

**Tools of the Trade:
How tool selection increases challenges in the work
of binners in North-Central Surrey**

**by
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Abstract

This study examined the role of work tools used by informal recyclers (*binners*). Bidders in BC's Lower Mainland use a variety of tools to collect and transport work product to recycle depots. Choice of tool poses challenges: none works perfectly in working spaces of bidders in North-Central Surrey. Using ethnographic interviews and work-alongs, this research identified trade-offs pitting factors like mobility and income against one another. Some work tools elicit negative public opinion; some are hard to secure: grocery carts are confiscated and bicycles stolen. Although this autonomous work is not directly regulated, interviews revealed factors regulating how bidders and their work tools move through neighbourhoods and access amenities during their work shifts. Hierarchies of binning tools created from this research illustrate daily challenges of this work.

Keywords: work tools; autonomous work; dirty work; recycling; stigma; ethnography

Dedication

I offer gratitude for the opportunity to participate in a community of learning on the ancestral, unceded and rightful lands of the Coast Salish peoples, including the Musqueam, Squamish, Kwikwetlem, Tsleil-Waututh, Katzie, Kwantlen, and Qayqayt Nations. The research, writing, editing and preparation of this document took place on these lands.

This thesis is dedicated to those who contributed to this research by sharing their stories and philosophies with me. The binners who welcomed me into their spaces of work were patient and encouraging teachers. It was a privilege to spend time learning from them and listening to their observations about waste, the environment and the humans who move in the landscape of their work.

In the landscape of my own work, I am deeply grateful to my life partner, Khristian, who has been a constant support in my academic journey -- critical proof-reader and questioner, remover-of-doubt, and patient listener to all manner of urban issues, from sewage and cemeteries to street trees. (K, I promise one day to research something closer to your heart, like neighbourhood cats as creators of social cohesion.)

Finally, this thesis owes its narrative fabric to my parents, grandparents and great-grandmother, who taught me the value of learning from and with people by listening to their stories.

Although this thesis will be frozen in a particular moment in time, it feels to me like a living document because of all the people whose ideas still move within it.

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The stories shared by Urban and non-Urban Studies classmates and colleagues transformed how I look at urban space and urban work. I am grateful to those who helped me think through this research, who sweated their own thesis-writing beside me, and who read early drafts and offered both encouragement and critical feedback.

My graduate school journey began with the person who shepherded this thesis into being: Dr. Karen Ferguson. As Director of Urban Studies in 2015, Karen welcomed me into the program; as my senior supervisor, Karen supported and firmly nudged this thesis through to completion, even when I doubted an accelerated timeline was possible. I am incredibly grateful for her faith in my abilities as I worked through a process that taught me about capacity, resilience and decision-making. I am so fortunate to be able to build on Karen's advice as I embark on the next part of my academic journey.

This thesis took shape around ideas I encountered in the classroom. Dr. Patrick Smith helped me consider ways in which government regulates spaces where we live and work. Dr. Karen Ferguson offered me opportunities to examine more closely how gentrifying forces impact the humans most vulnerable to change in our cities. Dr. Lisa Freeman introduced me to move-along policies affecting homeless people who sleep in public space. Michael Von Hausen showed me how public space can be shared by diverse users. Dr. Anthony Perl provided me with tools to evaluate street infrastructure that challenges bidders in their work journeys. Dr. Noel Dyck's observation assignments helped me develop ways of seeing that were indispensable to my work-alongs. Dr. Peter V. Hall invited me to explore innovative ways to include research participants and their knowledge in my process. Dr. Tiffany Muller Myrdahl helped me confront the tensions between the *ongoingness* of research relationships and the need to produce a finished product. Dr. Meg Holden introduced me to the urban Commons, and planted the idea for this thesis when she encouraged me to carry out a thought experiment in which repurposed grocery carts were a *commoned* -- not just a common -- urban tool.

This thesis owes a debt of gratitude to two humans with superhero capes hiding in their closets: Urban Studies manager Terri Evans and Urban Studies librarian Nina Smart. The resources and planning advice offered me by both were instrumental to the completion of this thesis.

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Prologue

I started watching people carrying bags and pushing carts when I was in elementary school. My family had just moved from a small town in northern BC to Metro Vancouver. This move was hard on my mother, who had relocated frequently as a child, having to adapt to new communities and new classrooms. By early adolescence, my mother had been a student at ten different schools in urban and rural areas across North America, from McIntosh, Alabama to Oakland, California, and finally, Victoria, British Columbia. Two decades later, our own family relocation may have reminded her of the precarity of her earlier life. Perhaps she felt the burden of an outsider having to make the effort to find a place for herself in a large urban centre.

She never spoke openly about her feelings. But, whenever we were out in the city centre, my mother would draw our attention to others who were visible reflections of the exclusion she must have felt. Driving through downtown Vancouver, we'd pass a woman pushing a grocery cart with what appeared to be all her belongings. My mother would gesture across the street. "That's me," she would say. Sometimes the woman she indicated had only bags; others juggled battered suitcases and small handcarts on wheels. I watched these individuals and wondered. Was it easier for elderly people to push a shopping cart than to carry their belongings in bags? Did the bags' handles cut into their fingers?

By the time I was in university, I had begun to talk to the people with whom my mother seemed to identify. Some, willing to answer my questions, offered me tips about how they managed, where they slept, how they organized their belongings and their time. Many worked odd jobs: construction, cleaning, panhandling. Some, not merely carrying and pushing belongings, collected discarded items to sell or turn in for a profit. I learned from the stories they shared that humans are creative and adaptable, that we all crave comfort but define it differently, and that we all experience a shared set of human emotions regardless of our status: pride, joy, grief, fear, frustration, gratitude.

Like my mother, the marginalized people so visible in Vancouver's urban core are also seeking ways to fit in. They find themselves in densely urban spaces with people of different classes, there for different purposes, including work. This mixing of people and purpose in shared spaces is a downtown core phenomenon, but not one

commonly associated with my study area. However, as North-Central Surrey rapidly urbanizes, its transformation enables a mixing of populations unused to sharing spaces. The softening of formerly rigid boundaries that separate suburban residential neighbourhoods from commercial and industrial spaces increases informal work opportunities for people living in the margins. Emerging from the margins, binners now move among people unused to seeing, in their own community, the work and work tools of informal recyclers. It is my hope that this research raises awareness of the challenges binners face as they perform valuable work with limited tools in spaces that many of us consider common but which, in a binner's reality, constitute a collective workplace.

