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**Abstract:**

Personal Mobility Devices (PMDs) such as skateboards and scooters are increasingly considered a form of active transportation in dense urban environments. Due to their growing use, understanding the experience of users is paramount, especially for cities intent on implementing efficient policies and planning that promote sustainable futures. To meet this need, the research examined the dynamic relationships between the built environment and PMD users in a major U.S. metropolitan area, Los Angeles, California. The data used in this study was derived from Instagram posts, written summaries, and photographic evidence and we implemented a participatory digital-photo/diary methodology to investigate how travelers responded to urban features (i.e., streets, sidewalks, land-use, and curbs), and how this relates to potential barriers for this mode. Our findings suggest that many riders encountered rough surfaces and difficult transitions between various paths and routes. Additionally, several built environment types, including smooth pavement and well maintained surfaces, were noted for the relative ease with which they could be ridden. The overall findings tell us that cities and planning agencies need to acknowledge this evidence and apply this towards long-term efforts set on facilitating these active mobilities in an urban setting.

**Keywords:** Urban Infrastructure, Skateboards, Active Transportation, User-generated Content, personal mobility devices

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## 1. Introduction

As cities and individuals confront and negotiate obstacles related to urban mobility, research continues to provide for a greater understanding of how active living mode shares can be elevated. Beyond the everyday convenience of motion offered by non-auto transport, concerns over larger-scaled, globally changing climate challenges are compelling citizens, planners, and government officials to find and promote active transportation modes, which includes mass-transit, bicycling, and walking. A large body of work has generally found that they can encourage physical activity (Celis-Morales et al., 2017), reduce mental stress (Zhu & Fan, 2018), and mitigate environmental externalities (Frank, Iroz-Elardo, MacLeod, & Hong, 2019). As urban areas continue to grapple with finding innovative means to increase active transportation, personal mobility devices (PMDs) such as scooters and skateboards, are attracting greater attention from government officials, researchers, and policy-makers (Populus, 2018).

PMDs are considered active forms of transportation and have witnessed an explosive increase in usage (Fang, Agrawal, and Hooper, 2019). In California, PMDs traveled 48 million miles in 2012 (California Department of Transportation 2012) and accounted for 0.14% of all trips, according to the 2013 California Household Travel Survey (California Department of Transportation, 2013). At least in this state, PMDs are now generally recognized as an active utilitarian form of travel (Fang, 2015). Interestingly, these modes were not designed for utilitarian purposes (Fang and Handy, 2017); rather, as Stratford (2016) contends, they are a ‘playful mobility’ that is also popular, sustainable, and visible. Additionally, PMD use allows

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for an intimate connection to the built environment of our cities, giving them a unique perspective on the condition of urban hardscapes.

Despite PMDs becoming nearly ubiquitous (Populus, 2018), studies on how they can become a more universal active travel mode remain minimal (Harpool, 2018). Noteworthy strides are beginning to take place, however. Fang et al., (2019) recently published a ‘rules for the road’ guide for communities on how to implement, and promote PMD use, and the Victoria Transportation Policy Institute has provided a comprehensive review of how to successfully integrate PMDs with other non-motorized facilities (Litman and Blair, 2017). Notwithstanding these works, debates are emerging, and there remains room for further research on their potential for becoming more commonly used for utilitarian active travel. For instance, while some research points to PMDs as risky, noisy, fire prone (electric only), damaging to infrastructure, and a cause of conflict in shared urban space (Stratford and Harwood, 2001; Teale, 2019; Owens, 2001), others have postulated that they are economical, affordable, and may even reduce congestion (Siman-Tov, et al., 2017).

A common theme in many past works has been the potential risk to PMD users, which is often cited as a major reason why most cities are opposed to them (Lau, 2018). Researchers in New Zealand found injuries to children greater than 12 years old using non-motorized scooters have increased five-fold since 2012 (Wolfaardt and Campbell, 2013), with similar trends found in the U.S. Tuckel et al., (2019) discovered that emergency department visits for skateboarders aged 5-19 steadily rose between the years 2000-2009, but declined thereafter. Despite these statistics, some cities, such as Detroit, have embraced PMDs as a means to increase accessibility (Newman, 2018). This action finds support from Litman et al., (2017) who indicated that PMDs

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provide benefits to users and societies, while Siman-Tov et al., (2017) claim that they can create conflicts, especially in congested situations where accidents may rise or parking may be an issue. The consensus is that they are often in disrepair, impede pedestrian traffic, and are unsightly; however, recent evidence does not support these claims (Fang, et al., 2018). The authors found that in San Jose, California, 90% of the parked scooters did not disrupt pedestrian traffic. The dissonance between the benefits of PMDs versus their hazards continues, contributing to urban encounters that are ambiguous, and often contested. The unique perspective the PMD provides for riders, gives them a sense for the micro-scaled components that shape the quality of our streets and sidewalks. Evaluating how PMD users interact with, and respond to the existing elements of the built environment however, is an area of study not yet investigated.

PMDs have many commonalities to other active modes in terms of their relationship to the built environment. For instance, skateboarders, like pedestrians and bicyclists, are sensitive to surface conditions, distance, and slope (Harpool, 2018). Past research has also found that PMD accident rates mirror bicyclists and pedestrians based on the fact that they are vulnerable road users, travel at slower speeds, and are disproportionately involved in automobile accidents (Fang and Handy, 2017). Scholars have examined scooters in particular, as well as the need to plan for sustainable alternatives while considering the relation between pavement texture and ride comfort level (Lorimer 2015; Kostrzewska and Macikowski 2017; Thigpen, Li and Harvey, 2015). Yet, developing an understanding of what forms of infrastructure might exist that either facilitate or impede the use of PMDs has yet to unfold. Also, the question of what may be done

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to facilitate greater use of streets and sidewalks by PMD riders is lacking in the literature (Fang and Handy, 2017).

Though the field has explored a variety of frameworks for addressing transportation challenges, it can be argued that sidewalk infrastructure, for instance, has been overlooked by planning officials who have tended to focus on the ‘systemic dimensions of travel without engaging with the mundane...’ (Ehrenfeucht and Loukaitou-Sideris, 2010, 462). Ehrenfeucht and Loukaitou-Sideris contend that it would be beneficial to improve sidewalk condition with particular emphasis on fixing cracks and providing greater access, especially in low-income neighborhoods. Yet, less attention has been given to understanding questions of sidewalk quality, street texture, and issues related to smaller features that comprise the built environment. Investigations into the micro-geographies and infrastructures of urban space can lead to greater awareness of the potential barriers to movement in the city, and assist with planning and policy-making. In addition, as PMD usage continues to increase in cities, and decline in suburbs (Tuckel et al., 2019), it is imperative that we obtain additional insights into how PMD users interact with, and respond to, the built environment.

Considering the research above, the overall aim of this study is to understand urban transportation from a PMD perspective, and how this is woven within theoretical frameworks of movement and the production of space, while also considering the active travel literature. The remaining sections of the paper are organized as follows: to situate the unfolding of PMD user experiences, the paper will begin section two with an examination of scholarly literature that focuses on the production of the built environment, contests over proper use of urban space, movement and rhythms, and mobility in relation to PMDs. Next, we will describe the

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methodological approach and results in sections three and four, respectively. We will conclude the paper with limitations and ideas for future work in section five.

