

**The underground bicycle economy: An exploration of social supports and economic resources that Vancouver's homeless cyclists utilize**

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**Abstract**

Many people living in poverty ride bicycles and many also participate in informal work such as recycling. A small number of studies have begun to explore homeless cyclists' experiences with and perspectives on bicycles and recycling. In the current study we seek to contribute to this emerging area of study, focusing in this case on the social support and informal and formal resources homeless and variably-housed cyclists use in Vancouver. Interviews, including go-along mobile methods, were conducted with five men living in the Downtown Eastside neighbourhood of Vancouver who use bicycles. Findings show that the cyclists, especially recyclers, navigated an 'underground economy' of bike-related spaces that allowed them to make money, keep their bicycles in working condition, and cultivate social connections. In particular, a few highly valuable sources and spaces of support existed for participants within a landscape where barriers of many sorts were encountered regularly. These findings bring attention to the needs of and resources considered to be most valuable for some cyclists living in poverty, to the creativity and resilience of an often stigmatised group, and to ways that more inclusive cycling policy might support the efforts of a marginalised group to live a healthy life.

Keywords: cycling, homelessness, mobility, place, informal work

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Urban cycling is popular in many Global North cities, including Vancouver, Canada. Vancouver boasts a cycling network of over 4,500km, and policy documents point to the city’s vision of a future where more people cycle, walk, and take public transportation, and fewer people drive (HUB Cycling, 2019). Currently, over half of Vancouver residents currently cycle, walk, or take public transportation to work, and 6.1% of commuters cycle to work (City of Vancouver, 2018; HUB Cycling, 2019). City of Vancouver documents that speak to the inclusivity of cycling routes tend to focus on whether cyclists of “all ages and abilities (AAA)” can cycle various routes and the growing number of ‘AAA’ bike routes (i.e., bike routes suitable for people of all ages and beginner to advanced cyclists) appearing across the city (Steinmann, 2020).

Even with ‘AAA’ bike routes though, the city, according to these documents, retains a focus on commuter and leisure cycling, a point that other scholars have noted in other cities as well (Lee et al., 2016; Stehlin, 2014; Mayers & Glover, 2020; Aldred, 2015). There seems to be a lack of engagement towards the perspectives and needs of other cycling populations, such as those who may cycle out of necessity, rather than as a choice (Steinmann, 2020). For example, many people experiencing homelessness who are unable to afford a vehicle may take up cycling. In particular, Vancouver does not explicitly connect cycling to poverty in policy documents (Steinmann, 2020), despite the existence of cyclists who may not fit into commuter or leisure cycling identities. Ten percent of people experiencing homelessness in Vancouver participate in ‘binning’ or ‘informal recycling’—the practice of collecting and exchanging recyclables for money—and bikes are often used to do this work, a point that is not evident in the city’s

transportation policies or plans (Vancouver Homeless Count, 2020; Steinmann, 2020). If Vancouver, and other cities, aim to truly promote inclusive cycling, the needs and experiences of cyclists who are marginalised, including low-income cyclists, must be addressed.

Sensitive to this lack of attention to the needs and experiences of marginalised cyclists, a small but growing number of scholars have contributed to a nascent area of study concerning ‘bicycle justice’ – an area that includes research by Lugo (2018), who showed that low-income and racialized cyclists are seldom given a voice in transportation planning, and by Hoffman (2016), who identified that cycling infrastructure often caters to those who are wealthy and white. Parker (2019), Lee et al. (2016), Bernstein (2016) and Reid-Musson (2018) have also conducted studies that focus on the lives of low-income cyclists, including homeless cyclists, delivery cyclists, undocumented immigrants, and migrant workers who use bikes.

Few studies have focused on the experiences of variably-housed individuals with respect to cycling (cf., Parker, 2019; Grimes & Smirnova, 2020; Crawford et al., 2012), and no studies that we are aware of explore these in Vancouver – a context of particular relevance considering the city’s high population of cyclists and people experiencing homelessness. Also, through discussions about the underground economy of bike-related spaces that many variably-housed cyclists negotiate – and related attention to the creativity and resilience of this often stigmatized group – we hope to offer a foundation for a set of recommendations for ways to better support the efforts of a marginalised group to live a healthy and safe life, and to counter stigma. In the study reported on in this paper we seek to contribute to this emerging area of research by considering the experiences, perspectives and needs of low-income and variably-housed cyclists in Vancouver. In the following section we review key literatures pertinent to cycling, inequity,

and homelessness and then outline of the methods of our study, that included mobile interviews with five men living in the Downtown Eastside neighbourhood of Vancouver who use bicycles. With particular attention to the conceptual ideas associated with the terms ‘relational poverty’ and ‘tactics’, we discuss how study participants, especially recyclers, navigated an ‘underground economy’ of bike-related spaces that allowed them to make money, keep their bicycles in working condition, and cultivate social connections. The following research questions acted as references point and guides for the research: “To what extent do support networks exist for homeless and variably-housed cyclists?” and “What formal and informal resources do homeless and variably-housed cyclists use to support their cycling-enabled day-to-day activities?”.