Chapter 1.

Introduction

I watch as two bidders approach the depot from different sides of the street. One pushes a blue recycling wheelie bin, the other a silver grocery cart. These useful tools made of plastic and metal are filled with recyclables also made of plastic and metal. As the bidders and their tools arrive at the depot, they complete an important link in the recycling chain.

- Field Observation Reflection, March 2018

This thesis is organized around stories shared by informal recyclers (*bidders*) about their work and the tools they use. The document is divided into six chapters. Before posing the research questions that guide this thesis, the Introduction first describes informal recycling and situates binning within the larger work category of waste picking; it then differentiates binning from similar forms of more formalized work in the Global North, describing the specific tasks performed by bidders with limited tools. The Key Concepts chapter introduces the main bodies of literature that inform this research: work tool ergonomics and its impact on worker wellness, informal recycling as a category of “dirty work,” and the stigma of this work and its tools outside the urban core. The Research Design and Methods chapter outlines the process of collecting the data and provides the reader with a brief biographical introduction to participating bidders. The data collected from this research is presented in the Findings chapter in three sections. The first Findings section defines and describes the landscapes through which bidders travel in their work journeys. The second Findings section presents the tools used by bidders in this study and outlines nine challenges posed by these tools. The third Findings section provides a matrix of work tools and qualitatively rates their individual capacity to respond to each of the challenges based on narrative evidence from bidders’ work journeys. The qualitative ratings of each work tool in the matrix are presented in hierarchies that reveal more specifically each tool’s impact on bidders’ physical, emotional and financial well-being. The Discussion chapter answers the research questions by exposing trade-offs that bidders make when using different work tools, explaining why trade-offs occur, and exploring ways in which challenges might be reduced for these workers. Finally, the Conclusion offers lessons learned and suggestions for further research. The thesis ends by highlighting opportunities of and

possible barriers to greater inclusion of binners and their work tools in North-Central Surrey as a means of increasing local environmental stewardship.

1.1. Similar Work but Dissimilar Working Conditions

A wide variety of workers maintain our urban spaces. Some of these workers perform crucial roles to safeguard infrastructure, clean the built form, and maintain spaces we use in the course of daily living. Although some of this work performed during daylight hours appears visible, we often see it merely as background to the set of priorities that move us through our day. And the work that occurs at night may go unnoticed altogether. Most of this work is done by people who are formally employed; their work is regulated, often unionized and paid with public funds, and comes with paycheques, uniforms, work tools, benefits and bosses.

When these workers require tools for the jobs they do, these are often provided and maintained by their employer. If the tools don't function well or are harmful to the worker, it is the employer's obligation to ensure a safety process whereby equipment is inspected and repaired or replaced (WorkSafeBC, OHS Reg. 12.10; WorkSafeBC, OHS Reg. 3.5). This ensures work efficiency and worker health, safety and satisfaction. In British Columbia, WorkSafeBC BC oversees safety regulations that often require protective equipment for workers, and ergonomic changes to tools or workplaces to prevent harm and to promote worker health (WorkSafeBC, "Ergonomics").

These laws protecting workers are often provided to those in formal, regulated work. Not all workers, however, fall into this category. Although informal recyclers (*binners*) perform work that is similar to that of custodians, groundskeepers, street cleaners and municipal solid waste collectors, they do not have the same access to protections or work technology. Custodians who clean and maintain indoor spaces should have access to masks and gloves to protect them as they clean spaces within their care, removing food waste, sorting recyclables and coming into contact with substances like mold and bodily fluids (Workers Compensation Act, 2019, Reg. 8.14, 8.17). Groundskeepers, who during their workday clear litter and recyclables from outdoor greenspace and hardscape, are often equipped with pails, grabbers and sometimes small motorized vehicles to speed their journeys around their workplace. Street cleaners, like groundskeepers, should be supplied with large pails and grabbers,

as well as protective and reflective clothing to ensure their safety during night shifts (WorkSafeBC, “Stand Out Safely”). And municipal solid waste collectors are provided not only protective gear, but also mandatory training for handling objects in ways that minimize bodily harm from the object and to protect the worker from repetitive stress and musculoskeletal injuries (Silliker, 2017). Provincial laws offer the workers listed access to gloves to protect their hands from injury and contact with harmful substances (WorkSafeBC, Reg. 8.19); these are usually provided by the employer. New employees in these regulated jobs should also receive mandatory training about what to do with “sharps” to prevent risk of infection from a needle stick (WorkSafeBC, “Training & orienting workers”).

But this thesis is not a story about any of the workers listed above, despite the similarity of their work. This is a story about bidders, a less visible category of worker but one whose significant ecological contributions on a local scale are multiplied when considered collectively. In an era of extreme climate change caused by greenhouse gas emissions, the work of bidders is of increasing importance. WIEGO promotes the economic benefit of waste-picking, estimating that the livelihoods of 15 million people worldwide are supported through reclaiming what others throw away, 1.3 billion tons of this waste is produced within urban centres each year (WIEGO, 2015). In some cities in the Global South, more than 66% of municipal waste is diverted from the landfill by waste pickers (WIEGO, 2015). Along with economic benefits from this work¹ are invaluable ecological services.