## 2. Literature review

### 2.1 *Producing the Built Environment*

Beginning in the 1970s, skateboards (including wheels) incorporated design enhancements that enabled users to move with greater comfort and efficiency. This helped promote this form of travel, as skateboarding has been on the rise since at least the 1980's (Chiu, 2009). Early on, prominent skaters like Stacy Peralta commented on the quality of urethane wheels in stating that they 'gripped like nothing I'd ever ridden' (Balma, 2015, p.7). Along with other influential skaters from Los Angeles - one of the earliest and most prominent regions from which skateboarding emerged - Peralta felt that the smoother ride afforded by these wheels, as well as improved board, bearing, and truck quality opened up vast new stretches of the hardscape. Advances in engineering technology such as the urethane wheels and stronger boards met with substantial additions of urban infrastructure such as roads, pavement, schoolyards, and sidewalks, opening up possibilities that were not available earlier (Platt, 2018). Skateboard (and other) riders responded to the evolving hardscape of the city, becoming adaptive to the urban infrastructure, as well as the policies governing where they could ride.

In his critique of the elevation of capital exchange within urban space, Lefebvre (1991, P. 44) notes: 'If architects (and urban planners) do indeed have a representation of space, whence does it derive? Whose interests are served when it becomes 'operational.' Lefebvre is evaluating a built environment in which the prioritization of space for certain elements (roads, paths, building lots) prescribes a particular usage that, if questioned, becomes a potential site of

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conflict. Accommodating 'non-traditional' users of space (i.e., skateboarders, scooter riders) through standard tools of development - planning and architecture - is not generally a significant concern. Potentially contentious encounters may emerge where social and physical interaction occurs, as the capitalist production of space results in built features that are often jarring, prohibitive, and unsupportive of micro-scaled mobility. The production of specific materials that are '...indispensable and durable: stone, brick, cement and concrete, for example...' allow for the smooth transition from surface to surface for large-scale instruments of exchange (Lefebvre, 1991, p. 105). Less valued (or considered) are the small-scaled surfaces and features, and the ramifications of this oversight on the user of space, the body: 'For it is by means of the body that space is perceived, lived - and produced' (Lefebvre, p. 162). Recognized through the kinetic experience of the wheels and board, this 'perceived, lived and produced' space is the nexus of hardscape and bodily sensation.

Social space for Lefebvre 'contains potentialities' whereby 'a body which by putting up resistance inaugurates the project of a different space (either the space of a counter-culture, or a counter-space in the sense of an initially utopian alternative to actually existing 'real' space)' (349). Within this hardscape of tension and conflict, urban life unfolds. As 'the individual situates his body in its own space and apprehends the space around the body' these conflicts affect the everyday experience of inhabitants of the city (p. 213). Borden, in his engagement with bodies, movement, and urban (capitalist) space bridges Lefebvre's views to the modern practice of skateboarding in the urban realms as 'confronting the social, spatial and temporal logic of capitalist space' (2001, p. 21). Space and user meet resulting in '...a crash and rebirth of self, body and terrain' as skateboarders and others contribute to this messy encounter while

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appropriating elements of the built environment such as handrails, steps, roads, and paths (Borden, 2019, p. 192). Skateboarding inscribes meaning ‘where previously there was only the most banal of uses,’ contributing to a variety of actions that are wholly unexpected - and often shocking - to the planners, civic leaders, and more ‘traditional’ users of space (Borden, 2001, p. 10). By expanding on Lefebvre’s views, Borden allows us to consider specific ways in which skateboarders use, and interpret the built environment.

Situating the skateboarding body in urban space is a physical act, and as such has often led to conflict with city leaders and their prioritization of road networks, parking zones, curb cuts, corporate plazas, stormwater management. Overlooked are the smaller-scaled elements that comprise these sites of capital exchange, as well as the potential for re-use of urban infrastructure by those who operate outside the dominant discourse of mobility. ‘Failing’ to accept the city as is, skateboarders react with their bodies to ‘redefine space and the city,’ as both a reaction to, and influence on the politics that shape the built environment (Chiu, 2009, p. 27). Through their actions, skateboarders and others transfer their intimate knowledge of, and experience with the physical city directly to the body, and through creative reinterpretation, socially produce a new space. Within these competing narratives over proper urban activity, municipal officials typically view skateboarding as an activity that ‘does not contribute to either capitalist consumption or production’ prompting them to question the ‘non-traditional’ movements and appropriations of everyday space associated with PMDs (Carr, 2010, p. 994). This perception has contributed to ‘skateproofing’ the urban environment, in addition to debates over how to plan for, and manage skateboarding in public space (Carr et al., 2009; Stratford, 2002). One ‘solution’ to this issue has been the construction of skateparks, designed to remake

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‘urban elements such as stairs, rails, kerbs and barriers to re-create a simulacra of the natural built environment’ (Glenny and O'Connor, 2019, P. 840).

In many cities, municipal officials have sought to construct skateparks as an attempt to physically and socially embed skaters in particular public spaces. Leaders view dedicated sites as more appropriate, while also helping to relieve liability concerns, secure grant funding, and promote personal responsibility, self-sufficiency and entrepreneurialism; tenets of neoliberal governance that have been associated with skateparks (Howell, 2008). Through legal and political frameworks, skateparks are often placed in specific, spatially-fixed locations, in some cases contributing to gentrification. City leaders in Seattle for example, devised a master plan in which the ‘disorder posed by concentrations of teens in public space’ would be relegated to lower-income neighborhoods, as the city’s political and economic elite used their status to push skateparks away from their wealthier neighborhoods (Carr et al., 2009, p. 1974). In contrast, the presence of ‘scruffy’ and ‘rude’ skateboarders in Philadelphia’s Love Park has been viewed by Richard Florida as part of a creative class which would eventually help lead the city to economic and cultural prosperity, ultimately serving as the ‘shock troops’ of gentrification (Howell, 2005). Whether as ‘shock troops,’ or relegated to the periphery of the city by those who prefer the status quo, contestation over proper use of public space, and placement of skateboarding facilities extends beyond the skatepark and includes other ‘everyday’ sites, structures, and spaces.

Wooley and Johns (2001) have argued that skateboarders ‘eye stuff’ nobody else notices, rendering certain elements of the hardscape visible (p. 224). Such components, though generally ‘invisible’ or overlooked by others, become usable spaces for skateboarders, leading

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to ambiguous and contested interactions. Confrontations arise where, depending on intention, users express frustration at 'other people using this space for different reasons' which often results in 'conflicting perceptions of what is appropriate' (Nolan, 2003, p. 312). This plays out in 'everyday settings' as 'skateboarders take over space conceptually as well as physically and so strike at the very heart of what everyone else understands by the city' (Borden, 2001, p. 21). Skateboarding is one of several uses of urban space deemed less permissible that have been considered 'transgressive' or out of place, contributing to a sense of confusion amongst those who see this as unwanted and are therefore reluctant to 'share' (Nemeth, 2006; Nolan, 2003; Pierce and Lawson, 2018). Skateboarding challenges the form and political mechanics of urban life as 'the skater interrogates architecture as another body in relation to their own actions' (Borden, 2001, p. 180). As such, it is part of a more critical history of engaging with, and contesting, public (abstract) capital space.