## **Literature Review**

### **Understanding of who cycles**

While automobiles remain omnipresent in most urban streetscapes, more and more people are taking up cycling in the Global North as cities acknowledge the growing political consensus that oil-dependent forms of transport are unviable in the long-term. The bicycle is often framed in opposition to the automobile as a healthy, sustainable, and economical transportation alternative (Horton, 2006; Blue, 2014). The perspectives of the (typically wealthy and white) housed individuals who cycle to work or for recreational purposes are reflected in cycling policy and advocacy, while the needs of low-income and unhoused cyclists who bike out of necessity are unknown. Parker (2019, p. 2) explains that “Homeless bicyclists exist in a double bind: they bicycle in cities dominated by car travel but in ways that do not conform to recreational or commuting bicyclists”. Hoffman’s concept of ‘rolling signifier’ (2016), where the bicycle can be understood differently depending on the context, is useful for showing how among certain

middle-upper-class populations, the bicycle is viewed as a green alternative, whereas among some low-income populations the bicycle might simply be the best transportation choice out of very few options. Cycling in this case is often associated with stigma and risk, rather than health or sustainability (Reid-Musson, 2018; Bernstein, 2016; Aldred, 2013).

Sheller (2018) argues that if a shift away from automobile-dependent cities is going to occur, a mobility justice framework—that includes those who are marginalised— must be prioritized. Within this mobility justice framework, studies focusing on cyclists who are marginalised are accumulating. Delivery cyclists in New York – who were commonly of immigrant status, and were identifiable as workers on bicycles – were often framed in newspapers, online news sources media, and other online media as ‘bad cyclists’ who trespassed into white, affluent neighbourhoods (Lee et al., 2016). Reid-Musson (2018, pp. 320-321) found that migrant farm workers who rode bikes to work on heavily-trafficked farm roads in Ontario were targets of stigma because they “circulate in ‘shadows’ – at dusk and night, and amidst a predominantly white, citizen driving public”. For these workers, who were labeled as risky and deviant cyclists, cycling was not a viable “solution to the inequalities that automobility has created” (Reid-Musson, pp. 320-321). In another setting, Lugo (2018) suggests that male immigrants who cycled to work in Southern California were invisible to policy-makers as their cycling routes did not mirror that of downtown commuters or affluent leisure cyclists.

Importantly, these studies show that there is a need for counter-narratives and more research to shift perceptions on, and offer more nuanced perceptions of, cyclists who are often low-income and racialized. Studies such as one by Parker (2019) found that that cycling was an excellent mode of transport for unhoused people in Southern California, as it allowed them to access spaces and positive interactions (and avoid potential negative interactions). Crawford et

al. (2012) found that youth experiencing homelessness found cycling to be enabling and associated cycling with freedom and independence. Similarly, Grimes & Smirnova (2020) found that men experiencing homelessness who participated in an Earn-A-Bike program felt that owning a bike afforded improved accessibility to healthcare and places of employment, while also strengthening social capital and health. These studies could encourage cities to consider the unique ways that homeless cyclists move through the city, and include them in bicycle planning.

The current study adds to such research on homelessness and cycling while also focusing in particular on cyclists who do informal recycling work. Recyclers experience stigma related to poverty, disorder, and uncleanliness, as well as spatial restrictions on their work (Wittmer & Parizeau, 2016). However, it is apparent from the results of studies on informal recycling in North America that recyclers often find ways to experience and appreciate benefits including getting exercise, being outdoors, having independence over their work, and having a consistent schedule (Wittmer & Parizeau, 2016; Gowan, 1997, Tremblay, 2007). We employ Elwood, Lawson, and Sheppard's (2017) writing on relational poverty with attention as well to De Certeau's (1984) concept of 'tactics' to extend discussions of the often creative and nimble ways that these cyclists who operate outside of naturalized understandings of cycling in Vancouver negotiate their day-to-day circumstances and the substantial barriers and difficulties they frequently encounter.

### **Geographical Relational Poverty and Tactics**

In the current study we focus especially on ways that cyclists experiencing homelessness move through the world and 'make do' given the constraints they face. In doing so, we attend to factors relating not only to cycling equity and to cyclists' tactics for 'getting by' – but we also consider particular ways that equity issues and cyclists' tactics are relevant to the geography of East

Vancouver and the DTES. Such attention helped us consider in some depth ways that poverty is constructed and viewed in Vancouver.

In alignment with these considerations, we employ the concept of geographical relational poverty, as introduced by Elwood, Lawson and Sheppard (2017). These scholars suggest that “Poverty is... produced through political economic relations intertwined with social and cultural processes” (Elwood et al., 2017, 747). Poverty and homelessness here then are not simply defined by one’s lack of economic resources and/or housing, but it is the relationships between individuals, social groups, and governments (and the ways these relationships are enacted politically, culturally, and institutionally) that come to produce impoverishment. Further, with attention to the geographical nature of relational poverty, it is understood here that poverty is not only constructed socially, but also ‘placed’ (Elwood et al., 2017).

This outlook allows for the reading of dominant narratives pertinent (in this paper) to poverty and cycling as being partial (e.g., narratives about who the typical cyclist is and where they ride) (Gibson-Graham, 2008). With attention to the relationships that participants had to various others and structures, we are able to ‘see’ an underground economy of bicycle-related spaces that are largely irrelevant to the ‘typical’ commuter or leisure cyclist in Vancouver. Following this, we consider the ways that the various relations participants encountered in these spaces and on the roads enabled the production of different representations of poverty.