However, as research has focussed mainly on these workers in the context of the Global South, it is hard gauge with accuracy the overall benefit to the planet of their combined efforts (Medina, 2000). Even when researchers have examined bidders in the Global North, their study areas have focussed on those in dense urban centres, not on the work of bidders in suburban or semi-urban areas. Although this is a logical research strategy -- given that urban centres support a larger number of garbage-producing consumers, which provides work for a larger number of bidders and, therefore, a greater

¹ It is estimated that in 2007 the waste picking activities of the *Zabbaleen* (waste-picking pig farmers) saved Cairo’s government 14.5 million euros in waste management costs (WIEGO, 2015). And Laila Iskandar, Minister of the Environment, protected their livelihood when the government outsourced waste management to foreign companies and recycling rates overall dropped. However, there was a trade-off for the *Zabaleen*: with the Minister’s protection came formalization and regulation of their work, including the wearing of uniforms. (Kingsley, 2014)

study population within a smaller geographic space -- such research on inner city binners increases the invisibility of the contribution of other binners who work outside the downtown core. The research for this thesis seeks to expose some of those work challenges and to focus on the ways in which suburban and semi-urban settings can limit the work of binners through the tools they need to perform this important work. Although I am convinced of the ecological significance of binners' work and its positive impact to our environment at both a neighbourhood and global scale, it is not the goal of this thesis to quantify that value. Rather, this research is interested in looking at an area that is absent from informal recycling literature: the barriers facing binners using stigmatizing work tools in a Global North suburban municipality undergoing urbanization.

This research finds that although the contributions of binners' work are similar to those of other employees who care for our environment -- custodians, groundskeepers, street cleaners and municipal solid waste collectors -- binners do not share similar access to appropriate tools and safety equipment. Their working conditions are shaped by the informality of their work, limited access to appropriate work tools in their workplace, and the stigma associated with both their work and the tools they use. To understand why that is, it is first necessary to understand what kind of worker a binner is and what kind of work they perform.

1.2. What Kind of Worker is a Binner?

1.2.1. Binner as Waste Picker

Bidders exist around the world. A specialized type of informal recycler, they collect empty cans and bottles that can be exchanged for money. As workers, they fall under the global category of *waste pickers*. Although this term may sound pejorative to an English-listening ear from the Global North, it was officially adopted in 2008 at the First World Conference of Waste Pickers to replace a term deemed more problematic: *scavengers* (WIEGO, 2013). It is important to note that in the Global North, and certainly in the geographical study area of this thesis, *scavenger* and *binner* are not synonymous; both *scavenging* (the collecting of discarded items for repurposing, resale and reuse) and *scrapping* (the collecting of various types of metals accepted for compensation by scrap metal dealers) are separate professions sometimes practiced in conjunction with *binning* in British Columbia's Lower Mainland. However, in the Global South, which

predominates in research on informal recycling, all three of these activities are considered part of the much larger category of *waste picking*. Despite this, most informal recyclers in the Global North would not refer to themselves as *waste pickers*. While, in British Columbia's Lower Mainland, informal recyclers refer to themselves as *binners* (Binners Project, 2019; Wittmer & Parizeau, 2016; Tremblay, 2009; Tremblay, 2007), workers performing the same role in New York refer to themselves as *canners* (Berardi, 2019; Watt, 2019; Berardi, 2018). According to one of the research participants in this thesis, informal recyclers from Alberta similarly name themselves after their work product, referring to themselves as *bottlers*. Although in the Global South waste-picking can include not only aluminum and plastic food packaging but also cardboard (Schenck & Blaauw, 2011) food scraps (Kingsley, 2014; Didero, 2011) and textile waste (Ravichandran & Sivasankar, 2009; Furedy, 1994), workers in the Global North are limited by governmental schemes regulating compensation for recycled goods. Unlike the Global South, where multiple waste types can be collected and turned in at a buy-back enterprise for a profit, much of the Global North has not established means for compensating informal workers for collecting and turning in more than most types of beverage containers: plastic and glass bottles, aluminum cans, ready-to-drink juice pouches, drink boxes and gable-topped boxes containing juice. Although plastic milk jugs can be returned for a refund in Alberta, BC has not yet moved to a scheme that includes any containers of milk, milk substitutes, meal replacements or infant formula (Recycling Council of British Columbia, 2019). Of these, only those for which the consumer paid a deposit can be turned in for a profit, and then only if they meet certain criteria as judged by the employee of the recycling (redemption) facility or retailer (B.C. Laws, 2019: Part 4, Schedule 1). For example, if a container is judged to be "contaminated, rusty or dirty" the facility does not have to accept the item or pay the refund. (ibid.) This can be fairly subjective, and the binners I interviewed in this research indicated that some facilities are stricter in their judgment than others. This often determines where binners will go to turn in their work product and how far they will travel with their work tool to do so. Less subjective is the requirement that the product have been sold in British Columbia.² Limiting refunds on recyclables to only those beverage

² The same rule applies in other provinces. This prevents cross-border recycling schemes such as one that a participant in this research was planning with a friend. As they come across many plastic milk jugs but cannot return them for a refund in BC, they had planned to collect as many jugs as possible, store them in a safe place, and when they had accumulated four hundred, they were

containers means that myriad items littering public spaces, like paper cups and plastic straws, are left behind by binners; although these items are recyclable, binners will not receive compensation for transporting these with their work tool to the local recycle depot.³

1.2.2. Binner as Informal, Autonomous and Unprotected Worker

As most of the waste-picking research has been done in the Global South, global definitions of the workers involved in informal recycling have emerged from literature about those worker populations. Not all of these categories apply to informal recyclers in the Global North. Take for example Women in Informal Employment: Globalizing and Organizing (WIEGO), an international NGO advocating for the economic rights of women living in poverty in developing countries. Although WIEGO identifies seven main types of waste pickers, only one truly applies to those who do the work of binning in Canada: street waste pickers (WIEGO, “Basic Categories”). The other roles identified -- dump/landfill waste pickers, doorstep waste pickers, on route/truck waste pickers, itinerant buyers, sorters and handlers/processors of organic wastes -- are either non-existent or describe formal employment at a municipal or regional level. Crivellari, Dias and Pena (2008, as cited in WIEGO, “Basic Categories”) further divide the WIEGO categories into three descriptions according to how the work is organized. Since the binners in my study area have neither contract nor union, they are considered “unorganized” or “autonomous.”

Informal work is more than mere self-employment (Charmes, 2016). In fact, an informal worker might be informally employed and have a boss. Binners in BC’s Lower Mainland, however, do not have an employer. Their work is informal in that it exists outside formal, regulated employment. Informal employment is “the absence of formal contracts, rights, regulations, and bargaining power” (Jan Breman as quoted in Davis, 2006, p.161). Whereas some workers, including many of the binners I interviewed, may appreciate a perceived freedom in unregulated work that doesn’t tie them to a schedule

going to rent a truck and drive to Alberta to cash them in. The scheme fell through when they realized they’d have to prove purchase in BC.