## *2.2 Rhythms of the built environment and PMDs*

Skateboards and scooters facilitate an intimate knowledge of the surrounding hardscape, and allow for an understanding of the ways in which urban infrastructure and geographical context can impact mobility. Small-wheeled devices such as skateboards and scooters foster a deep awareness of the rhythms and micro-geographies of urban space (Borden 2001). Lefebvre (2004) engages with the ways in which urban patterns unfold to affect our spatial understanding in particular and influential ways, articulating how the social and physical production of cities incorporates rhythmic attributes, or patterns. The production of such space may, over time, result in infrastructure that is unevenly maintained, resulting in a built environment that adversely affects rider experience. Investments are aimed at transport infrastructure which

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supports automobiles and corresponding larger-scaled economic activity. This often results in policy that overlooks the potential of hardscapes that might facilitate active travel and the subsequent use of PMDs.

Scholarship has emerged in which the connections between rhythms, urban settings, and the unfolding bodily interpretations of space have become the primary focus. Referred to as 'embodied movements,' the evaluation of kinetic processes is increasingly of interest as a part of mobility and human experience (Merriman, 2015), as well as small-scaled bodily action, and specific reactions to built features that comprise the hardscape (Cresswell, 2010; Vergunst, 2010; Vivoni, 2009). The interconnections between place, urban space, rhythm, and mobility are underway at these smaller scales when considering a variety of travel forms, including skateboards and scooters. At intricate, more fine-grained levels, flows develop between hardscapes and bodies, as is the case between movement potentials and space. In considering, as Lefebvre suggests '...what patterns of gesture, space, and time can tell us about the forms they produce' we may better understand the ways in which surfaces and their inherent rhythms affect movement (in Vergunst, 2010, p. 378). Skateboarding, scooter riding, and other activities like Parkour allow us to consider the kinetic and rhythmic experiences that result when mobility intersects with bodily movement (Mould, 2009; Kidder, 2012). Beyond such scholarship on the body and space, a consideration of how particular hardscape characteristics impact, guide, and perhaps limit micro-mobility decision-making and movement remains under examined. Evaluations that prioritize the impact the built environment has on patterns of bodily movement and mobility may contribute to the ongoing research discussions considered here. Devices that

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facilitate such motion are at once capable of detecting the nuances and rhythms of urban space while simultaneously allowing novel ways for scholars to consider the viability of such activity.

### 3. Methods

To meet the goal of this research, we obtained user-generated content from skateboarders and scooter users (i.e., PMD users) in the metropolitan area of Los Angeles, California to ascertain how they respond to the challenges and opportunities while moving along roadways, sidewalks, and paths. The data used to analyze this consisted of written summaries and photographic evidence primarily generated through the use of social media platform, Instagram. We utilized a Diary-Photograph approach modified from Latham (2003) to generate data, and a robust coding technique based on Cope (2010) to assess this information and qualify PMD user interactions. The coded responses were organized into several themes. These themes were derived by building from Latham's methodology through the addition of digital input, a process we will refer to as participatory digital-photo/diary.

In order to qualify how PMD users interpret the built environment, we focused on what kinds of surfaces and/or potential hazards they encountered while moving and how this may affect their future approach. To carry this out, we implemented a methodology based on Participatory Photo Mapping (PPM), as well as Latham's use of Diary-Photograph (DP). These research techniques allow researchers to gather unique user experiences through evaluations of both visual and written information. Dennis et al. for instance (2009, p. 468) used PPM, to 'understand the lived experience of community members.' Others have suggested using smartphones as an immediate and increasingly accessible device for data collection in order to aggregate data produced through platforms such as Twitter and Instagram (Guerrero, et. al,

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2016). The aim is to provide the ability for anyone to ‘...access these images and perform text and spatial analysis’ (Guerrero, et al., 2016, p. 3).

Participatory Photo Mapping, as self-produced, adds to and enhances the reflective data produced using diary-photograph techniques whereby participants record landscapes/urban environments with cameras and diaries/journals (Latham, 2003). Latham’s work calls for research that is an attempt ‘to construct a sensitively structured technique through which research subjects can find a space for reflecting upon these practices’ (p. 2001). Further, he has suggested that in order to develop a deeper understanding of the participant through the use of writing (diary) and talk (diary-interview) that it makes sense ‘to try and draw more directly on people’s visual imaginations’ (p. 2003). Building off of this work (in which written diaries and still-photo cameras were employed) the current study gathered digital images and writing through the participants’ own smartphone. Latham considers ‘how we can imbue traditional research methodologies with a sense of the creative’ through innovative methodologies (p. 2000). The current study aims to do this by adding the smartphone as the primary data-gathering tool. Still ‘drawing on people’s visual imaginations’ this methodological nuance seeks to utilize and build off of the intimacy and accessibility afforded by cell phones today.

To remain in-line with past research, we largely relied on a popular social media engagement tool, Instagram, to aggregate input provided by participants. We asked them to take digital photographs with their smartphones, and submit those along with comments via Instagram (or email) in order to document their encounters riding in urban settings. This allowed for PMD users to communicate and document their riding experience and interaction with the built environment in real-time. This method, Participatory Digital Photo-Diary (PDPD)

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allowed for immediate recording and evaluation of the riding environment. Participants were instructed to generate feedback in response to the disruptions, transitions, and overall quality of the built environment structures upon which they rode.

As participants joined the study, a private line of communication was established which allowed for text and photo-based responses to be sent directly (and privately) to the team through Instagram. In order to organize the responses, we employed the use of a coding method. This method has been highlighted as enhancing research that ‘...enables the researcher to know his or her data intimately and see patterns and themes emerging in a way that would not be possible otherwise’ (Cope, 2010, p. 445). The text was submitted along with photographs taken by the participants. As a valuable tool when considering written descriptions (such as those sent through Instagram) coding allowed for the organization of qualitative written and photo-based data into categories and patterns (Cope, 2010).

We focused primarily on descriptive coding in which responses were examined for repeated use of individual terms. Our research found recurring use of terms such as rough, crack, and bump - examples of descriptive terms that might be placed together, categorized, and considered through further analysis. Upon repeated use of the same, or similar terms, we grouped words such as those previously mentioned into the analytical theme of ‘rough surfaces.’ The grouping of themes through this technique contributed to ‘...the organization of information into trends, categories and common elements that are theoretically important’ (Cope, p. 448). The use of codes based on the written (and corresponding photo-based) responses of the participants allowed us to construct the three analytical themes that will serve as the basis for our results and discussion.