Additionally, we consider De Certeau’s concept of ‘tactics’, in which individuals alter the meaning of spaces for unintended yet transformative purposes, in order to make sense of some of the places cyclists go and how their movement throughout the city differs from the way commuter or leisure cyclists travel through the city. For example, Parker notes that homeless cyclists are “more likely to occupy and move through spaces of dead-ends and backyards than

bicycle commuters on their way downtown or recreational bicyclists working on their miles” (2019, p. 9). Similar to Parker, we consider the ways in which informal recyclers using bikes take up spaces outside the formal construction of the (cycling) city (De Certeau, 1984).

### **Gentrification, Urban Cycling and Recycling Spaces**

Homelessness has long been a topic of both sociological and geographical investigation. In the geographical literature, studies of “new homelessness” (Lee et al., 2010, p. 502) from the 1990s onward have highlighted the punitive measures taken to criminalize homelessness, and have shown that the dwindling spaces left for homeless people to occupy have become coveted (De Verteuil et al., 2009). For example, what were once marginal and undesirable urban spaces in downtown cores (such as older buildings and industrial sites) are now being sought-after.

Gentrification is key to this process, and it involves the redevelopment of new, market-value housing and efforts to upgrade what was there before (e.g., upscale cafés replacing family-owned business) in what were once low-income downtown cores (Blomley, 2016). Gentrification, then, creates “zones of exclusion,” where low-income residents are unwelcome: they lack the “economic means for participation” (DNC, 2011, n.p.) Ultimately, as more land is allotted to wealthy people, residents of the Downtown Eastside (DTES) may feel “out of place in [their] own community” (DNC, 2011, n.p.). Since people experiencing homelessness occupy public spaces in cities, it has been convincingly argued that the privatization of these spaces “usurps their *right to exist*” (Harmon, 2019, p. 2, original italics). In regard to bicycling, Stehlin notes that bicycle advocates are beginning to reckon with the ways gentrification and cycling equity coincide:

The current platform of American bicycle advocacy, with some deviations, holds to both promoting the economic benefits of bicycle infrastructure investment and affirming the need for greater equity. Growing attention is paid to the ways in which these come into



direct contradiction through the process of gentrification, but this is a very recent shift. (2019, p. 5)

While cycling advocates and planners realize the need to address issues of cycling equity, i.e., by providing ‘AAA’ bike routes in Vancouver, collecting data showing the underrepresentation of racialized cyclists, or specifically aiming to get more women cycling (see Firth et al. 2021), there is a need to extend the focus to address broader socio-political factors such as gentrification, cultural attitudes towards cycling, and the continued dominance of automobiles. The present study seeks to learn more about the ever-changing spaces, and the interactions that occur within them, that are relevant to cyclists experiencing homelessness. This study adds to the small but growing body of literature related to the experiences of homeless individuals with respect to the bicycle, with particular attention to cyclists who also participate in informal recycling work in a Canadian context.

## **Methods**

### **Research Setting**

Vancouver (population 675,218) was chosen as a research site because it has a high population of both cyclists and people experiencing homelessness. In 2020, the annual homeless count revealed that 2,095 people in the city of Vancouver were experiencing homelessness, and this number is considered an undercount (Vancouver Homeless Count, 2020). In the DTES, an historic neighbourhood that was once the city centre, many low-income individuals reside in old hotels that have been subdivided into single-room occupancy dwellings (Lupick, 2017). Nicholas Blomley (2016) describes the repeated histories of forced displacement and the ‘pushing’ out of cultural groups and marginalised people from the DTES:

...a significant number of the contemporary residents of the Downtown Eastside are [I]ndigenous. Driven from their lands by the expulsion of settler capitalism, many are forced into the urban margins...African-Canadian residents were expelled from their

homes in Hogan's Alley to make way for a viaduct in the early 1970s, as were residential hotel occupants during the preparation for Vancouver's Expo World's Fair in 1986. These historical layers now combine with the current round of 'pushing', as developers look to the Downtown Eastside as the next 'frontier' (p. 90-91).

According to the Vancouver Homeless Count (2020), 39% of people experiencing homelessness were Indigenous. This number reflects the continued injustice and discrimination Indigenous people face, as Indigenous people make up only 2.2% of Vancouver's general population (Vancouver Homeless Count, 2020). Additionally, 86% of people surveyed experienced at least one health condition. The average life expectancy of DTES residents is 60.2 years, in comparison to 82.5 for male Vancouverites generally (Yu et al., 2021). Almost a quarter of people experiencing homelessness in Vancouver are over age 55.

### **Participants, Ethics and Interviews**

Five men residing in the DTES who were either experiencing homelessness or living in singleroom occupancy housing facilities participated in the study in January-February 2020 (before the outbreak of COVID-19 in Vancouver). All rode bicycles for different reasons, including for recycling work, fitness, leisure, and mobility when walking proved difficult (Steinmann & Wilson, 2022). Four participants were long-time residents of the DTES who had cycled in and out of homelessness. One participant had recently returned from prison. Four of the men were in their fifties, and one was 34. Brent, 34, was Métis, meaning he is a member of the distinct

Indigenous peoples whose traditional lands are located on the so-called Canadian provinces of Manitoba, Saskatchewan, and Alberta. All other participants were white. The study was approved by the University of British Columbia's Research Ethics Board, and the authors also followed the guidelines of Research 101: A Manifesto for Ethical Research in the Downtown

Eastside (Boilevin et al., 2019), including compensating participants in cash (\$40) and using mobile interview methods that let participants have significant control over the interview and were more informal than sit-down interviews.

As only five men were interviewed, results are not intended to represent the range of experiences of variably-housed or homeless men who ride bicycles. Instead, through a more indepth exploration of experiences of a few, we intend to contribute to conceptual thinking and analytical development around mobility and relational poverty especially. In doing so, we align with what Smith (2018) and Atkinson (2017) describe as *analytical* generalizability in their reflections on the contributions of studies with varying sample sizes.

The primary researcher, a white settler, able-bodied, cisgender female graduate student and bike mechanic conducted four go-along interviews, where she cycled alongside participants while they each went about their day, and one sit-down interview at the participant's request (Carpiano, 2009). The primary researcher spent 30 hours cycling in the field and through these rides four participants were recruited through informal conversations. A fifth participant was recruited through a connection at a bike shop where the participant regularly picked up the metal recycling at. Potential participants were read the letter of consent and given one hour to respond. Verbal consent was given by all participants.

Mobile methods were chosen for a number of reasons. As this research focused upon the movement of cyclists experiencing homelessness, moving through space with participants seemed apt. Following studies done by Carpiano (2009), Burns et al. (2020), and Chin et al. (2020), we aimed to engage primarily in mobile methods where we rode with participants. Mobile interviews were particularly effective because they “provide embodied and multisensory data..., stimulate memories... [and] provide contextual understandings of behaviour, emotion,

and feeling” (Smith & Sparkes, 2016, p.106). Overall, ride-along methods provided excellent means of combining interviewing and participant observation, and for getting real-time insight into the activities carried out by informal recyclers and cyclists, something that would be difficult to convey in a face-to-face interview. Burns et al. (2020) explain, “the go-along interview offers leisure scholars the opportunity to gain access to spaces and experiences in realtime that would otherwise require retrospective description by the participant” (p. 52). These methods allowed the primary researcher to experience the embodied aspects of cycling and recycling. Field notes were conducted directly after each interview via voice recording which included critical details that would not be evident by listening to the interview recording, such as details about place and body language cues. Detailed field notes were later written involving indepth description of the interview and researcher self-reflection.

### **Data Analysis**

Interviews were transcribed verbatim by the primary researcher and thematic analysis was conducted. Thematic analysis involved familiarization with the data, coding the transcripts, sorting the codes into eventual themes, naming themes, and refining themes. This process of familiarization, coding, developing themes, and refining themes occurred multiple times. In this sense, developing themes is an iterative approach, in which data and analysis inform each other (Bryman, 2016). The research questions acted as guides as we considered what data ‘counted’ as relevant, while the open-ended nature of the ride-along interviews allowed participants to share a variety of stories. Ultimately, though, it was the data related to the research questions and theoretical framework that were included in the analysis. This data was based on interview questions that asked about the role of cycling in participants’ daily lives, and the ride-along method allowed the primary researcher to take part in some of these daily activities. Thematic

analysis worked well to decipher how the data gathered aligned with the relational poverty framework and tactics. The second author, a white settler, able-bodied, cis-gender male professor and cyclist, participated in the conceptualization of the project, and also served as a ‘critical friend’, meaning he engaged in dialogue on thematic developments, interpretations and theoretical connections (Smith and McGannon, 2017).

## **Results**

The following results are organized around two themes. In the first theme we focus on participants’ relevant geography and the way they moved through space. The second theme is focused around three places that were particularly welcoming to participants: an outdoor market, the community bike shop, and the bottle exchange depot. In the second theme we use the concept of relational poverty (Elwood et al., 2017) to inform our discussion of the connections recyclers made at these places. In both themes we discuss participants’ agency and the ‘tactics’ they used (DeCerteau, 1984) to creatively and skillfully navigate the city on bicycles as they negotiated their day-to-day activities and pursued their interests and needs.

### **Theme 1:**

#### **Moving Through the City: Bicycling and Recycling Spaces**

##### ***Negotiations by Bike and Irrelevant Infrastructure***

We begin with a discussion of how participants used (and did not use) cycling infrastructure, and the tactics they employed as they navigated barriers they encountered in their day-to-day uses of their bicycles.

Participants were more likely to be found riding in alleys, on sidewalks near buildings they needed to access, and in the middle of busy roads that were on the way to recycling depots or scrap yards than on designated bike paths. For example, one bottle depot is only marginally

accessible due to railroad tracks blocking it on two sides. When George and the primary researcher cycled to this depot, we rode across a viaduct in the wrong direction down the sidewalk in order to avoid a post in the middle of the opposite sidewalk that George's bicycle trailer was too wide to fit around. Simon explained that cycling on the sidewalk was sometimes more convenient (albeit illegal) when the business he was making his way towards was on that side of the street. He said:

If I'm biking on the sidewalk, sometimes, I do that. Yeah, you have to bike, you have to bike on the way you're going, like the side you're going, right, but sometimes, I want to get on this side, 'cause I'm hitting some businesses, so I'll bike up on this side, right, instead of walk, 'cause it saves me time, right.

While the sidewalk was sometimes convenient, recyclers risked a warning or ticket from police. However, the road, where cyclists can legally ride, was often an unpleasant place, as George describes:

This is where people say, 'you should join the circus'. Yeah, I get a lot of that. The ones that will FOLLOW me and honk, and say, 'get off the road', where am I supposed to go?

Through these vignettes we see instances where participants were not welcome on roads with cars, and how cycling infrastructure – namely bike lanes – did not serve them well.