³ This does not always matter to some binners. A female binner on the DTES tells me proudly that she collects the “little clear plastic strips that go around containers” and turns them in along with the bottles and cans she collects. “Doesn’t matter if I don’t get paid for them,” she says. “Still recyclable. Who else is going to do it?”

or a particular pace or style of performing their work, as the International Labour Organization notes, informal work denies the worker “rights at work, social protection [and] decent working conditions” (ILO, 2018). Waste picker researcher Millar rejects the idea of this work as either formal or informal, preferring to frame it as simply a “form” -- not just of work but of living (2018, p. 15). She bases this on the plasticity of both the work and the relationships involved in performing the work. This lens refuses the view of waste picking as simply a subsistence activity to mitigate or eradicate poverty (Gutberlet, 2012). While it’s true that binning is an activity carried out often, as Gutberlet, Tremblay, Taylor and Divakarannair (2009) observe, by those who are “impoverished” and “excluded,” this is more than just a job that bidders are forced into. Several of those I interview tell me they chose this over panhandling, a job they all agreed could earn them several hundred dollars a day, more than 10 times what some of them earn through informal recycling.

Because it is autonomous and not overseen by an employer, binning work is not officially regulated (Medina, 2000). These informal recyclers have no access to any of the work benefits often provided to their formally employed counterparts -- the custodians and municipal waste collectors. This is one of the trade-offs of autonomous work: there is a perception of freedom -- no boss, no scheduled work shift, no worker surveillance or performance evaluation, no checklist of duties to perform. But this also means freedom from the advantages an employer might be expected to provide: free or subsidized work tools, provision of workplace amenities (washrooms, kitchen space), concern for worker well-being.

Unlike the bidders, municipal solid waste (MSW) collectors lack autonomy, and reap the benefits of regulated work. These benefits of formal employment make their work lives easier and their working conditions less dangerous, as much mentally as physically. As they move through the same suburban landscapes performing similar work to that of the bidders in this study, they perform “dirty work” similar to binning; but, while their profession shares some of the same stigma as the bidders, the MSW collectors are an accepted and expected part of the rhythm of urban and suburban life. To increase this acceptance, the MSW employers of these regulated workers are raising community empathy for municipal garbage and recycling collectors. A 2017 article reported that occupational risks to waste collectors make them “3 times more likely to be hurt on the job” compared to other workers (Silliker). It pleaded for public awareness of

the “curbside [as] collectors’ workplace,” listing hazards faced by waste and recycling collectors along their routes (Silliker, 2017). These same hazards are exponentially greater for binners, who are often salvaging recyclables from bins and greenery where people have not taken care to sort items; needles and broken glass pose frequent risk in their work spaces, which are not expected to be organized as are the bins and boxes placed out for MSW collectors. In fact, for binners, the curbside represents only a small portion of the workplace. A binner’s workplace is all public space. But this is space that the general public does not see as work space; as Silliker’s article indicates, people are unlikely to see their behaviour in public spaces as contributing to another’s working conditions (2017). But without an employer, binners have less access to advocacy for their safety in public spaces. Moreover, binners are not workers for whom the general public feels a duty of care. After all, binners do not work directly for the public; they are not performing work for payment from tax dollars. The public is not their employer. The public may, however, feel that binners are benefitting from tax dollars in the form of social assistance. To some, then, binning might be seen as a form of greed, as a kind of double-dipping. This perceived parasitism will be addressed in detail in Chapter 2, in the section on stigma and dirty work.

1.3. Research Questions

Research for this thesis was guided by the following key questions:

What do hierarchies of binners’ work tools reveal about the advantages and disadvantages of each tool in the work of informal recycling in North-Central Surrey? How do these hierarchies lead to an understanding of the trade-offs that result from a binner’s choice of work tool?

Three bodies of literature help me address these questions and contextualize my research findings. Each body of literature is situated in the realm of work: work technology of informal recyclers, worker wellness, and the stigma associated with this type of work. Binning is often considered to be “dirty work,” a concept explored more deeply in section 2.3 of this thesis. This status can result as much from its informality as from its association with what people have discarded as waste. The use of a work tool that may be seen as stolen property, such as a grocery cart or wheeled grocery basket branded with a store’s logo, can add to the stigma of this work. Moreover, binners are sometimes associated with homelessness and the extreme poverty that exists in parts of

BC's Lower Mainland.⁴ Being identified as poor in a North American context carries its own special brand of stigma (Lichter & Crowley, 2002). This observation is supported in my study area by low-income focus group participants, who frequently referred to the inescapable prejudice they faced when they perceived that others in the community identified them as poor (SPARC BC, 2018).

1.3.1. Significance of Research

Myriad research has already examined waste picking in the Global South. Fewer studies have focused specifically on bidders in the Global North, and those have examined populations in urban centres. Although the health of informal urban recyclers has sometimes been a core element of these papers, none has focused solely on how bidders' work tools impact the physical as well as psycho-social health of these environmental stewards. None has been situated in a suburban space undergoing such intensive identity transformation as is occurring in North-Central Surrey. Moreover, whereas many of the informal recyclers in research from both the Global South and the Global North have been investigated either through the portal of collectives or with the aspiration of creating these, I have interviewed in this thesis bidders with no attachments to such organizations; several who participated in this research have clearly indicated why such a collective would not be of interest to them. I hope my research may contribute a small piece to enhance understanding of what it is to perform the work of informal recycling in an understudied environment. My research offers specific insights from bidders on the selection and usefulness of the tools they use in their informal work in a transforming suburbia.