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### *3.1 Participants*

In this research, we utilized a cross-sectional sample of participants from California State Polytechnic University, Pomona (Cal Poly). Cal Poly is a large (24,000 students), diverse, public state university located approximately 25 miles east of downtown Los Angeles. This cohort was recruited because this population represents society at large - making the findings transferable to other areas - and student travel attitudes towards active modes may have positive implications for future policy directions (Delmelle, 2012). A total of 33 participants from fall of 2018 to spring 2019 took part in this study. There were a total of 26 Male and 7 Female participants, 19 indicated skateboarding, and eight scooter-riding as their primary mode, and six did not provide an answer. In terms of ethnicity, 15 self-identified as Latino, Hispanic, or Latinx. Six identified as white, four as Mexican/Caucasian, and several chose not to self-identify. Their ages ranged from 18-33 and most indicated the zip codes that include the campus and surrounding neighborhoods as their place of residence. Following IRB protocol, each participant was asked to join a private Instagram account created by the research team, which over the course of several months allowed them to document and share their experiences. Some participants chose not to use Instagram, instead sending photographs and descriptions through email, though the majority of respondents demonstrated comfort with Instagram as a tool for submitting photographs and narratives.

## 4. Results and Discussion

The following discussion reports on the images and descriptions of those who participated in this research to consider how PMD users evaluated their riding experience as affected by the urban environment (i.e., condition of the infrastructure related to streets,

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sidewalks, paths). Based on this input, we created three analytic themes from the aforementioned methodology (i.e., PDPD) using the coding methods described earlier.

Responses were most prominent concerning; the presence of infrastructure that facilitated PMD use, second, the abundance of rough surfaces, and third the lack of connectivity as inhibiting route choices. The main findings demonstrated that conditions of the urban hardscape and quality of infrastructure were significant mobility barriers, as most PMD users felt that the quality of the built environment is not conducive to riding small-wheeled devices. The innate ability to 'see' the hardscape clearly and more directly than other, more traditional users emerged throughout the participants' responses.

#### *4.1 Theme I - Rhythms: Smooth surfaces and wheeled-movements*

The first theme to emerge was the interpretive reading of, and reaction to the underlying rhythms (patterns) found in sidewalks, paths, streets, and other hardscapes. Respondents made either direct or implicit reference to the *repetitions* found embedded - often purposefully - in the paths taken during their rides. The importance of encounter and rhythmic experience is not only a response to dominant urban infrastructure, but additionally is wholly dependent upon the modern city. 'The street-skater's rhythm is here a run across city space' and as a movement, utterly dependent on 'the smooth asphalt and extensive paving of contemporary urbanism' (Borden, 2019, p. 203.) Intentionally or not, at times PMD users encountered smooth rides, as certain features allowed them to respond and adjust to the available surface.

In line with Lefebvre's (2004) discussion of space as comprised of rhythms, the flat, smooth condition of the concrete for instance, served as visual and/or auditory reminders of how space unfolds in linear fashion. In some cases, users encountered gentle, evenly spaced

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segments which conveyed a rhythmic pulse that informed their understanding of the hardscape.

‘The perfect surface for skaters is a smooth road and hopefully has some small hills to gain speed along the way. The perfect road does not have rocks, cracks, sand or any other object that interferes with the skating’ according to Penny (**Image 1**). Joanne states: ‘The rest of the way is pretty fun because it’s all flat with hardly any cracks.’ Both responses refer to surfaces that are free from objects that might interfere with their otherwise joyful riding experience. Similarly, Rosa encounters a fun, rhythmic encounter with the evenly spaced, up and down movement offered by speed bumps: ‘Riding on speed bumps are so much fun!’ Lefebvre’s (2004) notion that produced space is rhythmic may be considered in light of how users respond to the patterns inherent in the surfaces that comprise our urban fabric. Skateboarding’s routines, cyclical patterns, durations and repetitions are evident in the experiences of these users (Borden, 2001).

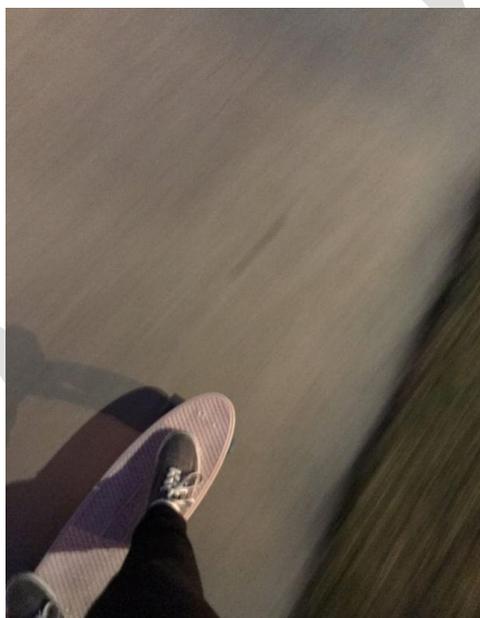


Image 1 - Smooth Road

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In addition to repetitions, Borden examines how such encounters - whether with curbs and handrails, or blemish-free streets - have the possibility of evoking a sense of joy as 'Skateboarding transforms these elements into sites of energetic pleasure' (2019 P. 203). This is demonstrated in a number of responses that allow us to consider more deeply the ways in which urban infrastructure, composed of chunks, blocks, elements, and patterns, might inform our understanding of how rhythms within existing infrastructure may affect ride quality, such as; 'When using a skateboard these cracks are important to avoid, which is why I bought the bigger rubber type of wheels because they're less sensitive to these crash (sic) cracks' (Penny). 'Your wheels will determine what surface is most comfortable. if you have the hardest form of urethane (the small skateboard wheel) then you will want to ride on smooth concrete surfaces like this...' (Dylan). These responses demonstrate a keen awareness of the kinetic, embodied interaction between the bumps and surface features they ride atop (Merriman, 2015; Cresswell, 2010). Penny and Dylan are 'capable of sensing the physical environment they passed on the way' demonstrating a reflexive connection to, and relationship with their surroundings (Bäckström and Sand, 2019, P. 129). Skateboarding and scooter riding connect the rider to the hardscape below with only a thin, level platform and small wheels as the nexus between user and space. Through this process of adapting and responding to the rhythmic patterns of the street, skateboarders redefine their spatial interaction with the city (Chiu, 2009).

The references to wheel type (composition and size) speaks to the historical unfolding of skateboarding as a response to the changing hardscape of American urban space in the 1970s (**Image 2**). In contrast to earlier city forms, the emphasis on auto-centric planning during this time led to miles of newly installed pavement, asphalt, and concrete atop surfaces that prior to

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this were undeveloped. Advances in urethane technology provided a prescriptive response to the discrepancies that inevitably arose as new infrastructure began to show itself as tempting, if not somewhat rough, yet rideable terrain. The emphasis on roads and other auto-based forms in these evolving urban spaces produced hardscapes that when new were smooth, rideable - whether for cars or smaller-wheeled devices - and often free of discrepancies. Over time, the degradation of these spaces became more evident, as Lefebvre notes; 'Thus we are concerned, once again, with gaps and tensions, contacts and separations. Yet, through and beyond these various effects of meaning, space is actually experienced, *in its depths*, as duplications, echoes and reverberations, redundancies and doublings-up which engender - and are engendered by - the strangest of contrasts' (P. 184). Such encounters recall how movement informs direct 'emplaced' understandings of the hardscape that are 'highly corporeal and material' (Bäckström and Sand, 2019, p. 129). Ultimately, the rhythmic and often-smooth surfaces gave way to interactions that centered more fully on the gaps, cracks, and other micro-architectural features perceived as less desirable.

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Image 2 - Instagram Screenshot of Dylan's input regarding wheel size and

#### 4.2 Theme II - Disruptions: Cracks and Interruptions

Rhythms, which Lefebvre describes as cyclical, are dependent upon universal flows of material and energy such as those associated with natural earth cycles and processes (Simpson, 2012). Unfolding within, or perhaps because of these universal flows, are disruptive and unnatural linear elements - the kind associated with abandoned infrastructure and urban decay. Roots and weeds, for instance feed off the natural cycles of water and light (i.e., sun energy) to eventually displace sidewalk segments or further the gap between concrete components of the hardscape. Seismic activity (particularly in California) provides another example of how the natural rise and fall of earth's landforms may lead to cracks in surface features and disrupt the quality of our built environment. The unfolding of space can result in a hardscape that over time will become discordant, disruptive, and chaotic, even if that disruption is due to devices or surfaces intended to support other, largely positive functions in the city.

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#### *4.2.1 Bumps and Grates*

Based on user feedback, one of the more notable, 'positive' features that revealed itself as a barrier to mobility was the presence of small bumps placed at the transition between sidewalk and road with Rosa expressing how: 'These bumps are not fun to ride over. It's not bad but it sends a little shock up to my knees.' Penny held a similar view in stating: '...for skaters it makes skating challenging...I hate passing through those bumps because if you pass fast enough you can fall.' The purpose of these small bumps is to provide a tactile warning or message for visually-impaired (and other) pedestrians (**Images 3 and 4**). Interestingly, this element is a reminder of the changes to the built environment that resulted from the Disability Rights Movement. Sidewalks and streets could be viewed as contested spaces between PMD users, automobiles, and people with disabilities. An unintended consequence of tactile pavers for instance may be the impediment to small-wheeled devices or, depending on placement and condition, unsafe crossings for pedestrians who are visually impaired. This endeavor is beyond the scope of the present study, but could be insightful in contributing towards discussions about how produced space is perceived in a variety of ways. The present analysis does however, reveal these features as generally unwelcome and disruptive to the riding experience.

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Image 3 - Bumps



Image 4 - Small Domes

Ryan expressed his frustration with the bumps, indicating that what he referred to as a truncated dome was; ‘...a huge hindrance in momentum.’ He went on to critique the quality of this element by noting how the edges were peeling which worsened the riding experience (**Image 5**). Beyond the bumps, Juan focused on the presence of storm drains and grates stating that; ‘sewer drains and (sic) be a nasty hazard to scooter riders who have small wheels such as mine since the wheels can easily be caught in the holes.’ The general dissatisfaction with these elements was tempered by the understanding that they were necessary components of the city. Their frustration stemmed more from the lack of alternative paths, spaces, and accommodations than it did from the simple presence of what are seen as necessary, if not annoying elements. The grates for instance, are a part of municipal water (flood) management. Though not an attempt by planners to purposefully hinder skateboarding, these physical impediments

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nonetheless result in an unintended form of ‘skateproofing,’ as well as leading to a stressful, kinetic experience.



Image 5 - Truncated Domes

#### 4.2.2 *Rough Surfaces*

A second sub-theme to emerge revealed the disruptive and discordant properties of streets, sidewalks, and paths (**Image 6**). Encounters with, and navigations through, surfaces that exist as a result of general urban decay were numerous. ‘The micro-architecture of surface grain, cracks and rippling all become evident’ when small-wheeled devices act as conduits for the hardscape (Borden, 2019, p. 107). This notion is articulated in the following responses: ‘Small pebbles are a skateboarders (sic) worst enemy, at high speeds if you encounter a pebble it will immediately stop your wheel and you will most likely go flying’ (Dylan), and ‘rough times in rough roads’ (Kyle). Discrepancies included the presence of small rocks and pebbles as

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well as general deterioration along commonly used paths and roads, described again by Dylan:

‘Potholes and cracks in the ground or (sic) dangerous because your wheel can go in it and cause you to sway or stop abruptly.’ Skateboarders have revealed sensitivity to road surface as a concern, as well as rough conditions as a potential barrier to travel in past research (Fang et al., 2017; Harpool, 2018). In terms of scooters, this result finds support as well, with Wofaardt et al., (2013) noting that children and adolescents found that uneven surfaces, including those with loose stones and gravel/dirt piles, were hazardous to one’s safety while traveling.



Image 6 - Crumbling Infrastructure and Rough Surfaces

PMD users expressed significantly more concern regarding encounters such as those experienced when riding atop a cracked surface as compared to the rhythmic, or smooth rides discussed previously. Participants revealed an understanding of the built environment that not only demonstrates a keen perception of the natural patterns and cycles mentioned above, but also speaks to ways in which space has been produced for larger-scaled political and economic

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encounters. Though centered on spaces of exchange in which trade, transport, and commerce are prioritized, PMD users demonstrate an awareness of the micro-geographies of urban space. Borden refers to this by stating 'It is this focus on texture, surface and tactility that gives skaters a different kind of urban and architectural knowledge' (2019, p. 203). Surface conditions are the result of the constructive processes associated with emerging capitalist space, while simultaneously representing the wearing away of these same spaces as a result of disinvestment or decline. Some features unfavorable to small-wheeled movement may be aimed at serving particular urban users, or seen as a necessary, purpose-built component of a city's infrastructure (i.e., tactile warning bumps and storm drains). Or, adverse impacts may be felt as a result of the cracked streets, ruts, gaps, and uneven sidewalks associated with urban decay that are shown to affect small-wheeled devices such as skateboards and scooters and in turn influence where and how users choose their route.

The images as well as the respondents' comments provide an intimate portrait of the impact such 'micro-architectures' can have on the riding experience. Dylan's comment that 'you will most likely go flying' if a pebble stops the wheel encapsulates the potential danger that emerges when deteriorated hardscapes confront PMD users (**Image 7**). Potholes and cracks may be a distraction, but generally do not pose a bodily threat when approached in a vehicle that operates with far greater weight, speed, and insulating materials (tires, springs, shock absorbers). The range of encounters - between auto, cyclist, pedestrian, scooter-rider - are evident as the individual 'apprehends the space around the body' when travelling through the city (Lefebvre, 1991, p. 213). The body (of the PMD user) for instance, experiences these

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disruptions differently than the driver in a car, or the pedestrian crossing the street, and in the process ‘apprehends’ and responds to the environment in a distinct, and more profound way.



Image 7 - Small Pebble and Wheel

### *.3 Theme III - Transitions*

The final section considers elements of the hardscape which may present riders with the challenges, and potential opportunities encountered when moving between surfaces. One area of particular concern is the sidewalk (**Image 8**). Though an important element of infrastructure that is both adjacent, and connected to the street, sidewalks are largely under-examined and often considered a less relevant component of urban transportation networks. Ehrenfeucht and Loukaitou-Sideris (2010) have pointed to this lack of engagement in highlighting how planners, for instance, do not consider the importance of sidewalk placement and condition, including elements such as paving. Some indications gleaned from the participants’ observations speak to this critique of planning.

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Image 8 - Sidewalk with no Cut to Allow for Smooth Transition

Municipal officials' concern for infrastructure networks that supports large-scaled movement and commerce becomes evident when considering the perspective of the PMD user: 'This sidewalk breaks into dirt....later down the road the sidewalk ends' (Jasmine). Though ubiquitous in many U.S. cities, sidewalks are often under-maintained and poorly planned, a concern for Jose who focused on both the lack of access between street and sidewalk: '...there was no cut to get on the sidewalk,' and oversight in placement: '...on one side of the street...had no pedestrian access for walking or skating.' Jasmine and Jose speak directly to Ehrenfeucht and Loukaitou-Sideris concern over the lack of awareness and/or implementation when it comes to smaller forms of urban infrastructure such as sidewalks. In addition to the ways in which the hardscape has taken on particular qualities that may limit the riding experience, other respondents focused on often unintentional, pronounced design attributes. Transitions between surfaces for instance presented a jarring encounter as indicated in Jasmine's comment (**Image 9**): 'Going from a smooth sidewalk to a cracked asphalt sidewalk. I had to make sure to go

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around it to not fall off my scooter.’ Ray expressed similar concern in transitioning from one surface to another: ‘I come across this wicked combination of short pavement to tile bricks to an abrupt slope every day. The creases of the short pavement slows anything on wheels. The brick makes for a slowing unstable ride. The slope is so abrupt that if you’re not going fast enough you will eat asphalt.’ **(Image 10).**



Image 9 - Difficult Transition

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Image 10 - Complicated Change of Surface Type

Whether the lack of properly maintained sidewalk infrastructure, or simply a difficult ledge or gap between segments, respondents' views of the hardscape reveal the narrow and often limiting manner in which cities have been produced. Urban space, according to Lefebvre has been 'sliced up,' leading to a 'proliferation of fast roads and of places to park and garage cars' (p. 359). Proficient skateboarders may be able to 'Ollie' a tricky curb, (the process by which the weight of the users' body shifts to 'pop' the board up and over a barrier) and therefore respond to architectural controls that may halt the approach of those less skilled in dealing with gaps or breaks in transitions (Glenny and Mull, 2018). Similarly, some scooter-riders might confidently jump a curb cut, or shift their weight to navigate around a tricky brick or paver, with others reacting more hesitantly. Within this context, the practice of skateboarding or scooter riding offers an alternative use of the urban environment, 'a creation of the city by

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those engaging directly with its everyday spaces' recognizing that 'architecture has no innate or fixed meaning' (Borden, 2001, p. 5). Through the creation of sites that contrast with the modern, capitalist city, Lefebvre feels that there are both existing and potential realities for creative exchange in the city. In some instances this may result in riders like Ray having (potentially) a truly embodied experience by 'eating asphalt' - actually feeling the hardscape - and in the process developing the intimacy of 'a different kind of urban and architectural knowledge' (Borden, 2003). These unique encounters, expressed through the photos and posts of the participants, are informed by the visceral encounters with everyday space(s) afforded by small-wheeled devices.

## 5. Conclusion

Active transportation modes continue to be studied in the hopes that they may help alleviate congestion, air pollution, greenhouse gas emissions, physical inactivity, and chronic diseases (Mertens et al., 2017; Rupi and Schweizer, 2018). Considering that PMDs are an active mode-share, and have become popular among many demographic groups (NACTO, 2018; Populus, 2018), surprisingly little research has focused on understanding their relationship to micro-scaled built environment features. Using an innovative methodology - Participatory Digital Photo-Diary - relying on user generated content from the social media platform, Instagram, we showed that PMD users have varying assessments of the built environment. We summarized these findings by applying three distinct themes to provide a clear understanding of the specific conditions of the hardscape that affected PMD user experience. The findings of this research may contribute to ongoing infrastructure projects that are designed to provide space for multiple mode shares, including PMDs.

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How space has been produced to support some uses, while creating barriers for others has been a key consideration of this paper. Through their images and descriptions, skateboarders and scooter-riders demonstrated their reaction and response to infrastructure, competition over capital-intensive space, and how in some cases, their embodied experience was at once problematic, and contained the potential for joy. This points to a need for greater engagement with how dominant space might be reconsidered and reimaged as suggested by Lefebvre and others. PMD users have the ability to ‘see the hardscape’ in a different, more intimate, and visceral way. While theoretical understandings remain paramount in light of these contested practices, policy-oriented responses should be considered as well.

The results of this study also point to tangible policy and planning discussions. We found that participants enjoyed riding sections of the built environment, especially those areas which were smooth, flat, and evenly spaced; participants also reported that riding over bumps, pebbles, rocks, grates were considered interference and not enjoyable. These micro-scale built environment perceptions of the travel experience speaks to a growing body of transportation research on the “subjective well-being of travelers,” which states that when a trip is enjoyable for people, the route/travel mode may be used again (St-Louis, Manaugh, van Lierop, & El-Geneidy, 2014). Drawing from this body of work, and coupled with a theory-driven framework, planners and policy-makers can link rider attitudes to specific areas which deter (i.e., are not enjoyable) PMD modes and implement small-scale interventions which reverse this effect. Further, developing policies and planning strategies that support PMD use, could potentially reduce vehicle miles traveled, supporting public and environmental health goals (Wacker, 2013a and Harpool, 2018). Disruptions that occur when leisure-seeking, healthy bodies encounter an

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abrupt transition between street and sidewalk for instance, discourage this form of mobility.

When considering paths or sidewalks even further, we find their condition, placement, and overall design remain largely unexamined by stakeholders focused on elevating active transportation, especially PMDs. The priority has been on fixing and keeping auto-based, and other large-scale elements of the built landscape moving, resulting in linear disruptions that are felt at more intimate, bodily scales.

Despite the new insights provided by this research, limitations, which inform future work, should be noted. Considering the study population was relatively small and geographically limited, a broader scale analysis may be needed in the future in order to capture a more representative PMD user population. A direction for future research would be to implement a comparative study of PMD users from different demographics or geographies. This approach would help our understanding of how varying urban design features influence different demographics. Further, considering the varying geographies may help evaluate the user experience as it relates to distinct contextual and compositional conditions, which collectively affect all active travel mode shares (Saelens, Sallis, & Frank, 2003). This could lead to collaboration with scholars from environmental justice, urban design, transportation policy and planning, as well as public health. In terms of built environment correlates of PMD usage, we focused on one type of urban environment; however, continued work is needed to improve our understanding of how different urban design features (i.e., built infrastructure) may hinder or assist in promoting this transport mode. Assessing the importance of universal design in promoting skateboards and scooters as well as how other active travel infrastructures might interact with, and influence PMD use is an avenue of future research. This may include

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evaluations of affordable fixes to our sidewalks, pathways, and other facilities to increase the real and perceived sense of safety for PMDs.

Understanding PMDs as responsive to the patterns and rhythms in urban space, as well as its disruptions and conflicts, is a fundamental aspect of this research. In addition, we have considered how user experiences - as a reaction to urban infrastructure - may be relevant when weighing policy implications. Combined, the two approaches allowed us to evaluate how gaps and patterns experienced on the everyday are connected to, and influenced by larger-scaled processes and decisions. Lefebvre describes significant chunks of urban space as discouraging, prohibitive or at the very least, lacking playful qualities. Such segments of urban space are exemplified by 'a reduction of tree-lined streets, green spaces, and parks and gardens' and should be considered for their impact on the everyday experiences of all who inhabit the city, including skateboarders and scooter-riders (Lefebvre, P. 359). The PMD user, interacting with the city as a whole, while dwelling physically close to the ground itself, is uniquely situated to apprehend elements of the urban fabric that otherwise may remain hidden. Whether prohibitive or encouraging, PMD users have demonstrated their ability to respond to the built environment through their unique vision and tactile encounters to contribute to the production of space more generally. Aimed at the facilitation of capital and large good transport, users point to such shortcomings, while also seeing the potential for rideable, encouraging sites 'for play, spaces for enjoyment, architectures of wisdom or pleasure.' Though hardscapes for PMD use are somewhat distinct from Lefebvre's loss of 'tree-lined streets, and parks,' the continued evaluation of the urban environment is worth consideration. The limiting and narrow production

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of space that comprises cities today may be reevaluated with the lens of those more familiar with its nuances, rhythms, patterns, and gaps.

## REFERENCES

- Bäckström, Å., & Sand, A. L. (2019). Imagining and Making Material Encounters: Skateboarding, Emplacement, and Spatial Desire. *Journal of Sport and Social Issues*, 43(2), 122-142.
- Balma, Larry. (2015). *Tracker: Forty Years of Skateboard History*. Oceanside, CA: Foundry Press.
- Borden, I. (2019). *Skateboarding and the city: A complete history*. Bloomsbury Publishing.
- Borden, Iain. Another Pavement, Another Beach: Skateboarding and the Performative Critique of Architecture. In *Skateboarding, Space and the City*, by Iain Borden, 1-25. Berg, 2001.
- Carr, J., Brown, E., & Herbert, S. (2009). Inclusion under the law as exclusion from the city: negotiating the spatial limitation of citizenship in Seattle. *Environment and Planning A*, 41(8), 1962-1978.
- Celis-Morales, C. A., Lyall, D. M., Welsh, P., Anderson, J., Steell, L., Guo, Y., . . . Sattar, N. (2017). Association between active commuting and incident cardiovascular disease, cancer, and mortality: prospective cohort study. *bmj*, 357, j1456.
- Chiu, C. (2009). Contestation and conformity: street and park skateboarding in New York City public space. *Space and Culture*, 12(1), 25-42.
- Cope, Meghan. "Coding Transcripts and Diaries 27." *Key methods in geography* 440 (2010).
- Cresswell, T. (2010). Mobilities I: Catching Up. *Progress in Human Geography*, 35(4), 550-558.
- Delmelle, E. M., E.C. Delmelle. (2012). Exploring spatio-temporal commuting patterns in a university environment. *Transport Policy*, 21, 1-9.
- Dennis Jr, S. F., Gaulocher, S., Carpiano, R. M., & Brown, D. (2009). Participatory photo mapping (PPM): Exploring an integrated method for health and place research with young people. *Health & Place*, 15(2), 466-473.
- Ehrenfeucht, R., & Loukaitou-Sideris, A. (2010). Planning urban sidewalks: Infrastructure, daily life and destinations. *Journal of Urban Design*, 15(4), 459-471.
- Fang, K. (2015). *Skateboarding for Transportation by the Numbers: Quantitative Indications of the Use of Skateboards as an Active Travel Mode* (No. 15-3770).

To cite this article: Lorne Platt & Greg Rybarczyk (2020): Skateboarder and scooter-rider perceptions of the urban environment: a qualitative analysis of user-generated content, *Urban Geography*, DOI: 10.1080/02723638.2020.1811554

Fang, K., Agrawal, A. W., & Hooper, A. M. (2019). How and Where Should I Ride This Thing? "Rules Of The Road" for Personal Transportation Devices.

Fang, K., Agrawal, A. W., Steele, J., Hunter, J. J., & Hooper, A. M. (2018). *Where Do Riders Park Dockless, Shared Electric Scooters? Findings from San Jose, California*. Retrieved from San Jose, CA: transweb.sjsu.edu

Fang, K., & Handy, S. (2019). Skateboarding for transportation: exploring the factors behind an unconventional mode choice among university skateboard commuters. *Transportation*, 46(1), 263-283.

Fang, K., & Handy, S. (2017). Skate and die? The safety performance of skateboard travel: a look at injury data, fatality data, and rider behavior. *Journal of Transport & Health*, 7, 288-297.

Frank, L. D., Iroz-Elardo, N., MacLeod, K. E., & Hong, A. (2019). Pathways from built environment to health: A conceptual framework linking behavior and exposure-based impacts. *Journal of Transport & Health*, 12, 319-335.

Glenney, B., & Mull, S. (2018). Skateboarding and the ecology of urban space. *Journal of sport and social issues*, 42(6), 437-453.

Glenney B and O'Connor P (2019) Skateparks as hybrid elements of the city. *Journal of Urban Design*. DOI: 10.1080/13574809.2019.1568189. 1-16.

Harpool, M. J. (2018). *Utilitarian Skateboarding: Insight into an Emergent Mode of Mobility*. (M.S.), Portland State University, Portland, Oregon. (Paper 4452)

Howell, O. (2008). Skatepark as neoliberal playground: Urban governance, recreation space, and the cultivation of personal responsibility. *Space and culture*, 11(4), 475-496.

Howell, O. (2005). The "creative class" and the gentrifying city: Skateboarding in Philadelphia's Love Park. *Journal of architectural education*, 59(2), 32-42.

Guerrero, P., Møller, M. S., Olafsson, A. S., & Snizek, B. (2016). Revealing cultural ecosystem services through Instagram images: The potential of social media volunteered geographic information for urban green infrastructure planning and governance. *Urban Planning*, 1(2), 1-17.

Kidder, J. L. (2012). Parkour, the affective appropriation of urban space, and the real/virtual dialectic. *City & Community*, 11(3), 229-253.

Kostrzewska, M., & Macikowski, B. (2017, October). Towards Hybrid Urban Mobility: Kick Scooter as a Means of Individual Transport in the City. In *IOP Conference Series: Materials Science and Engineering* (Vol. 245, No. 5, p. 052073). IOP Publishing.

To cite this article: Lorne Platt & Greg Rybarczyk (2020): Skateboarder and scooter-rider perceptions of the urban environment: a qualitative analysis of user-generated content, *Urban Geography*, DOI: 10.1080/02723638.2020.1811554

Latham, A. (2003). "Research, performance, and doing human geography: some reflections on the diary-photograph, diary-interview method." *Environment and Planning A* 35: 1993-2017

Lau, K. (2018, May 20, 2018). Why being hit by an e-scooter can be deadly - and a call to ban them from footpaths. *CNA*. Retrieved from <https://www.channelnewsasia.com/news/cnainsider/e-scooter-ban-footpaths-accidents-safety-registration-debate-10250946>

Lefebvre, Henri, and Donald Nicholson-Smith. *The production of space*. Vol. 142. Blackwell: Oxford, 1991.

Lefebvre, H. (2004). *Rhythmanalysis: Space, time and everyday life*. A&C Black.

Litman, T., & Blair, R. (2017). *Managing personal mobility devices (PMDs) on nonmotorized facilities*. Retrieved from [www.vtpi.org](http://www.vtpi.org)

Marshall, S., & Lorimer, S. W. (2015, September). Beyond walking and cycling: scoping small-wheel modes. In *Proceedings of the Institution of Civil Engineers-Engineering Sustainability* (Vol. 169, No. 2, pp. 58-66).

Matthews, C. E., et al. (2007). "Influence of exercise, walking, cycling, and overall nonexercise physical activity on mortality in Chinese women." *American journal of epidemiology* 165(12): 1343-1350.

Merriman, P. (2015). Mobilities I: departures. *Progress in Human Geography*, 39(1), 87-95.

Mertens, L., Compernelle, S., Deforche, B., Mackenbach, J. D., Lakerveld, J., Brug, J., . . . Glonti, K. (2017). Built environmental correlates of cycling for transport across Europe. *Health & Place*, 44, 35-42.

Mould, O. (2009). Parkour, the city, the event. *Environment and Planning D: Society and Space*, 27(4), 738-750.

NACTO. (2018). *Shared micromobility in the U.S.; 2018*. Retrieved from

Németh, J. (2006). Conflict, exclusion, relocation: Skateboarding and public space. *Journal of urban design*, 11(3), 297-318.

Newman, E. (2018). *Why is the motor city encouraging e-scooters*. Retrieved from [https://www.marketplace.org/2018/12/24/business/why-does-motor-city-love-e-scooters/?utm\\_source=TW&utm\\_campaign=Social-010919-347AM-why-does-motor-city-love-e-scooters&utm\\_medium=Link-re-up](https://www.marketplace.org/2018/12/24/business/why-does-motor-city-love-e-scooters/?utm_source=TW&utm_campaign=Social-010919-347AM-why-does-motor-city-love-e-scooters&utm_medium=Link-re-up)

Nolan, N. (2003). The ins and outs of skateboarding and transgression in public space in Newcastle, Australia. *Australian Geographer*, 34(3), 311-327.

To cite this article: Lorne Platt & Greg Rybarczyk (2020): Skateboarder and scooter-rider perceptions of the urban environment: a qualitative analysis of user-generated content, *Urban Geography*, DOI: 10.1080/02723638.2020.1811554

Owens, P. E. "Recreation and Restrictions: Community skateboard parks in the United States." *Urban Geography* 22.8 (2001): 782-799. Pierce, J., and M. Lawhon. "The right to move: informal land use rights and urban practices of mobility." *Urban Geography*.

Platt, L. (2018). Rhythms of urban space: skateboarding the canyons, plains, and asphalt-banked schoolyards of coastal Los Angeles in the 1970s. *Mobilities*, 13(6), 825-843.

Populus. (2018). *The Micro-mobility Revolution: The Introduction and Adoption of Electric Scooters in the United States*. Retrieved from <https://www.populus.ai/micro-mobility-2018-july>

Rupi, F., & Schweizer, J. (2018). Evaluating cyclist patterns using GPS data from smartphones. *IET Intelligent Transport Systems*, 12(4), 279-285.

Saelens, B., et al. (2003). "Environmental Correlates of Walking and Cycling: Findings From the Transportation, Urban Design, and Planning Literatures." *Annals of Behavioral Medicine* 25(2): 80-91.

Siman-Tov, M., Radomislensky, I., Peleg, K., & Group, I. T. (2017). The casualties from electric bike and motorized scooter road accidents. *Traffic injury prevention*, 18(3), 318-323.

Simpson, P. (2012). Apprehending everyday rhythms: rhythm analysis, time-lapse photography, and the space-times of street performance. *cultural geographies*, 19(4), 423-445.

Snyder, C. B. (2015). *A Secret History of the Ollie*. Delray Beach, FL: Black Salt Press.

St-Louis, E., Manaugh, K., van Lierop, D., & El-Geneidy, A. (2014). The happy commuter: A comparison of commuter satisfaction across modes. *Transportation research part F: traffic psychology and behaviour*, 26, 160-170.

Stratford, E. (2002). On the edge: A tale of skaters and urban governance. *Social & Cultural Geography*, 3(2), 193-206.

Stratford, E. (2016). Mobilizing a spatial politics of street skating: Thinking about the geographies of generosity. *Annals of the American Association of Geographers*, 106(2), 350-357.

Stratford, E., & Harwood, A. (2001). Feral travel and the transport field: some observations on the politics of regulating skating in Tasmania. *Urban Policy and Research*, 19(1), 61-76.

Teale, C. (2019). Los Angeles adding e-bikes, bike-share stations. *Smart Cities Dive*.

Thigpen, C. G., Li, H., Handy, S. L., & Harvey, J. (2015). Modeling the impact of pavement roughness on bicycle ride quality. *Transportation Research Record*, 2520(1), 67-77.

Tuckel, P. S., Milczarski, W., & Silverman, D. G. (2019). Changing incidence and nature of injuries caused by falls from skateboards in the United States. *Clinical pediatrics*, 58(4), 417-427.

Vergunst, J. (2010). Rhythms of walking: History and presence in a city street. *Space and Culture*, 13(4), 376-388.

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Vivoni, F. (2009). Spots of spatial desire: Skateparks, skateplazas, and urban politics. *Journal of sport and social issues*, 33(2), 130-149.

Walker, T. (2013a). *Skateboarding as transportation: Findings from an exploratory study*. (M.D. M.S.), Portland State University, Portland, OR. (1505)

Walker, T. (2013b). *Skateboarding as transportation: Findings from an exploratory study*. (M.S.), Portland 4, 376-388. State University, Portland, OR. (Thesis #1505)

Wolfaardt, T., & Campbell, M. M. (2013). Scootering on: an investigation of children's use of scooters for transport and recreation.

Woolley, H., & Johns, R. (2001). Skateboarding: The city as a playground. *Journal of urban design*, 6(2), 211-230.

Zhu, J., & Fan, Y. (2018). Daily travel behavior and emotional well-being: Effects of trip mode, duration, purpose, and companionship. *Transportation Research Part A: Policy and Practice*, 118, 360-373.