### ***The Dwindling Spaces for Recyclers on Bikes***

However, many recyclers had to be more creative about where to recycle and had to cycle longer distances than they once used to. According to Pete, recycling is becoming more precarious on account of recyclers being pushed out of changing neighbourhoods:

Pete: Yeah, we (Pete and his wife who had recently passed away) did the recycling for a long, long time together. Starting with me, I had a spot in Granville Island, but they brought compactors in, so. It seriously killed everything. I was making 40-50 bucks a day, and it dropped down to, 6 bucks, 7 bucks.

Researcher: So you had to go somewhere else?

Pete: Had to go somewhere else, yeah, I had to expand my route, that's all, instead of getting a whole bunch off one [location] I had to go to a few and a longer way... The depots are either way, way, too far away. Yeah, everything went up. Ten cents for bottles, ten cents for plastic. That was a good bonus, that's probably the only thing that kept most of the recyclers here.

Pete points to the fact that many recycling depots moved out of the core of Vancouver and into an industrial area surrounding downtown. Only one small 'express' recycling depot remains in downtown that none of the participants we interviewed used. Pete now had to travel further than he would like to do his daily recycling work, and he had been pushed out of his original recycling territory at Granville Island, a popular tourist area with many shops and restaurants on a small peninsula south of downtown. Pete suggested that the only reason many recyclers are staying in Vancouver is because beverage containers 1 litre and under had increased in price from 5 cents to 10 cents in November 2019 (Return-It, 2019), a significant 'raise' for people doing recycling work.

Despite the lack of helpful bike-related infrastructure, and the further distances that participants had to go to reach bottle depots, bicycles still served participants well for recycling as they allowed them access to difficult-to-reach and off-the main-path places – an allowance that also made it possible to avoid the negative interactions that accompany cycling on main roads (Parker, 2019). In this context, recyclers especially referred to the importance of personalized 'trap lines', and the social connections and material benefits related to them.

## **Theme 2: The Underground Bike Economy: Places that offered support and resources**

Having outlined some of the geographical constraints and infrastructural challenges that recycling cyclists experience when moving through the city and going about their workday, we now discuss results related to places that were relevant to recycling and bicycles that also offered important social connections.

### ***Trap Lines, and the Importance of Connections with Businesses and Property Owners***

Trap lines, the established and routine routes that recyclers followed in order to collect recyclables, offered fairly predictable work and material benefits in a familiar neighbourhood. These routes also acted as important places of social connection for cycling recyclers. For example, the recyclers were able, along their traplines, to benefit from secured connections with business owners, property managers, homeowners, and art studio renters – benefits that included access to a regular supply of recycled items from various buildings and businesses that were left to be picked up through alleys, side entrances and similar places. The networks that Simon and George had cultivated allowed them to predictably make about \$100 a day recycling. Pete, by contrast, was only interested in making \$10-15 a day, which was enough to buy a six-pack of beer and maybe some food. George explained the relationship he had with a building manager and how it had resulted in him having his own work area:

This is the place where I've gotten to know the building manager very well and I have a little work area down here, and that's my stuff. You can probably come in here and see Randy. Oh, and I see they've dumped more stuff for me. (Laughs). After years of doing it, it's gotten nice, that I don't have to, like, jump in the bins anymore, people save it for me.

George's work area was in the loading dock at the back alley of a large art studio in East Vancouver, and when the primary researcher went there with him, we discovered a very large pile of metal recycling waiting for him. George, who carried a large speaker in his backpack so that he could listen to music while he recycled, creatively described his route, and how he had such a sophisticated system that it would sometimes take him days to get to all the recyclables:

This is like the centre of my universe, eh (the art studio building). This would be my universe, centre of the universe, and I'd do that little core of it, and then once that's done, I'd do all my little satellite galaxies. You know, little spot over here, little spot over there, and I mean, some weeks, it would take me three days to get a place from here that's right across the street. I could look at it, but because I'm so loaded up with other things, all I can do is look at it. And it's just been crazy.



George started his day at the art studio building and recycled in an area not far from the art studio building. Besides feeling a sense of ownership over his recycling ‘universe’, he was a familiar face to many people in the area, meaning he had more positive interactions than negative ones when cycling along his trap line.

Places along the recyclers’ trap lines where they had established relationships, built through years of consistent recycling, were key to the recyclers’ success. These were often long established relationships that were often mutually beneficial. Simon explains:

I start from back here, I do the hotel here as well. I’m right in with those guys, they actually gave me the key for the bin. They love me ‘cause I keep it clean, I take graffiti off the bin for them and they really love me over there, they give me a lot of stuff people forget in the hotel...just a few weeks ago they gave me...a Sony camcorder.

Clearly, the hotel managers trusted Simon and appreciated the work he does. They also realized that he may need some of the things that are left behind at the hotel. Simon also explains how recyclers show respect not only for the territory of each other’s trap lines, but also the businesses on their trap lines: ‘Everybody knows [one another], everybody has their own spots and that, and businesses that they do, and nobody touches that, ‘cause they know who does them, right.’ On their bikes, cycling recyclers could move quickly and carry a great deal while negotiating other recycler’s territories and maintaining relationships along their trap lines.

### ***The Four Directions Trading Post: A Place for Accessing Formal and Informal Resources and Connections***

Given the prevalence of theft and also the wear-and-tear on bicycles that were constantly in use, participants were often in need of a bicycle. The Four Directions Trading Post (FDTP) in Vancouver is an outdoor market where participants could purchase a new-to-them bicycle. The FDTP began in response to and as a form of resistance to increased ticketing of street vendors in

the DTES before the Vancouver 2010 Olympics (Young, 2013). While it has shifted locations multiple times, the outdoor market operates daily in the DTES, and it is run by the Downtown Eastside Neighbourhood Council (DNC) and the Vancouver Area Network of Drug Users (VANDU), which are both run by DTES residents.

Participants expressed that the street market was a formalized and legal space where cyclists could connect with other community members and acquire bicycles and related goods at prices that were more affordable than market-value items. Simon discusses a time he negotiated for the return of his bike trailer after it was quickly stolen, and the role that the FDTP played in this recovery:

The last one I had one [stolen], I had a trailer on my bike, and I *ran* down to [the FDTP], I got my trailer back from the guy who they sold it to, I had a helmet hanging out the back of it, so I grabbed my helmet and I says, ‘buddy this is my trailer, I just got it stolen, and I’m taking it back’. He said, ‘relax man, relax’, and the guy’s like 6 feet-something, I’m lookin’ up at him now, so I’m like, ‘ok, I’ll relax, now that I see the size of ya (Laughter). So he calmed me down a bit, gave me the trailer back which was cool, and then we went looking for the guy to get my bike back, but I never found him again. But yeah, he paid like a quarter ounce of weed for the trailer.

Notably, Simon *was* able to negotiate for the return of his trailer, which seems unlikely in most experiences of theft. Additionally, the trailer was traded for marijuana, illustrating the alternative methods of currency prevalent in the DTES. An element of comradery is present in that the man who bought his trailer helped Simon look for his stolen bike. Finally, precarity is relevant here, as Simon found himself with a trailer but no bike for a period of time, which impacted his recycling.

### ***The Community Bike Shop: A Social and Maintenance Resource***

When one was fortunate enough to have a bike for a given amount of time, community bike shops came in handy for specific fixes, for building up a bike, and, at times, for acquiring a new

bike. Most of the participants fixed their bikes themselves before ever going to a community bike shop, or only visited a bike shop when they needed a specific tool. Participants were resourceful and skilled, and were experienced with doing bike repairs. Recognizing the autonomy that these cyclists necessarily developed when it came to maintaining their bicycles, it was also clear that participants were also very familiar with the community bike shop, as Simon, who was riding a 1980s mountain bike he had built up from the frame himself indicated: ‘Oh yeah, this one right here I get a lot of parts from there. Oh yeah, they've given me a lot of bikes’. Giving old frames to recyclers to build up themselves or to exchange for volunteer hours is not uncommon among community bike spaces.

Beyond helping recyclers acquire and maintain their bicycles, some community bike shops offered other resources according to participants. Pete discusses what happens when people cannot pay for a mechanical fix on the spot:

So when I get a flat tire or something like that, a lot of the times, the guys don't have the money on hand to fix their bike, right, so the volunteers, they'll fix it for you. You know when you get your cheque, you can square up with them, kind of thing, right. And, it's a really needed thing. They kept me on the road for quite a while, right. When you get a flat tire, it's very rare I have seven, eight bucks on me to go and get another tire. I just don't have it, right.

This credit system, where Pete could get the mechanical issue fixed on the spot and pay later, is one example of an informal yet established practice that clearly helped Pete continue to recycle and earn the money he needed to sustain himself.

George, too, illustrates the convenience of the community bike shop:

...and they're right across the street [from the main building I bin at]! Which is fantastic, because, I actually got a flat on this bike... I had everything all loaded up to go to the scrap yard, and I picked up the bike and the tire was flat! And I didn't have my patch kit, I had nothing with me. And I thought, "oh crap", and I sat there downhearted for a minute, 'cause it was, like, twenty minutes 'til closing the scrap yard, and, oh wait a minute, [community bike shop]! And they had one 20" tube left! In the used bucket! It

cost me a dollar. Threw it on the bike, pumped it up, and got to the scrap yard, oh it was a life-saver.

In this instance, the community bike shop was a life-saver due to its proximity to the DTES. The price of the used tube – one dollar – was also a positive aspect. Had George not been in close proximity to a community bike shop, he would have been in trouble, since transporting the massive number of recyclables he likely had to his SRO for the night was out of the question. For all the recyclers, ‘making the depot’ (to exchange the recyclables for cash) was paramount. Only George had a place to leave recyclables overnight – in the previously discussed loading dock. However, leaving recyclables in the dock, which was visible from the alley, could attract the attention of thieves who might jump the fence and who could potentially steal more from the building, something George did not like risking. The risk of theft on one’s person was also substantial, so getting recyclables to the depot or scrap yard was of utmost importance.

### ***Social Connections and Economic Capital for Recyclers: The Bottle Depot***

The bottle depot was a very important place in the recyclers’ maps of the city – perhaps the most important place. Cycling recyclers’ received money for their hard work, made personal connections, and sometimes received a variety of perks intended only for recyclers. Pete illustrates differences in various depots, and he discusses the social connections he’s made with people at his favourite one:

Researcher: Do you usually go to that recycling depot? [the one he had been to earlier that day]

Pete: Yeah, for the most part. You know, you build up rapport with them, right. I been to that other one... but they were really cold and not very friendly. And then there’s this one over on the hill here... I don’t much like that one either, because they’re not even paying you full price, right. On the five cent things they’re only giving you three [cents], and on the ten cent ones you’re only getting eight. You know, how much more do you wanna take, right? This one here, it’s all donated, everything and sometimes stuff comes in, and

they get lots of food donated and stuff, right, so every little bit helps right. But truthfully it's all for the beers.

Pete enjoys the personal connection at his preferred depot, which is in close enough proximity to his trapline, and it doesn't underpay, like some other depots do. He also sometimes leaves with donated goods, which is evidently a perk, although the main reason he recycles is to make money to purchase beer.

Simon discusses another perk available at one depot: the lottery for money available to recyclers. He explains: 'You can win a hundred dollars a week there if you put your ticket in, you put your receipt in the box there. My friend won it, like, three times already.' This lottery was clearly set up for recyclers to make extra cash. Similarly, George explains that the depot he goes to is very welcoming: 'These people are so accommodating to binners and homeless. You can ride your shopping cart right in there, there's an overhead heater that you can turn on if you're freezing, and then the coffee and all that.' Free coffee was available at this depot in a large pot with disposable cups. After George had finished recycling his beverage containers, he and the primary researcher had a coffee and relaxed at the depot. The bottle depot, in most cases it seemed, was one place where recyclers were welcomed and accepted.

### **Discussion**

A key and overarching finding from our study pertains to the ways that participants creatively navigated problems associated with the constraints of poverty in their daily lives, and how these navigations pertained especially to bicycle use – and how they were illuminated through stories about bicycle use. Below, we outline how our findings align with, build on, or diverge from the work of other researchers who have engaged with similar topics.

## **Tactics and Bike Routes**

Participants employed tactics (De Certeau, 1984) to take power back in their hands in certain scenarios and adapt to unfavourable environments. Some of these tactics were in direct response to stigma such as verbal harassment on the road – like taking ‘off the beaten path’ bicycle routes, or making calculated decisions to ride on the sidewalk for a period of time while recycling. Other tactics helped participants avoid some of what De Verteuil (2009) calls that the ‘inappropriate’ institutional spaces of homelessness (e.g., jail, food line-ups etc.) that are known to increase instability in the lives of those in poverty, continuing the cycle of poverty. Participants recycled in order to purchase food (and beer) that more adequately sustained them.

Wittmer and Parizeau (2016) found in their study of informal recyclers in Vancouver that the work of informal recycling itself was a tactic that allowed participants to avoid degrading clientization from various social service agencies. This finding is supported in the present study. The bicycle was important because it allowed participants to physically escape from unfriendly places, just as it allowed them to take initiative to earn money from recycling work.

## **Cycling Spaces and ‘Tactical Crisscrossing’**

A major finding was the existence of an underground economy of bicycle-related spaces navigated most days by participants. These places included the FDTP, the community bike shops, the bottle depots, and trap lines. While these places were different in terms of their purpose and offerings, in one way or another they afforded participants autonomy and agency.

Cloke et al. (2008) studied homeless geographies in Bristol, UK, a city that, like Vancouver, provides a significant amount of service for homeless people. Similar to our findings, Cloke et al. found that lives of people experiencing homelessness are regulated through direct policing and through concentrating services in a specific area. Homeless people in their study

escaped these marginal spaces by finding places to eat, places to sleep, places to earn, and places to hang out as they moved through the city. Their journeys ‘reflect a tactical crisscrossing of the city to connect up a range of differently significant places,’ and this crisscrossing allowed them to ‘reinscribe sites with meanings associated with homelessness’ (Cloke et al., 2008, p. 259). Cyclists in the present study also accessed and reinscribed certain places with meaning which was often different from what would seem to be the intended meaning of the place. The bicycle was central to their ‘crisscrossing’ of the city. A loading dock became ‘the centre of my universe’ for one participant: a sort of headquarters where he would sort his recycling before biking off to a depot or scrap yard. For another participant, the bottle depot was not just a site to quickly drop off recycling and make a few bucks – it was also a key place where he created and enjoyed social connections. The bicycle was vital here as a means of providing a method of transportation that allowed participants to crisscross the expanses of Vancouver and travel to preferred sites, rather than, say, the bottle depot that was closest, yet did not pay full price for recyclables.

### **Relational Poverty and Bike-Enabled Social Connections**

Through this research we discovered that participants had developed a number of social relationships, many of which related to bicycling. The example where one participant in the study received support recovering his bike trailer is one instance of this. The social connections that informal recyclers fostered through years of recycling were important not only for social support, but also for securing a constant supply of recyclables. Along participants’ trap lines, some building owners or property managers made sure recyclers’ had a regular pick-up, and even a place to sort their recycling (cf. Gowan, 2010). These relationships also represented an element of stability and reliability in the lives of recyclers, for whom so much of life was

precarious. Similar to Parker's finding that using a bike enabled homeless cyclists to have positive interactions (2019), a key overarching finding here too is that the bicycle played a central role in being able to reliably carry out many of the recycling activities that allowed some of these relationships to thrive.

Furthermore, employing a relational poverty lens to these results allows us to see how these social connections are relevant to the range of ways that poverty is produced (Elwood et al., 2017). While we highlight the importance of relationships along participants' trap lines above, we also think that the relationships participants fostered at the FDTP, community bike shops and bottle depots were relevant to the experience of poverty in a way that might be more positive. As we noted in the results section, the community bike shop offered low-income cyclists a range of benefits – including a credit system, so they could get assistance with or do their bike repairs and pay later. We also learned that community bike shops will sometimes give a participant a bike, free of charge. The FDTP similarly had bicycles and bike parts for sale at reasonable prices. Although not all bottle depots in Vancouver were considered to be accommodating or welcoming to recyclers, and some paid less than full price for recyclables, several bottle depots had systems in place to help recyclers: free coffee, food and clothing donations for them, a raffle to win cash, heaters to warm up near on chilly days, and space to bring their bike or cart inside, out of the Vancouver rains.

We argue that community bike shops, the FDTP, trap line sites and some bottle depots were places where cyclists experiencing homelessness felt welcome and where many of their needs were met – in a society where homeless cyclists are often stigmatized and where their particular interests and needs are often considered secondary to the interests of and needs of those with more resources and with a higher status. We suggest that through the various



relationships between participants and individuals working in these local organizations, poverty seems to be recognized as something that is a structural problem rather than an individual one. At the same time, it seemed that in these contexts participants can expect that they will not be othered in the ways that they sometimes are elsewhere in the city (e.g. when George was encountered by another road user, he was treated as a disruptive presence within car traffic) or at metal scrap yards (where cyclists are not allowed).

While operating within the structures of capitalism in Vancouver<sup>1</sup>, individuals involved with these organizations and buildings still found ways to create a setting and system that participants in this study indicated allowed them to feel valued and supported, and offered a foundation from which they might live lives free of some of the barriers that they commonly encounter. Wright (2012) argues that when these spaces are identified and the features of these spaces better understood, the next step is to push policy-makers to intentionally support the creation of other spaces with similar features. As a first step, we note that that participants identified the importance of these spaces, noted features of these spaces – and linked these spaces to their uses of bicycles.

### **Conclusion, Implications, and Recommendations**

In this paper we attempted to demonstrate how the five variably-housed men who cycled and often recycled who participated in this study navigated an underground economy of bike-related spaces – and how their efforts allowed them to make money, maintain access to a bicycle, and cultivate social connections. We also noted the features of a few highly valuable sources and spaces of support that existed for participants within a landscape where barriers of many sorts were encountered regularly. These findings could help bring attention to the needs of cyclists living in poverty and resources considered to be most valuable, to the creativity and resilience of

an often-stigmatized group, and to ways that more inclusive cycling policy might support the efforts of a marginalised group to live a healthy and safe life, and to counter stigma.

There are a set of potential implications based on this research. The first implication is based on our finding that the recycling-related and bike-related needs of some participants (e.g., safe ways of reaching a recycling depot) are not being met at present. From this, we suggest, quite simply, that the needs of cyclists living in poverty should be considered in the design of more inclusive transportation policies and planning activities. While our comment here is a response to what we learned about the experiences of participants in this study, it would certainly seem in light of findings by other researchers (e.g., Lugo, 2018) that cycling-related policies in other contexts would benefit from attention to similar issues.

The second implication pertains to our finding that there are key places in Vancouver that effectively serve low-income cyclists. Our suggestion here is that lessons could be learned about how inclusive activities and respectful engagements might be more widely integrated into the business practices for those that work with variably-housed people, including cyclists. We would add here that respectful and effective engagement includes recognizing the central importance of *mobility* for successfully negotiating day-to-day life for low-income individuals – and that addressing mobility needs might look differently for differently positioned individuals. For example, recognizing the financial and safety implications – and therefore health-related implications – of not arriving at the recycling depot before closing for the participants in this study might be taken more seriously, as could the role that a functioning bicycle plays more generally for some recyclers. Clearly those at the community bicycle shop recognized this. We would implore those working in other areas, including in housing for low-income individuals, to

consider (for example) how the security of those who ‘miss the depot’ might be ensured if one needs to cash-in recyclables in the morning, instead of the evening.

The third implication, a more general one, emerges from our overarching finding that the variably-housed cyclists in this study creatively and strategically found ways to ‘make do’ in difficult circumstances. We interpret this to mean that activities that might seem ‘deviant’ should be interpreted in relation to a context-dependent understanding of fairness, personal safety and wellbeing. This finding might help inform attempts to destigmatize variably-housed cyclists especially, which might, in turn, be helpful when attempting to influence those who lead the redesign of transportation policies – in hopes that variably-housed cyclists themselves be consulted in such policy (re)designs.

More studies of cycling and housing instability are warranted too. Only men were interviewed in this study, yet Wittmer and Parizeau (2016) found in their analysis of informal recyclers at one bottle depot in Vancouver that 30% identified as female. It is likely that some of these female recyclers would also use a bicycle. Additionally, no recent immigrants were interviewed in the present study. Immigrants make up a significant proportion of Vancouver’s population, and literature has suggested that the specific needs of recent immigrants are not met in cycling advocacy that centers white and upwardly mobile populations (Law & Karnilowicz, 2015; Bernstein, 2016).

Also, and while some studies explore experiences of waste-pickers in the Global South, there is a dearth of literature on informal recyclers in the Global North. Literature focusing on the Global South has identified how informal recyclers make environmental, economical, and community-building contributions (Dias, 2016). Incorporating this literature into city planning and environmental initiatives could be key to reducing waste. Recognizing and supporting the

work of informal recyclers in cities' waste and recycling initiatives could also be a way to foster inclusion – and considering the important role of bicycles in such work could further support efforts of cities like Vancouver, that aim to be “waste-free” by 2040 (City of Vancouver, 2018).

## Footnotes

<sup>1</sup> Although, community bike shops often aim to be anti-capitalist (Furness, 2010).

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