1.4. Bidders' Workplace in Urban & Suburban Spaces

Although bidders in the urban core are a habitual sight gravitating to spaces that offer both plentiful work product and an abundance of social services, bidders in less urban spaces may feel less welcome. Like my mother arriving in a large city from a small town, bidders in suburban and semi-urban spaces may face a geography that is not

⁴ In fact, one of the most common uses of repurposed grocery carts is to carry the belongings of those who have no home to store their possessions. Despite the fact that not all bidders are homeless, those who use these work tools can be impacted by the stigma facing homeless people in the region.

obligated to make them welcome. Although spaces like North-Central Surrey are urbanizing quickly, gentrifying through development based on plans to revitalize the city and create a vibrant downtown atmosphere (Reid, 2017; Surrey City Centre, 2016; Urban Surrey, 2017) this urbanization is planned with an eye to the residents of new condos not for those sleeping rough in ravines or displaced from tents and now hidden in temporary modular housing. As the homeless population has been dispersed to make space for those the new developments will house, so too have the small number of services available to bidders and their community had their hours and offerings curtailed.⁵ Familiar social and work spaces are starting to disappear for those who used to live on the Strip. A local blog, Urban Surrey, reports the construction underway in 2018 -- “5 high-rises and 3 low-rises”, all condos and office space, totalling over 90 storeys cumulatively. Of the planned construction for 2019 over half are for condos. If built, these will total well over 400 storeys cumulatively (Urban Surrey, 2019). The blog shows the rise in applications in the past four years: from 4 applications (for 5 towers) in 2016, to 7 applications (for 13 towers) in 2017, and 13 applications (for 21 towers) in 2018. The rapid densification transforming their living space may shock some of long-time homeowners in North-Central Surrey. This will have a direct impact on the informal work of the bidders as they move with their work tools through these spaces.⁶

Each neighbourhood a bidder travels through presents different challenges and opportunities. The challenges are frequently both physical (infrastructure that is difficult to navigate with a work tool, uneven or muddy terrain) and psycho-social (public judgment and surveillance by local law-enforcement). The opportunities are most often economic (specific places where a bidder will find more than the usual number of returnable cans and bottles, and possibly even scavenged material to sell). Unfortunately, the challenges don't decrease in areas where there are increased

⁵ The Front Room is no longer open to everyone as a shelter, a social space and a place of amenities: washroom, shower, laundry. The Surrey Urban Mission Society (SUMS) no longer allows people to hang out in front of the building all day, chatting, sharing, participating in commerce; some bidders tell me that if they take too long leaving after their meal, they could be banned for a day or two.

⁶ Although some of the bidders who participated in this research work in both North-Central Surrey and New Westminster, it is important to note that the work-alongs took place only in North-Central Surrey, and observations and discussion in this thesis centres on bidders' experiences in their “home” community in North-Central Surrey. All reports of perceived stigma and interaction with law-enforcement are limited to binning experiences in North-Central Surrey. This element was not examined in the context of nearby New Westminster.

opportunities. Moreover, it is unusual for a binner who relies on income from binning to make a living by sticking to only one type of landscape in a day. This means that the tool a binner uses has to be flexible enough to travel over different terrain, capacious enough to hold a large volume of work product, and sturdy enough to last a long journey back to the recycle depot. This is difficult, given that many binners cannot afford to buy their work tool; so, a work tool's free availability plays an important role. If a binner is fortunate enough to have a more coveted work tool, like a bicycle with a small trailer, this tool becomes both a benefit and a liability. According to the binners I interviewed, a bike is the binning tool that carries most value and is most likely to be stolen. But just as not all tools are the same, neither are all binners. Those who are coping with an illness or disability may perform better with a grocery cart they can lean on for support, unlike a bicycle which requires certain balancing skills. Regardless of the type of binner, type of landscape, and type of tool, there is no single combination that will help create the perfect work environment for a binner in North-Central Surrey.

In this thesis, I use hierarchies to organize and compare the benefits and drawbacks of each binning work tool. My research reveals inevitable trade-offs binners must make, sometimes on a daily basis, in spaces that Surrey seems to want to be both exciting and urban but still suburban and "home." (<http://surreycitycentre.ca/>) Because of recent gentrification underway in sections of North-Central Surrey where binners work, the physical challenges a binner faces are magnified. Despite being flat, Surrey is car-dependent. The pedestrian-friendly infrastructure common to Vancouver's DTES is uncommon in North-Central Surrey, which makes walking and rolling with wheeled work tools difficult. But the psycho-social challenges are even greater for binners in this conflicted suburbia -- especially one that has aspirations of becoming an urbanized downtown space without any of the problems of a DTES. This is evident in the discourse about key spaces in North-Central Surrey. Although Surrey is identified in literature as a suburb (Grant & Scott, 2011), developers of recent buildings in North-Central hubs like King George Skytrain Station have begun to advertise themselves as "urban communities" (<https://www.parkboulevardliving.com/>). Even the City's new and aspirational Surrey Police website explains that Surrey has transitioned from "roots as a suburban community to a major metropolitan hub" (<https://www.surrey.ca/police/default.aspx>).

These descriptors, however, clash with the “semi-industrial” identity still ascribed to some of those areas (Quan, 2017) where luxury condo towers are rising near the Surrey Strip and its neighbour, Surrey City Centre, only a fifteen-minute walk away. At least one developer’s vision would transform the Surrey Strip into “the Yaletown of Surrey” (Johnston, 2017), while Surrey City Centre now advertises itself as “BC’s emerging downtown core” and as “one of BC’s most vibrant areas,” yet still “a place to call home.” (<http://surreycitycentre.ca/>)

If these messages seem to conflict, it is the bidders who pay the greatest price, caught in the crosshairs between what was once suburban fantasy and the new vision for a clean, downtown vibrancy. Poverty is not part of either vision; its presence, in the form of bidders as they move through suburban residential, semi-industrial, and commercial spaces, is uncomfortable. A recent study of the stigma faced by people living in poverty in Surrey indicates a perception that they are seen as criminals (SPARC BC, 2018). The City’s response is to increase law enforcement. The Surrey Police, mentioned above, is currently an imaginary force. It is the result of a campaign promise upon which the current mayor was elected. Replacing the RCMP in order to “fight crime” (Vancouver Sun, 2018) is an indicator of the reaction by Council, residents and business owners to perceived problems in their changing spaces. However, this reaction may not be based on reality: according to RCMP reports, crime has actually decreased in Surrey (RCMP, 2019, “2018 Surrey crime statistics released”). Despite the data, pressure on the RCMP to perform or be replaced (Bailey, 2018) may be one of the factors impacting what bidders I interviewed reported as an increase in work tool confiscation.

Physical and Human Context of the Study Location

In the Vancouver region, binning has been studied almost exclusively as a subsistence activity in Vancouver’s Downtown Eastside (DTES), a densely populated urban space where affluent businesses mix with extreme poverty. In fact, in general, the study of informal recycling has focussed largely on urban areas. By contrast, the bidders in this thesis carry out their work in a context that is more suburban, less densely populated and less accustomed to the increasing coexistence and wealth that gentrification has brought with it to areas like the DTES (Brunoro, 2018). Prior to receiving ethics approval to begin interviewing participants for this project, I had already witnessed the Wednesday morning “clean-ups” along the street inhabited by the tent

community, during which protective-gloved city staff, by-law and law enforcement in uniform moved slowly among the tent dwellers, confiscating wet cardboard, grocery carts and tarps, and disposing of needles. Gentrification had already arrived in my study area, bringing with it “sweeps” to disperse those living precariously and working in the margins of the grey market. By the time I had begun my interviews and work-alongs, the campers had been removed from the “Surrey Strip,” and the neighbourhood was now patrolled by RCMP officers (the Surrey Outreach Team) from a new command centre in the midst of what had been a vibrant community.⁷ No-loitering signs suddenly appeared along the Strip. Small trees in decorative rock settings now grow in the sidewalk spaces that some research participants point to and tell me, “That was my home.” The Mobile Street Enforcement Team (MSET) circulates in marked and unmarked cars, conducting “proactive enforcement” and addressing nuisance and “social chronic offenders” (Surrey Safety Committee Meeting, 2019, January 15). Bidders have been dispersed, and those who stay continue to experience move-alongs and work tool confiscations.

Such a response by law enforcement on the DTES would result in strong pushback by the concentration of bidders and other informal workers in that Vancouver community. However, the bidders in North-Central Surrey, lacking in numbers and confidence, merely acceded to invitations by law enforcement to move-along. Waste picker researcher Parizeau theorizes in a 2015 article that informal recyclers may face trade-offs as they move from poorer neighbourhoods, where they are accepted, into wealthier suburbs where they are more scrutinized. The trade-offs she is referring to pit economic gain against psycho-social well-being. I propose, in researching bidders in the Global North context of North-Central Surrey, that the bidders and their work tools face even greater trade-offs because of the forces of gentrification as this suburban place seeks to compete as a global city.

⁷ Interestingly, on the Strip in 2016 when the structures that would become the command centre first began to take shape, hopeful rumours among the campers vacillated between the possibility of washrooms and showers. No one guessed that this would be a space of surveillance.

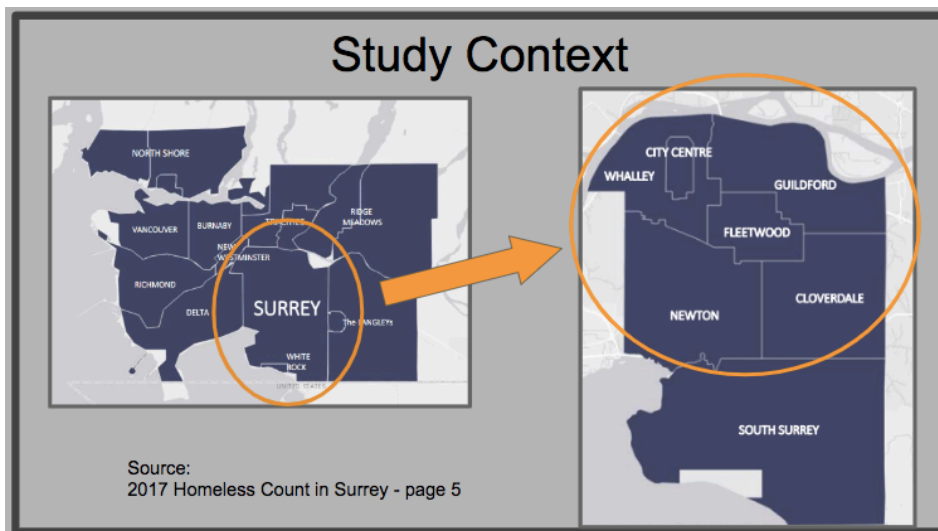


Figure 1. Physical and Work Context of the Study Location

South Surrey was excluded from this thesis research for both logistical and practical reasons. Accessing South Surrey is challenging because of car-dependence in that part of Surrey. Because of this, it is unlikely that binners from North-Central Surrey have routes extending into South Surrey. Further, the lack of pedestrian-friendly infrastructure and the length of time to get places on public transit -- for those whose work tools allow them to do so -- in South Surrey would have made work-alongs with binners there less convenient within the proposed timeframe of this study.⁸

Surrey's topography is relatively flat, which should increase walkability. However, its car dependent population, low density and suburban development has placed low demand on local government to provide good pedestrian infrastructure. Although ranked second highest in population in the Lower Mainland, Surrey ranks 12th in its Walk Score (Walk Score, 2018), placing it below less populous municipalities. This is partly the result of an imperfect metric to examine walkability, given that much of South Surrey is still rural and consists of agricultural land. Nevertheless, lack of safe pedestrian infrastructure has meant that Surrey has the second highest pedestrian fatality rate of the Lower Mainland (BC Coroners Service, as cited in James, 2017 (*Pricetags*)). People also laughingly refer to "Surrey blocks" to indicate that they are far larger than block

⁸ In fact, for these same reasons, Cloverdale, was left out of this study. However, with binners increasingly displaced from North-Central Surrey to areas further south and even rural municipalities like Abbotsford and Chilliwack, it would be interesting to examine in a future study the impact of incoming binners to Cloverdale communities.

sizes in other municipalities. This can be misleading to those using a map in Surrey to navigate and predict travel time by foot. For locals, however, this can mean making dangerous judgment calls on the risk/benefit of jaywalking versus walking to the nearest block corner to try to cross a street (<https://www.walkscore.com/live-more/canada/>).

Getting around in Surrey is rated on the low end of “Somewhat Walkable” and, with a score of only 51/100, is only two points away from an official ranking of “Car-Dependent” (Walk Score, 2018). For residents of Surrey, this places “some amenities within walking distance” (Walk Score, 2018). For some binners, however, it is unlikely that those amenities will include recycle depots; many may have to travel far from their work areas to receive payment for their work product. Some of these depots, especially in North Surrey, are located in industrial areas that require not only good pedestrian navigation skills but also an understanding of interconnected roadways and traffic flows. There is not always clear signage indicating where pedestrians should cross multi-lane roads or if it is permitted for pedestrians to use the safer off-road, marked bike paths.⁹

Although binning is walking work in a not-so-pedestrian-friendly place, the 2017 Homeless Count for Surrey indicates that this work is significant as a source of income. The Homeless Count does not count binning as “Employment” but instead lists it as an option under “Other Sources” of income, along with panhandling and vending.¹⁰ In 2017, respondents listed slightly more income from binning than from “Employment,” both of which were the highest sources of income in respondents from Surrey after income assistance and disability benefit. It is important to note, however, that the numbers cited below are data captured from those who agreed to fill out the point-in-time homeless survey.¹¹ There may be far more binners than we are aware of; the homeless count as a tool is an imperfect one.

⁹ To put the importance of walkability in perspective, Vancouver’s DTES, where binners with a variety of work tools are a very visible part of the population, has a Walk Score of 99, making it a “Walker’s Paradise” (Walk Score, 2018).

¹⁰ This is problematic, as it reinforces the idea that binning is not work.

¹¹ As a volunteer conducting the survey in the City of Vancouver during homeless counts in 2017, 2018 and 2019, I noted in one neighbourhood a 50% pass-up of those we invited to participate. It is not inconceivable that binning plays an even greater role in income-boosting than what is reflected in the data. By this same assumption, it is possible that a larger number of binners than is reported are actually needed to collect from public spaces the returnables improperly disposed of by local consumers.

	Surrey		Metro Vancouver	
	#	%	#	%
Government Transfers				
Income assistance	221	47%	927	42%
Disability benefit	150	32%	615	28%
OAS/GIS	14	3%	80	4%
CPP or Other Pension	30	6%	165	7%
Employment Insurance	5	1%	26	1%
Youth Agreement	0	0%	8	0%
Employment	63	13%	468	21%
Part-time employment	43	9%	346	16%
Full-time employment	20	4%	122	6%
Other Sources				
Binning, bottle collecting, etc.	68	14%	339	15%
Panhandling	33	7%	232	11%
Friends/family	20	4%	189	9%
Honoraria	7	1%	39	2%
Vending	21	4%	153	7%
Other	35	7%	178	8%
No income	45	10%	208	9%
Total Respondents	469		2,209	

Source: Homeless Count in Surrey, 2017, p.9.

Figure 2. Homeless Survey: significance of income from binning

This chapter makes distinctions between binning as a specific form of waste picking, between formal and informal work, and between the suburban Surrey of yesteryear and the vibrant revitalized space that City Council is helping it to become. Along with rapid urbanization, I show some specific impacts from an increase in law enforcement and surveillance regimes on marginalized people who are unhoused and working outside a regulated system. These tensions form the context of my research into the underexplored area of binners' tools in a gentrifying suburbia in the Global North.

Chapter 2 will introduce the reader to key concepts in the literature. These include the ergonomics (and hedonomics) of work tools, worker health and wellness, NS the work tool as an extension of the worker's body. I will also situate binning as a form of "dirty work" that carries stigma, and will discuss the binning tools and the workers themselves as objects of stigma. Finally, I will explore what it is to perform non-normative and stigmatized work in suburban spaces under a surveillance regime.

Chapter 2.

Key Concepts

In this chapter I explore the research questions situated in selected labour literature that addresses key elements of the work and tools of my suburban study population. I have grouped this literature into three main categories: technology used by binners (work tools), worker wellness (health and safety), and binning as a form of stigmatized (“dirty”) work. This section ends with a brief exploration of literature examining tensions and social control in suburban spaces and how surveillance regimes and defensive architecture can exclude marginalized individuals, including binners.

2.1. Tools at Work in the Hands of Binners

“All tools are extensions of the human body.” - Signo & Jackson, 1999, p.1 (in Cacha)

Binning tools in BC’s Lower Mainland are used to contain and transport to the recycle depot the work product (cans and bottles known as *returnables* or *recyclables*) collected during a shift. Various qualities make a tool suitable for binning. These include elements such as capacity (volume: how much the tool can hold), speed (how quickly the tool can help the binner transport the work product), manoeuvrability (how easy it is to handle and direct the tool), and durability (how long and how far the tool can travel filled with work product without breaking). As pictured in the visual glossary of binning tools (See Section 4.3.1), all tools except one¹² are made of either plastic or metal. The preferred tools have wheels. And one of the tools is actually a machine: the bicycle.

Although “tool” can be defined in a number of ways, for the purposes of this thesis, a *binning work tool* is an object that directly assists the binner in their specific work: collection and transportation of the work product. As all of these tools must be operated or gripped by the binner’s hands, they will also be considered *hand tools*. All

¹² The cardboard box, least preferred but most freely available (as a clean work tool) of all tools, is also the least easy to manipulate over long distances and the least preferred by the binners I interviewed.

these tools -- including the bike¹³ -- are *non-powered* and the greatest service they offer -- aside from the bike¹⁴ -- is one of capacity. Without these tools, binners would have to carry what they could hold in their own hands and arms, which would limit their earning potential as well as the environmental service they provide.

The handles or handlebars on all tools -- except for the cardboard box -- are the most important point of contact between the binner and the tool. This is a site of potential friction, strain and injury to the binners' hands. It is also a site of physical attachment that may become emotional; researchers who study psycho-social aspects of objects believe, as Signo and Jackson do, that "tools are extensions of the human body" (in Cacha, 1999, p.1). Marchand explains this further, observing that handtools "supplement and extend, and are psychologically incorporated into, the physiology of limbs" (2012, p.266). Encapsulated in this explanation we find the two interconnected disciplines that study human interaction with the tools of our work: *ergonomics* and *hedonomics* (Oron-Gilad & Hancock, 2009; Helander & Tham, 2003), otherwise known as *human factors* (Cacha, 1999) or *cognitive ergonomics* (IEA, 2019). Whereas the focus of ergonomics is on mitigating risk of physical harm and providing tools that are not only comfortable but also increase productivity, hedonomics examines our emotional relationship with tools and suggests, among other things, how tools might be (re)designed to increase pleasurable sensation and perception.

2.1.1. Built for your average consumer

"Too short, too tall, too wide, too deep, too hard, too soft..."

- Crown Seating's *Goldilock's Theory*

According to the International Ergonomics Association (IEA), ergonomics aims to "harmonize things that interact with people in terms of people's needs, abilities and limitations" (2016). This requires attention to the individual and a willingness and ability to tailor a tool for use by that individual (OHCOW, 2008). However, one of the basic

¹³ The bike is human-powered; the binners in my study are not using electric bikes or motorbikes to perform their work.

¹⁴ The bike's services include the obvious capacity of speed of transportation; however, it's most important service, according to one binner, is its ability to make a binner appear ordinary, like a normal non-binning member of the community.

ergonomic problems of binning tools is that most are built for an average consumer purchasing average products in a one-size-fits-all consumer box. This means that the basic plastic bags binners find and reuse have handles meant for average hands; these are not cushioned, nor are they intended by their manufacturers to travel five to ten kilometres filled to bursting with bottles and crushed cans. If the plastic handles are strong, they will likely pull hard at the fingers, possibly cutting off circulation, which in winter can cause more than temporary problems for a homeless binner. If the plastic handles are not strong, they will likely stretch and tear, causing the collected work product to tumble to the ground, possibly in traffic.¹⁵ Breakage of binning technology -- whether carts or bags -- at inopportune moments was listed as a work stressor by binners I interviewed.

In order to avoid similar stress, many binners customize their grocery carts -- corporate tools originally intended for more ephemeral use: to be pushed slowly by someone of average height along smooth linoleum floors through indoor grocery store aisles. Binners alter them with hand saws, scavenged wheels, and liners to muffle the sounds of the cart, binners enact their own ergonomic and hedonomic changes to a tool they will push along rough terrain in all types of weather. In this way, binners optimize their well-being and work satisfaction (Pandve, 2016) while increasing the reliability of their work tool and its ease of use, according to personal preferences. The changes they make to their cart will likely increase efficiency (Oron-Gilad & Hancock, 2009): modification to the wheels could allow binners to arrive more quickly at recycle depots without expending as much energy; expansion of the cart's basket by attaching other metal and plastic containers could allow them to carry greater amounts of work product. Further, research on the psycho-social side by Luczak, Roetting and Schmidt shows humans having a dialogue with machines they perceive as helpful to them (2003); their research shows humans actually talking to washing machines and other technological appliances, endowing them with human qualities. If their findings are applied to a work tool like a grocery cart, that level of anthropomorphism may also be possible, especially as the cart already acts as a type of companion, going wherever its human goes.

¹⁵ The breaking of bags that will stretch to overcapacity but were never intended to be filled to that extent is a constant concern of one of the binners I interviewed. He specifically mentions losing work product in the middle of a busy street.

The personalization of binning work tools to better meet individual needs is a common thread in both the Global North and Global South. Photographs from Kelly Woods' book of repurposed grocery carts in Vancouver's DTES display their owners' different organizational styles and preference of cart architecture -- choices between two baskets or a single one with space beneath to place a box (2016). Similarly, photos of informal recyclers from the Global South, like those featured in Schenck & Blaauw's 2011 paper on waste pickers in Pretoria, show varying styles of modified carts (trolleys) and bags of various sizes and materials, sometimes tied into combinations to create vast bales of work product.

2.1.2. Getting a handle on it

"The first humans used stones that fit into a person's hand and were used to break up firewood and shape other tools. Wooden handles were later added to make them more comfortable to work with." - Signo and Jackson, in Cacha, 1999, p.2

"...they aren't made for the ergonomics of the hamhanded..."

- Post on a cycling forum discussion thread about finding the perfect handlebars for big hands

Physical attachment to work tool

Many of us spend much of our lives touching, holding, lifting, gripping or pulling handles of some sort. We do this without even thinking about their shape in our hands or which material they are made of. But for those who spend their workdays gripping or supporting handles of tools those elements can become an important factor in the health of their hands and shoulders, and in their enjoyment of their job. In-depth ergonomic studies of dentists and surgeons and the many handled work tools they use in the course of a procedure have offered insights into fatigue resulting from "less-effective" instruments (Berguer, 1999). As the handles of such tools may affect the use of the tool by the medical professional, which could then have a negative impact on the patient, ergonomic design of these tools is prioritized.

Bidders, however, depending on tool choice and availability, may have to tolerate a less than optimal tool. And when that involves a handle that will be pushed all day in all weather, the result can be sore hands. In his study of ten "hand-handle couplings,"

Kroemer describes the ways we manipulate a handle and how the handle touches our hand (1986, p.337). Hand-handle couplings are defined by way the hand touches the tool, the strength of the hand's contact with the handle, and the direction the hand moves the handle of the tool. According to Kroemer's illustrated guide of hand-handle couplings, a binner pulling a small light cart might be able to use a hook grip,¹⁶ whereas, a binner pushing a grocery cart would wrap their hands around the handlebar in a power grasp¹⁷ (1986, p.338). Looking at the beginning of this section at the quote from a large-handed bike rider asking for advice about the most comfortable handlebars, it's easy to see that humans and their hands are not uniform. Handlebars that are too narrow or too thick can cause damage to the fingers -- or, worse, may result in loss of grip on the work tool which, on a steep hill, could result in further injuries. However, damage to the hand can occur without any grip on a handlebar. If we consider the binner's hand itself to be a type of built-in tool used for picking up and crushing cans, Kroemer would describe the type of coupling as the Finger-Palm Enclosure.

Damage to hands from binning is surprisingly similar between the Global North and the Global South, despite the latter sharing 80% of the "global burden of occupational disease and injury" (Nastiti, Prabaharyaka, