all typos from the text.**
- P. 1 you say e-scooters are light and foldable; actually, many of the rental ones don’t seem easily foldable, or certainly never are in their rental use; plus ‘light’ is relative here: they are heavier than a push scooter due to battery, certainly heavier than a skateboard. Definitely lighter than a bike. So, maybe emphasise relativity? **Sentence revised.**
- P. 1 it is said they ‘continue to be successful’. **Revised.** Qualify this maybe, ie. they are certainly spreading and being rented, but some of the literature shows that the business model of the rental scooter companies is actually very poor/at risk of failure eg see <https://www.sae.org/binaries/content/assets/cm/content/topics/micromobility/sae-micromobility-trend-or-fad-report.pdf>
- Nomenclature: scooter as object vs user – sometime e-scooter is used to refer to both together, sometimes just the object, others times you use e-scooter users. Just some consistency in terms called for? **We replaced with “e-scooter users”.**
- P. 3-4. Relating to potential problems with referring to ‘deviance’, bottom of page 3 you talk of e-s users ‘playing’ with categories, then p 4 the word ‘misbehaviour’ is used. Not a big issue, this just exemplifies a need for a little caution over your own terms/categories. **Yes, revised.**
- P. 3 Smith (2017b: 26) is cited, quoting ‘attention displays’. He does use this, but having first made significant use of Goffman’s initial introduction of the term ‘intention display’. Not a big issue, but perhaps worth a footnote giving non-sociology readers the connection to Goffman’s initial term? **True, thank you, we added a footnote.**
- P. 4 you say e-scooters are numerous on the streets in Paris. I don’t doubt this, but could you perhaps tell us how many rental companies were providing them and if you can access the statistics, an indicative number of how many e-scooters they put on the streets? **We cannot say, actually. These numbers are very difficult to know for sure on the one hand, they change from one week to the next on the other.** Also, could you make it clear in regard to your particular study and the participants if they were riding rental scooters or their own private scooter? **This is now specified.**
- Top paragraph p. 5. Someone not familiar with EM’s approach might find some of this a little contradictory. Within a few sentences you say you are confident of the ‘patterns of the investigated phenomenon’, but just below you quote Garfinkel’s well know bit about ‘aids to a sluggish imagination’ to frame data not as a representation of fundamental regularities. Maybe this ‘complication’ could be avoided? Is Garfinkel necessary here, or just clarify the paragraph? **True, we revised this.**
- P. 5 the indented quote from Sacks isn’t integrated into the discussion. Of course Sacks is great, but this doesn’t really seem necessary here. **Removed**
- P. 6 clarify expression around Christine knowing the red light is for vehicles coming from her right (ambiguous expression). Actually, the red light is for her and the cars, she knows this is to stop progression into incoming traffic from the right which has the green light. **Revised**
- P 9-10 A very useful clip, but given the pedestrian is on a cellphone, could you perhaps include some comment on this, or at least refer to some of the (quite large) literature on pedestrians and ‘cellphone distraction’ (in many countries the term

'cellphone zombie' is frequently used). This could just be a footnote. **The newly inserted idea of "surprise appearance" covers the fact that in both cases, actually, the pedestrian is distracted.**

## **Reviewer 2**

### Overview

This is an interesting and topical paper, which contributes to an emerging discussion about the use of space by users of new transport technologies.

The paper provides a contribution as it currently stands but could be revised to provide greater depth of engagement with theoretical perspectives and a more compelling argument through the use of data collected using different methods.

First, the paper introduces a number of conceptualisations borrowed from elsewhere (e.g. body gloss and moral quickstep). In a primarily empirical paper, the discussion of these concepts is just adequate, however, more in-depth explorations of how these concepts were explained in the original works, how they have been used and critiqued subsequently, and whether this new work helps us to understand, extend, or refine the concepts, would improve this paper. **This is an excellent point, but considering the space limitation, we preferred to focus on the next suggestion.**

Second, the paper focuses on video-ethnography data from 3 e-scooter rides, but the authors note that they also tracked media coverage, engaged in practice observation, and conducted 20 interviews and 10 less formal conversations. Drawing on the data collected from other methods could strengthen the claims being made in the paper, particularly about intentionality (see more detailed comments below). **We have added interview extracts and references to other materials.**

Further, some additional referencing is required (and is noted in the more detailed comments below).

### Detailed comments

1. It would be worth giving some thought to the phrasing used in the paper and to how this allocates agency. For example, the first sentence of the abstract situates e-scooters (not their users or use) as the 'cause of many conflicts worldwide' and highlights interactions between e-scooters (vehicles) and pedestrians (people). There are several similar instances in the paper where agency appears to be allocated to vehicles (rather than their users), and it would be worth considering whether this device is desirable and consistently applied throughout the paper. (See for example also last paragraph of section 2: "In examining conflicts, Smith shows how familiar categories of road users (e.g. cyclists [people], vans [vehicles], and motorbikes [vehicles] etc.) claim their rights to progress, overtake or hold back others."; and first paragraph of section 4: "Second, we analyse how an e-scooter [vehicle] and a pedestrian [person] try to avoid collision and negotiate, in the moment, who will go first."). **Thank you for this very relevant and important point (also raised by Reviewer 1), we carefully tracked any bit of text ascribing agency to e-scooters throughout the text and changed to e-scooter users.**

2. The penultimate line of the abstract refers to ‘new directions to re-thing...’. Should this be ‘re-think’? If not, some explanation of the term ‘re-thing’ is necessary. **Done**
3. The introduction appears to be missing several references. In particular, references should be available for e-scooters often being considered a solution to the last mile problem, the success of e-scooter rental schemes, and the claim that 30-65% of trips under 5km are done with cars in Europe. **Since we could not find the sources, we inserted new statistics indicating the sources.**
4. The start of the Background section notes the evolution of media reporting on e-scooters; as tracking media coverage is noted as one of the methods used in the study, it should be possible to reference, or provide examples, of the media coverage being described. **We inserted references to several articles from acknowledged newspapers as well as a scientific publication.**
5. It is useful to include page numbers on a draft paper for ease of referencing during review. I hope you are able to follow my annotations below.
6. Paragraph starting “Our goal for this study...”: Another paper that may be a useful reference for previous investigations of space negotiation (drawing on Goffman) is: **Added**

Jensen, O. B. (2010). Negotiation in motion: Unpacking a geography of mobility. *Space and Culture*, 13(4), 389-402. doi:10.1177/1206331210374149

It may also be interesting to consider how different groups of users differ in their negotiation of space (e.g. genders, ages, etc.). This may be difficult given the small cohort in this study but could be mentioned in the context of the limitations of a small study and the difficulties of generalising from it (noting such limitations in the methods section would be an appropriate addition). **We added both references in relevant places.** See for example:

Arellano, Juan Francisco (Frank), and Kevin Fang. 2019. “Sunday Drivers, or Too Fast and Too Furious?” *Transport Findings*, December. <https://doi.org/10.32866/001c.11210>.

Golson, H. L., & Dabbs, J. M. (1974). Line-following tendencies among pedestrians: A sex difference. *Personality and Social Psychology Bulletin*, 1(1), 16-18. doi:10.1177/014616727400100106

7. Paragraph starting “Traffic rules both specify and rely...”: Should this paragraph be moved to the results section? It seems to report more on the results of this study than on background information, and could reasonably be included as part of the discussion of results. **True, we moved several paragraphs to the “Findings” section (also in line with Reviewer 1 suggesting we re-order the first three and a half pages).** The note on extensive media reporting should be supported with example references. **References added.**
8. Paragraph starting “We consider these categorial problems...”: Should that be ‘categorical’ problems? **“Categorial” would be the technical term used in ethnomethodology.** Also, referring to ‘correct lane’ may be better than ‘right lane’ to avoid ambiguity for an international audience (for whom the ‘correct’ lane may be either the right or the left!). Very minor points but I thought them worth pointing out as I had noticed them. **Thank you, done.**

9. I am not sure what the final sentence of section 2 is referring to. A little more elaboration of this point would be helpful. **Reviewer 1 raises the same problem, we revised this sentence.**

10. First paragraph in section 4.1: More detailed explanations of body gloss and membership categorisation devices (either here or in the background section) would help to set the scene for the arguments made in later in the Findings section. **The terms are now more extensively explained.**

11. Footnote 2: I do not see the relevance of mentioning ‘other ways e-scooters can avoid stopping at the red light’ unless these are at least described briefly. This footnote should be deleted or expanded. **We removed the footnote.**

12. Paragraph starting “Christine acts in a way...”: As this paragraph refers to rights and obligations it would be helpful to (very briefly) detail what these are in the French context for the benefit of an international audience. For example, in some countries, vehicles may turn on a red light if it is safe to do so, and in some they may not. In some countries, pedestrians have right of way at intersections, in others they do not. If Christine was a pedestrian, waiting to cross, would she be legally allowed to do so at the time when she dismounts the scooter and crosses on foot? **Explanation added.**

13. Paragraph starting “She is a pedestrian...”. Do you have any interview data in which issues of legitimacy in situations such as this are discussed? It would be interesting to add insights on how participants describe these manoeuvres, how legitimate they feel their transformations between pedestrian and e-scooter user are, and whether they feel they are being ‘mildly deviant’ [previous page] or whether this is an externally imposed idea. If so, by whom is it imposed? (You, as the researcher? The media? Other road users?). What are Christine and Vincent’s own perceptions of their deviance or legitimacy? **We now explain that this is common view from users themselves, and inserted an interview extract.**

14. Paragraph starting “In Clip 1, besides (non-)compliance...”: What is the relationship between performing attentiveness for the sake of appearance and legitimacy, and practicing attentiveness for the sake of safety? Are these distinguishable? If not, what can we reasonably conclude in terms of bodily intentions or orientations? **We expanded on how Vincent’s early actions are produced in a way that orients to their future accountability as durably leaving the road.**

15. Paragraph starting “At the same time, Vincent’s actions...”: The final sentence of this paragraph implies an intentional performance of ‘moral order’, can you explain in more detail how you can infer or interpret intent from observation? **See above: this addition also clarifies this point.**

16. Final paragraph of section 4.1. Sentence concludes ‘visible as’...this seems to be a typo or incomplete sentence. **Corrected**

17. Typo: ‘hasting’ should probably be ‘hastening’. **Corrected**

18. Paragraph starting “This sequence displays...”: The third sentence begins “However, it is done...”; I am not clear what the ‘it’ refers to here (is it the ‘double take’ or ‘quickstep’?). The sentence could be clarified by being more specific. **Right, we replaced “it” with “these adjustments”.**



19. Paragraph starting “Our study shows how e-scooter users rely...”: This paragraph again implies intentionality of appearance “they **try** to avoid being seen as taking advantage...”. Again, can you infer this intentionality from observation? Do you have interview data to support this claim and provide a richer report of what participants are *trying* to achieve here? **The representative interview extract after Clip 1 clarifies that this is a common view from users.**

20. Paragraph starting “Video data...”: This first sentence is not a complete sentence and I’m not sure what it means. Could you revise and clarify? **Clarified.**

‘Hatred’ is a very strong word for describing road-user conflict. Would ‘animosity’ work better? **Right, revised.**

Finally, can you make any suggestions about how practitioners might use these findings? Perhaps in facilitating or preventing transformations of users according to policy priorities? What might such changes also accomplish? (E.g. might facilitating transformations encourage multi-modality and the integration of e-scooters into a lower carbon transport system? Or might it increase tension between different users of space with different potential to effect rapid transformations? What else?)

**The discussion and conclusion are now separate sections. In the latter, we expand on how authorities regulated e-scooter use since our study. Thus, while it is difficult to say what practitioners should infer from the practice of “transforming into a pedestrian”, we now emphasise how the debates caused by rental e-scooters have fostered and accelerated a larger debate about the use of public space, especially the space allocated to cars.**

## **Highlights**

- Examines e-scooters as a novel and disruptive presence in urban, public space.
- Using video data, investigate riders' practices and interactions with pedestrians.
- Describes how e-scooters riders switch from vehicle to pedestrian categories.
- Details how the surprise appearance of e-scooters to pedestrians is managed.
- Details e-scooter riders' use of gaze, speed and category-relevant spaces.

## **Notes on the practices and appearances of e-scooters in public space**

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The authors have no competing interest to declare.

# Notes on the practices and appearances of e-scooters in public space

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## Abstract

While the legalisation of and policies around e-scooters remain the cause of much debate worldwide, this article sheds lights on e-scooter users' current practices and their interactions with pedestrians in the city. Taking an ethnomethodological approach to public space and mobility, we use video recordings of e-scooter riders to show, firstly, how riders dismount and then move to acquire rights to continue moving, thereby 'playing' with traffic rules, in order to weave rapidly through congested urban environments. Secondly, we examine how e-scooter riders and pedestrians deal with the potentially unexpected appearance of e-scooters via displays of attention, adjustments of speed, and the relative rights and obligations established via category-relevant spaces. The findings offer insights into the integration of e-scooters as one of what may be many new forms of electric powered micro-mobility in urban space.

## Keywords (max. 6)

Electric scooters; Ethnomethodology; Public space; Video analysis; Interactions; Accountability.

## 1. Introduction

Electric, kick scooters (e-scooters) are single-user vehicles which fit into and expand upon the existing support for motorised vehicles, bicycle and pedestrian transport. They are part of the 'micro-mobility' trend, a diversification of urban transport which includes a variety of small vehicles for individual users and short distances (McKenzie, 2019). They have grown in popularity and use worldwide, and they began to attract public attention in 2017 when several private companies extensively deployed 'free-floating' or 'dockless' rental schemes in one city after another worldwide. Their e-scooters, available on the street, can be 'unlocked' through a mobile app, and left 'locked' anywhere within an allowed perimeter. After trying the rental schemes, many users bought their own e-scooter, so that rented and privately-owned e-scooters suddenly became a conspicuous, controversial and disruptive presence in urban public space. The changes produced by the arrival of e-scooters in cities are nascent, unstable, and difficult to predict.

As a new type of vehicle with particular technical features, e-scooters enable unique mobility practices, and they leave ambiguities in relationship to existing traffic rules when they are first introduced. In addition to the vehicle's novelty, the free-floating, rental system, in itself, has a consequence: many idle (privately-owned) vehicles occupy public space. Thus, both the uses enabled by the vehicle and the rental system upset the normal order of traffic and public space, and occasion conflict between riders and other members of urban public space. The present article takes the disruption of public space as a starting point, and builds on in-depth fieldwork

conducted in Paris in 2018. It provides a first glimpse into how e-scooter users move and navigate through the city; and how they see, avoid, and are responsive to other public space users, in particular pedestrians.

## 2. Background

The pressing urgency of dealing with carbon emissions requires radical changes in how we travel. Passenger cars accounted for 82.9 % of inland passenger transport in the EU in 2016 (Eurostat, 2019), and still 7% of the journeys inside Paris relied on individual cars in 2010<sup>1</sup>, up to 26% for journeys across Paris and its close suburbs (OMNIL, 2010). In terms of energy efficiency, it is hard to see how travel via single occupancy vehicles, weighing many times the weight of the passenger, is sustainable, not to mention the problems of urban congestion and air pollution.

E-scooters allow weaving through dense urban environments, and they provide a solution to the ‘last mile’ problem. They are particularly suitable to intermodal mobilities (Oostendorp and Gebhardt, 2018): privately-owned e-scooters are relatively light and foldable and can be carried on transit, while rental e-scooters can be picked and left at transit stations. As we shall see later, the ease with which a traveller can swap between riding and walking with an e-scooter is both central to its utility and handling it in interaction with other vehicles and pedestrians. Shared mobility schemes, mid-way between private modes and public transit, are now fully integrated in many urban travellers’ daily urban mobilities (Drut, 2018). On the other hand, whether rental e-scooters help reduce automobile transportation is debatable, with several studies suggesting that they are frequently used instead of walking (Portland Bureau of Transportation, 2018; Denver CaCo, 2019).

Because e-scooters are a relatively new phenomenon, the existing studies are mainly reports and surveys based on questionnaires (Portland Bureau of Transportation, 2018; 6t-bureau de recherche, 2019) or on data from rental companies (Lime 2019). These quantitative methods provide information on durations, distances and localisations of journeys; and/or on users’ profiles, motivations, habits, and so on. This statistical view on shared schemes is important and useful to build relevant solutions and develop the e-scooter sector. We are offering a perspective that seeks to understand and reveal elements of how e-scooters riders navigate urban environments, interact with other public space users, and disrupt the interactional organisation of public space.

The conflict around the rights of e-scooter riders touches on longstanding debates on the politics of public space, social equity in access to and sharing of public (Mitchell 2003). Urban cyclists have a long history of struggle to acquire distinct rights and built infrastructures, in the face of opposition from car-use advocates, that resist sharing road space with other users (Jungnickel and Aldred, 2014; Wild et al., 2018). Other categories of microvehicles have been accused of being nuisances and excluded. For example skateboarders are regularly banned from public spaces for making noise and damaging urban furniture (Woolley et al., 2011). With pedestrians standing as e-scooters’ main opponents in Paris, this conflict emerges from e-scooters moving through routes where walking is the dominant form of mobility and copresence, organised around small distances and direct, sensitive (visual and/or auditory) contact between public space users. Indeed, 61% of journeys in Paris were made on foot in 2010 (OMNIL, 2010), and

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<sup>1</sup> Although more recent, preliminary data suggest that light transportation modes have considerably increased recently (OMNIL, 2020).

the city is best known for its shop fronts, restaurant patios, and an atmosphere of neighbourhood life. Like the mountain bikers and hikers in Brown's study of outdoor access practices (2012), e-scooter users and pedestrians share the same paths but not necessarily the same experiences, desires, and ways of navigating and enjoying those paths.

### **3. Aim of the paper and existing work**

The wider project out of which this article emerges used interviews with scooter riders and retailers, observations, and video-recordings of e-scooter rides. This article focuses on the video data and its analysis, for the the findings from the interviews and observations see Tuncer and Brown, 2020. Unlike media reports or second-hand accounts, video data preserves aspects of action otherwise too elusive to capture live, and allows researchers the possibility to inspect repeatedly how each interaction plays out (Heath et al., 2010). Thus, the video data drawn upon in this article provide rich access to e-scooter rider practices and interactions with other members of the public.

In previous research on mobility practices in public space Jensen (2010) adopted a Goffmanian lens to show how pedestrians shape a city centre through their movements, numbers, and relative proximity. While the former approach takes a distance from actors' perspective, van Duppen and Spierings (2019) took a more intimate approach to cyclists' ephemeral, fleeting and embodied experiences of mobility. Their study showed that while making their way through busy intersections demands attention and effort and can be stressful for cyclists, they learn to anticipate others' paths, and based on these expectations they develop strategies to make the crossing as smooth as possible. Closer to our approach there are existing studies drawing on video recordings to focus on cyclists' interactions with other vehicular units (Lloyd, 2019; McIlvenny, 2015; Spinney, 2006; 2011). Our goal for this article is to provide an initial understanding of the organisation of riding an e-scooter in the city through mobile methods, in particular, through ethnographically informed video recordings (Buscher et al., 2010; Heath et al., 2010).

Our approach arises out of ethnomethodology, an approach which studies members' ordinary practices, their reliance on and production of socio-spatial organisation, and their use of categorisation devices (Heritage, 1984; Garfinkel, 1967; Lee and Watson, 1993). In short, it examines peoples' practices or 'ethno-methods'. In the local production of public spaces, ethnomethodology attends closely to routine, observable actions and their accountability in and through those members' practices (Livingston, 1987; Lee and Watson, 1993; Laurier, 2009). This approach has grown in importance in studies of mobility. Recent research has focused on driving lessons and driver training (Broth et al., 2018; de Stefani et al., 2018; Deppermann, 2018; Merlino and Mondada, 2019; Mondada, 2018). Earlier studies revealed how drivers and passengers co-ordinate and manage their driving with each other and in relation to other vehicles (Brown and Laurier, 2012; Haddington, 2012; Laurier et al., 2008; Mondada, 2012) and described specialised forms of driving (Watson, 1999). From these studies it is apparent that timing, spacing and the existing road infrastructure are fundamental resources in organising the courses of action that are emergent, predictable and collaboratively achieved. By staying with the perspective of e-scooter users' and other public space users', we focus on how they move and coordinate with each other, and what resources they draw upon.

### **4. Method and approach**

Paris was one of the earliest European cities to have rental e-scooters (until recently, e-scooters were illegal in both Germany and the UK). They were first introduced in June 2018, and when

we conducted the fieldwork, three companies were offering them in large numbers (though the actual figures were kept secret by those companies). Their rapid success at that time suggests that Parisians and tourists alike found, in these vehicles, something more or different than in the existing transportation modes. The larger project from which the video data emerged, included five weeks of observation in public space, ten interviews with e-scooter owners, ten interviews with users of rental e-scooters, informal conversations with ten shop owners, several days observing sales encounters between staff and customers in an e-scooter shop, and tracking of media coverage, surveys and analyst reports (see Tuncer and Brown, 2020).

The data we are analysing here came from video-records of three e-scooter riders (all of them using their own e-scooter) wearing ‘camera-glasses’ (Licoppe and Figeac, 2018), and the researcher following them on a rental e-scooter wearing a chest-mounted camera. Participants for the video-recordings were recruited as a follow-up to their interviews. All the participants gave their informed consent to be audio- or video-recorded, and for anonymised transcripts of the data to be reported in scientific publications. Van Duppen and Spierings (2019) used a similar ‘ride-along’ method to ours, whereby researchers accompany participants on their journey to also make them talk about what is going on.

We analysed video data using ethnomethodology and multimodal conversation analysis attending closely to participants’ embodied conduct and the material environment (Deppermann, 2013; Streeck et al., 2011). In the empirical section, we analyse four clips drawn from a larger collection involving similar phenomena. The clips are rendered in the form of graphic transcripts (Laurier, 2014). These specific clips were chosen because they exhibit constitutive features of the investigated phenomena. The goal of the analysis is to bring out abiding ‘seen-but-unnoticed’ (Garfinkel, 1986) features of riding that would be recognisable to competent riders, and to show the resources that are made available by participants to make their activity accountable and understandable to others. This follows a common ethnomethodological position on video to help the analyst notice members’ otherwise overlooked everyday practices, as ‘aids to a sluggish imagination’ (Garfinkel, 1967: 38).

## **5. Findings**

Because public debate over the e-scooter is complex and varies with local particulars, we can only sketch it here. While the arrival of e-scooter is initially reported on positively (Lee, 2018), complaints from non-users tend to follow soon, and authorities are urged to regulate (Bremner, 2018). The environmental impact of rental e-scooters, one of the rental companies’ main sales pitches, is then questioned (Hollingsworth et al., 2019), as well as the vehicle’s relative safety (Berman, 2018). A systematic stumbling block in the social acceptance of e-scooters, however, is the competition for public space with pedestrians. It includes two problems: unused rental e-scooters cluttering public space and hampering pedestrian mobility; and accusations of rental e-scooters’ as reckless, disrespectful of traffic rules and dangerous to pedestrians.

The disrespect of traffic rules and the sense of risk to pedestrians are the points of conflict between pedestrians and e-scooter users that we will focus on. Traffic rules are inseparable from vehicle categories: the former both specify and rely on the latter. In French transport law and in Paris local traffic rules, until recently, e-scooters neither existed as a category of vehicles nor belonged to a broader, existing category of vehicles, and consequently they escaped regulation. In relation to their perceived danger, as an unfamiliar category, pedestrians (and members of traffic) regularly struggle to anticipate and predict what e-scooter riders will do, and where they will go, next. Added to which, e-scooter riders routinely and tactically dismount

to leave behind their ‘vehicle’ category to transform into the category of pedestrian so they can circumnavigate rules that apply to other vehicles. In our case study, this triple categorial problem, legal void, unfamiliarity, and category shifting, is a resource and a constraint, for both users and non-users. Pedestrians cannot rely on familiarity nor on formal rules to anticipate e-scooter riders’ conduct and coordinate with them, not least because they might become a fellow pedestrian at any moment. Conversely, as several of our e-scooter interviewees reported, they find it difficult to make their trajectory and speed perceptible and anticipable to other public space users, and hence to coordinate with them. Needless to say, e-scooter users used this legal grey zone, perceptual ambiguity and vehicle-pedestrian shifting in the service of their rapid and barely paused movement through the city. We will see how the awareness of flirting with rules, being unpredictable and shifting between vehicle and pedestrian is manifest in users’ practices.

In line with ethnomethodological studies of mobility, we drew upon video recordings to describe in detail how these new vehicular units – a person riding an e-scooter and a pedestrian pushing or carrying an e-scooter – make their conduct recognisable by others, and coordinate their path by adjusting to the conduct of others on a moment-by-moment basis. Of particular relevance to the arrival of the e-scooter on the spaces of the road and pavement are Smith’s (2017a; 2017b) ethnomethodological studies of, firstly, shared spaces (unmarked junctions and routes where all road-users are required to negotiate their way past one another) and, secondly, disputes between cyclists and drivers. Shared spaces, for Smith, highlight how members of traffic make intelligible and morally accountable their next moves. Smith documented how members produce and recognise “attention displays” (2017b: 26<sup>2</sup>) to coordinate their movements in the absence of the usual infrastructure of give-way lines, traffic lights and cycle lanes. By contrast, in examining conflicts, Smith shows how familiar categories of road users (e.g. cyclists, vans, motorbikes etc.) claim their rights to progress, overtake or hold back others in relation to road markings and features. They make complaints and judge the actions of others through close inspection of just where they are entering, remaining or departing on the spatially categorised road system (e.g. a cyclist complaining when a van enters a cycle lane). As we shall see, e-scooter riders move through the traffic infrastructure almost as if they were in shared spaces, even though the Parisian public spaces have rules that are manifest in painted lines, traffic lights, kerbstones etc. Their flirting with visible rules raises two problems: their right to progress or be in particular spaces, (apparent in the more or less obvious reprimands of others) for being where they should not be; and an immediate ‘what next’ coordination problem, where their trajectory and conduct are even less anticipable by other public space users (given that they are known to not abide by the rules).

We present four short clips extracted from our participants’ video-recorded journeys, to discuss two phenomena. The first picks up the e-scooter riders’ practice of dismounting to switch from moving as a vehicle to moving as a pedestrian. We discuss the moral work these changes of category achieve in terms of accountability towards unknown but co-present and witnessing members of public space (Smith, 2017a). Second, we analyse how an e-scooter and a pedestrian manage the surprise appearance of an e-scooter, and minimise the potential disruption. We show that the encounter is accomplished collaboratively, swiftly via finely embodied cues and responses to the other’s actions but also using the marking for category-relevant spaces (e.g. junction markings, zebra crossings and cycle lanes).

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<sup>2</sup> Here, Smith paraphrases and builds on Goffman’s “intention display” (1971: 31), also making a significant shift from Goffman’s focus on individuals’ externalisation practices to their recipient-designed, inherently interactional and performative character.



#### **4.1 Dismounting the e-scooter to leave behind being a vehicle and to become a pedestrian**

E-scooters are hybrid vehicles that can weave through traffic and dense urban environments because of specific technical qualities. First, they can travel up to 30 km/h on roads or bicycle lanes, and at lower speeds on pavements (legally or not), though still at a much higher speed than pedestrians on the latter. Second, users standing on the platform with their feet close to the ground and legs unhampered in their movements can dismount quickly, and continue on foot, pushing the e-scooter along. Riders can, as we have noted earlier, transfer between being vehicles on the road to becoming pedestrians in order to dodge the rules that obligate them to spot their onward progress.

We consider their categorial shifting in the light of membership categorisation devices which are central repositories of socially shared knowledge which are used to anticipate and judge the actions of others (Sacks, 1972a; Hester and Eglin, 1997; Lee and Watson, 1993). For example, someone seen driving a car in traffic can legitimately be recognised at this moment as a ‘car driver’ expected to do such things as drive on the road in the correct lane, give way to pedestrians on zebra crossings, and be held accountable for not stopping at a red light, driving on the pavement, etc.

Erving Goffman pioneered the exploration of our appearances in public space as certain kinds of character, and the coordination of encounters between inhabitant of public spaces (Goffman 1963; 1971). As soon, and as long, as we are in someone else’s visual field, we are accountable as this or that type of the public space character that we are presenting. In order to be recognised as the sort of person we wish to be, we can control the information we give about ourselves, through “externalisation” and “body gloss” (Goffman, 1971: 11). “Body gloss” is the appearance one gives through their embodied conduct, for example, someone standing on a porch and repeatedly looking at their watch and up to the building can be publicly seen as waiting for someone specific to exit this building and join them. Yet something of what “body gloss” misses is, firstly, that there is more to our making our actions observable and reportable than a body, secondly, the logics of the array of ways in which we act non-verbally and, thirdly, the varied situations in which our characters unfold in public space.

We show in Clip 1, how an e-scooter rider dismounts their vehicle when they get to a red traffic light. Instead of stopping as a vehicle ought to, they simply walk past the red light as a pedestrian is entitled to do, and then resume their journey on, and as, a vehicle shortly after. With Clip 2, we move on to how an e-scooter dismounts and transforms into a pedestrian, but this time in order to leave the road and merge with other pedestrians.

In Clip 1, we join Christine<sup>3</sup> on her morning commute, making rapid progress along a route she knows in great detail. She is approaching a red traffic light, and in French traffic rules, unless a special sign for cyclists gives them special rights, each vehicle has to stop at the red light. The light is also red for pedestrians on the zebra crossing going in the same direction (1.2). At 1.4 she passes through the red light, which is potentially conflictual because Christine could be seen by other road users as simply ‘jumping the red light’. However, we will now examine the details of how she passes the red light. Not stopping at the red light bring her into a Goffmanian realm of exploiting rather than merely producing appearances in public (Sacks, 1972b; Raffle, 2013).

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<sup>3</sup> The names are pseudonyms.

### Clip 1: Dismounting to cross as a temporary pedestrian



1.1 Christine approaches the red light



1.2 She slows down as she comes closer



1.3 She sets foot as she reaches the boundary



1.4 Instead of stopping she starts walking, turns her head to the right



1.5 In the middle of the crossing, she turns her head to the road again



1.6 Near the end of the crossing, she rides the e-scooter again...

Christine is gaining the full benefit of the microvehicle's speed as she overtakes cars even as she is approaching the red light (1.1). Note, however, that she slows down as she approaches the red light (1.2), and so is orienting toward it as a stopping signal for her as a vehicle. We can compare this to, for instance, maintaining the same high speed and racing past the red light – a clear violation of the rule.

Exactly when she reaches the boundary – the red light and the white marking on the road – she takes her left foot off the board and on to the ground, thereby in effect coming into a stop position as an e-scooter rider (1.3). However, in an uninterrupted motion, she removes her right foot from the board too, skips a few steps while still decelerating until hitting a steady slow walking pace, pushing the e-scooter alongside (1.4). By keeping her head turned to the right, she can be seen to monitor the potential coming of cars, visibly ready to give way if one was to arrive. Shortly after, having secured the side road as clear, she turns her head to the road ahead

again (1.5). She continues walking, and as she gets close to the end of the intersection, she climbs on the scooter and resumes her motorised journey (1.6).

Christine's actions in the paragraph above are publicly witnessable and accountable, vis-à-vis cars stopped at the traffic light, near her, or the two persons standing on the porch a few meters away, not to mention the researcher following and filming her. The traffic lights are a particular space of rule-following, rule-breaking and accountability, where one's actions in relation to the rights to progress, being distributed by the lights, are scrutinised and judged and regularly generate conflict in the form of beeping, swearing etc. When she walks, while pushing her e-scooter along, Christine is no longer visible nor accountable as a vehicle rider but as a pedestrian, which, as we argued earlier, implements different rights and obligations. While she has the right to progress, she moves with the attentive and slow speed of a pedestrian edging across at a red light. By slowing down, when she reaches the red light and keeping her head turned to the right thereafter and until she has reached a safe location in the middle of the intersection, Christine shows that she is 'doing being attentive' (compared to 'doing being oblivious' see Liberman 2013; Smith 2017b). She is seen to be moving in a way that she is prepared to stop and give way to an incoming vehicle. Beside orientation to formal rules, there is the obligation, then, of acting and appearing as a safe mobile unit and a responsible urbanite.

By transforming from e-scooter rider to pedestrian pushing an e-scooter, at this specific point in space, she does then demonstrably orient to the red traffic light. Not, though, as admonishing her to stop like the cars stopped on her left, rather as a rule requiring her to dismount – so she is still following a rule. By her exploitation of her potential to transform categories, the rules applicable to the others that can only be vehicles apply to her differently, she is not exactly breaking the rules. The reasoning of dismounting is to show a form of compliance with the red light was a common concern among e-scooter users in our interviews. During the post-ride interview where Christine was viewing this specific clip: *"I step down because if ever the police were around... I'm not within my rights for all that, but there might be more tolerance."*

E-scooters' small size and format are such that they are very well suited to support category switching at junctions and other boundaries which delimit category-relevant rights to progress. Cyclists have long used the tactic of dismounting and walking past the red light yet their dismount and remounting is not so swift and easy, nor does the bike lend itself to become a piece of quasi-luggage.

The difference between a bicycle and an e-scooter becomes more apparent in Clip 2 which involves the same practice of dismounting the e-scooter to become a pedestrian, but where the rider encounters and then blends into the crowd without the complications of having a bicycle beside them. Of more interest to us here is transforming from rider to pedestrian and how it is fitted to merging into a crowd of pedestrians crossing the rider's path rather than moving alone across a junction.

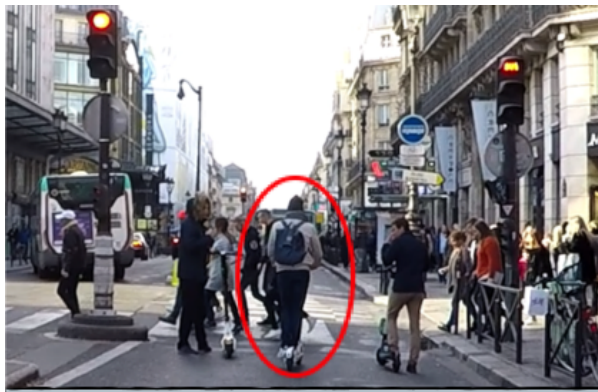
Vincent is out for a Sunday tour in the centre of Paris and, at this particular moment, riding along a shared bus and cycle lane. As the clip starts, he is approaching a red traffic light where two other e-scooter riders have dismounted and halted. Meantime, pedestrians, for whom there is a green light, are crossing the road leftwards in front of Vincent<sup>4</sup>.

### **Clip 2. Dismounting to merge into a pedestrian crowd**

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<sup>4</sup> Incidentally, the two scooter users around him are not in our study. We note that they wait at the red light, showing, if necessary, that e-scooter users do not always jump red lights.





2.1 Vincent slows down as he approaches the red light



2.2 He sets foot as he reaches the boundary



2.3 He starts walking, turns left on the zebra crossing



2.4 He walks along with pedestrians



2.5 He climbs on the pavement and continues as a pedestrian

Vincent slows down as he approaches the red light, his approach closely monitored by the two halted e-scooter riders (2.1). He dismounts, differently from Christine in Clip 1. It begins with a similar deceleration but with a shift in his forward motion (2.1) as he encounters the crowd and looks for a slot to merge into. Yet he manages, like Christine, to keep moving. To join the pedestrian flow, he has to sidestep to the left, almost tripping around the other e-scooter and an obstacle (2.3) Then he matches pace and merges into the pedestrians crossing the road (2.4). Interestingly, he moves along the left boundary of the crossing in such a way that he is visibly not cutting across or disrupting the crossing pedestrians. Once slotted in as another pedestrian unit in the crossing flow he reaches the other side of the road, climbs on the pavement (2.5) and continues walking with them there.

At the outset, when he does not halt, he could be seen not only as going through a red light but disrupting pedestrians that have the right of way. Certainly, the other halted e-scooters monitor his movements closely. Vincent is, nevertheless, able to change the category through his dismount and shifting leftwards to again become pedestrian, but here, by sidestepping trajectory and speed change, becoming a fitted part of a collective pedestrian crossing. Moreover, as the sequence of his activities continues, it provides the accountability for his failure to dismount and halt: he is departing the road. He is doing the equivalent of parking the car and stepping on to the pavement. The microvehicle quality of the e-scooter means it does not require parking and enables him to leave the road almost instantly. It is the fortunate car driver that gets to park and exit their vehicle on the spot.

At the same time, Vincent's actions are not inhabited by the same concern for managing their rule-breaking appearances. Notably, as soon as he steps down from his vehicle, he takes the "natural attitude" of a pedestrian in a crowd, unlike Christine who monitored for potential incoming traffic. In other words, his early actions already orient toward the future accountability where he will be understood to have been leaving the road to 'permanently' become a pedestrian. Although, then, e-scooter riders can easily and quickly dismount their

vehicle to become pedestrians, they do this in visibly distinct ways to orient toward and (to some extent) maintain the moral order of the road.

In Section 4.1, we have focused on the way e-scooter users utilise and change their dual traffic category. Shifting between categories to keep moving requires managing appearances in order to avoid being seen as ignoring, flaunting or protesting the rules when going past a red light. Moving on from how flit between rider and pedestrian, we will now look at how e-scooter riders directly engage with other public space users. In the next section we examine a key feature of the e-scooter, its unexpected appearance for pedestrians and how who should progress first is then rapidly settled.

#### **4.2 The small surprise of an e-scooter's appearance**

In coordinating movement in and through traffic on roads and pavements, members of traffic flows have sensemaking resources such as vehicle category, relative positioning, speed, or trajectory. Moreover, they draw upon material features of the urban environment, such as markings on the road, zebra crossings, traffic lights, cycle-lanes, etc. (cf. Laurier, 2019; Liberman, 2013; Merlino and Mondada, 2019; Smith, 2017b). The Parisian urban infrastructure is replete with various indications of rules which can be used to negotiate who will take rights of way.

As we have noted earlier, e-scooters remain novel, and there is a relative absence of common knowledge of, not only their rights and obligations to other public space users, but also in perceiving and understanding their motion and, thereby, predicting what they can or might do next. In our interviews, e-scooter users said that pedestrians became hesitant when they saw an e-scooter and reacted haphazardly, making it difficult to coordinate with them.

We will catch a hint of those interview reports of hesitancy, at the moment before spatial features then provide the resources to establish, after that hesitation, which category goes first. In Clip 3 an e-scooter approaches a pedestrian on a converging trajectory, and the pedestrian notices them as a potential collidable. Clip 3 is from the same ride as Clip 2. Vincent is driving at the e-scooter's 'road speed' (i.e. fast by pedestrian measures) on the cycle-lane, going in the opposite direction from the cars, and he reaches a curve to the right. Here, we can see that while the zebra crossing is a central resource, the movements of pedestrian and e-scooter, are (eventually) mutually monitored and adjusted, yet there is the element of surprise to the appearance of an e-scooter.

#### **Clip 3: Being civil after an e-scooter surprise**



3.1 Vincent reaches a curve, a pedestrian engages on the crossing



3.2 Vincent slows down, ready to let the pedestrian go first





3.3 The pedestrian turns his head to Vincent...



3.4 ... and suddenly brakes on his right leg



3.5 Vincent turns his head a bit more to the left, the pedestrian resumes walking like before



3.6 The pedestrian quickens his step to climb on the pavement

While Vincent rides around the curve, the pedestrian steps down from the opposite pavement, oriented toward the adjacent zebra crossing (3.1). The latter's gait – hands in his pockets, dawdling and looking down – presents him as an oblivious pedestrian to whom, and for whom, one should be particularly cautious (Smith 2017b). From having been moving fast, Vincent starts to slow down as soon as the pedestrian steps down from the pavement, and, as he closes in (3.2), he is moving slowly, with his head slightly turned toward the pedestrian. In a sense then, he is orienting to the lack of monitoring by the pedestrian to the rapid and relatively silent appearance of his e-scooter. When they are a few meters from each other, the pedestrian turns his head to Vincent (3.3) and shifts pace suddenly, in surprise, so, also, making apparent to Vincent that the e-scooter's appearance has indeed been a surprise. (3.4). In response, Vincent makes a more marked head movement towards him, at the same time as the pedestrian resumes his trajectory, and then turns his head away (3.5).

By the end of their brief encounter, the pedestrian has taken the right of way, not only through continuing to move on the crossing but through Vincent giving another indication via his head turn, that he is offering the right of way. The pedestrian continues, and, as he passes the white cycle-lane marking, he visibly adjusts his pace to show he is hurrying to get out of Vincent's way (3.6). Through this "moral quickstep, ... a quickening of the pace of walking for a few steps that is demonstrably *for* the driver of the vehicle" (Smith, 2017b: 13), the pedestrian displays his concern not to be seen despite his initial dawdling character as taking advantage of his having been given rights of way, and thus also appreciates the e-scooter user's conduct (Laurier, 2019). Building on Smith (2017b), the rapid resolution of the surprise appearance of the e-scooter shows how the zebra crossing as a spatial device for securing rights is oriented to. For both parties, it gives specific, but not unlimited rights to pedestrians, yet who, by hastening the pace, maintain the civility of the public space. Perhaps also the pedestrian orients to the cycle-

lane as giving competing rights to the e-scooter, by accelerating exactly when he enters the cycle-lane. Once the pedestrian has stepped, actually jumped, on to the pavement, Vincent accelerates.

This sequence displays the co-adjustment of the respective mobilities of a category of pedestrian (dawdling and oblivious) and e-scooter rider (decelerating and attentive), relying on the right of way given by the zebra crossing. It is against the background of rules for priority in progression that the e-scooter deceleration, the pedestrian brake and the quickstep are intelligible as meaningful adjustments that produce the encounter as fleeting. While being yet another case of a surprising e-scooter encounter (i.e. unpredictable appearance of an e-scooter) the adjustments of speed are made in a fashion that orients to preserving the continuity of mobility flows, projecting that neither party would stop to even mildly dispute the right of way. The sequential organisation of who should pass and the moral asymmetries that go with it (in particular, the verbalisation of the dispute-relevant categorial pairs found in Smith 2017a) are only barely emergent. There is only a minimal problem in this e-scooter encounter and it contrasts with the next instance where sequential organisation and moral asymmetries become more salient features of the encounter between pedestrian and e-scooter.

Clip 4 takes place in a particularly touristic neighbourhood, busy with all sorts of vehicular units, and the road is narrow. As the clip starts, Vincent is riding slowly on the cycle-lane, in the opposite direction to the cars. Two pedestrians, with their back to Vincent, just stepped down from the pavement in front of him (see 4.1) however it is the third pedestrian, who is crossing toward Vincent, that we are interested in.

#### **Clip 4: Finding the unexpected e-scooter to have a right of way**



4.1 A pedestrian engages on the road on Vincent's left



4.2 The pedestrian approaches Vincent's way, still looking down



4.3 He raises his gaze to the e-scooter rider



4.4 He breaks on his left foot





4.5 He stops, gazes at Vincent's face and maintains his gaze



4.6 Vincent accelerates, the pedestrian looks away

When the pedestrian in front of Vincent is about to move out of his way, our target pedestrian, speaking on the phone, initiates crossing the road from the other side (4.1). While closing in, he remains looking down (4.2). Vincent, monitoring the pedestrian, stays at a slow speed. When the pedestrian raises his gaze to Vincent, perhaps because the e-scooter has entered his peripheral vision (4.3), it is also though, just after setting his foot on the cycle-lane marking, which equally may serve as a prompt to check for approaching bikes. The pedestrian's motion stops and gait changes, visibly producing a pause in his trajectory across the road (4.4). His gaze is now towards the e-scooter connecting his pause in motion to a relevant convergent vehicle (e.g. the e-scooter). Meantime, Vincent turns his head to the pedestrian at this moment, making his monitoring perceptible to the pedestrian. The pedestrian shifts his weight and posture to what then becomes a recognisable complete halt, while sustaining his gaze and thus his encounter with Vincent (4.5). Produced at the marked edge of the cycle lane, the halt shows a recognition of the lane, the recognition of a relevant category of vehicle for that space and thus a shift in what category of road-user has the right of way; while also projecting the later resumption of the pedestrian's walk. Vincent accelerates, and the pedestrian looks away again (4.6), closing their brief encounter.

This organization of giving way and taking way emerges from the passing use of embodied resources: the speed of the e-scooter, the visible break in the progressivity of the walk, the meeting of looks and the occasioned relevance of the cycle lane. As an emergent road traffic encounter, it forms a site of members' analyses of how e-scooters appear, where they appear and to further inferences regarding the honouring of rights of way. According to the particulars of the manner in which a pause in the pedestrian's mobility is made relevant and achieved, inferences can be made regarding the interruptiveness of the e-scooter's behaviour and potential infringements of rights of way. Vincent's slow approach is then a method for minimising an e-scooter as part of 'the shock of the new' in traffic.

## Discussion

E-scooters are new mobile devices, and like the mobile phone, for a while, they become a focus for discussion of conflict, incivility and animosity (Thrift, 2005). The news media have provided an overview of the many problems and potentials of e-scooters at the point when they burst on to certain city's street. The findings in this paper seek to demonstrate the importance of considering how the e-scooter is used, how its novelty is managed, and the tactics that allow its rapid weaving through the city's transport network.



The video data offer unique access to how public spaces of transport are organised on the ground, where rights to pass or progress may fall into conflict or find rapid agreement. The type of encounters we studied here are both fleeting and massively present in city transport systems. They are impossible for an observer to take note of in every detail, yet the details preserved by video recording are crucial to understand exactly how the encounter played out. While our data suggest the prevalence of coordination over conflict, the video analysis helps us understand what e-scooter riders and pedestrians do to maintain not just coordination but a certain civility toward one another.

While of interest to researchers of human interaction, we contend these findings are also of value to practitioners such as urban planners, designers, or policy makers. Understanding how mundane material features of the roadscape are resources for public space users to categorise each other and define local rights and obligations, nourishes reflections on and can inform the design of urban space, urban furniture, vehicles themselves, or regulations over the relative rights of different users.

Across the sections, we moved from rule-bending via category transformation to the potentially unexpected arrivals and movements of the e-scooter. We demonstrated throughout that e-scooter riders draw upon traffic lights, stop lines, cycle-lane lines and zebra crossings for making their movement intelligible and also as markers of spaces of rights and obligations. E-scooter users rely on those very features to bend rules and to avoid the emergence of conflicts or struggles to judge who should pass ahead of whom, arising from the e-scooter's novelty, multi-category status (i.e. is it a pedestrian, is it a scooter, is it a motorised vehicle) and unexpected rapid speed.

## **Conclusion**

Studying e-scooters as an emergent and rapidly growing form of microvehicle in cities, this paper took an ethnomethodological approach to users' riding practices and their interactions with other public space users, especially pedestrians (Lloyd 2019; Wild et al. 2018). Using video-recordings, we began to examine how e-scooter users continue moving when other vehicles stop. We showed part of how they manage the problem of having an advantage over others without appearing to take advantage of others.

We have shown, then, how riders trade upon the e-scooters' microvehicle qualities to weave in dense traffic by rapidly transforming into pedestrians. In our examples, the point of dismounting and walking could be to join pedestrians on pavements, or to go through a red traffic light, the practice thus entitling them to keep moving. The person pushing an e-scooter can join pedestrians on pavements, or orient to a red traffic light by dismounting and sacrificing their e-scooter speed. In the latter case, we showed how the user's movement, through the very details of her embodied actions, exhibited a concern for orienting to the rules even while evading the distribution system the rules seek to produce. In endeavours to reach destinations faster and/or without being halted, e-scooter riders navigate the tension between their riding practices, their safety, and their accountability on each encounter with another member of the transport system. In our cases we showed how they try to minimise being seen as not simply exploitative but also as unexpected (and so perhaps alarming) in their appearance in both public space in general and in encounters with particular others. Detractors of e-scooters often overlook the caution and careful monitoring of the e-scooter rider, but it is apparent if not pervasive in our video data.

After our study was completed, legal restrictions have been created by a number of different places around the world at city and state level to help manage the problems and conflicts around

rental e-scooters. In Paris it has become illegal to use and park e-scooters on pavements, which has then required that scooter parking spaces be created. Considering the minimal free parking space left in Paris, the change in the law is grist to the mill for those demanding that space allocated to large polluting vehicles be drastically reduced (Bertolini et al., 2019). What our study also points toward is that e-scooter and other electric microvehicles require accommodation, as did the arrival of cars. User studies of how these new vehicles utilise the road system and how they interact with existing members of the transports have a role to play in supporting and facilitating exploration in mobilities for a post-carbon world.

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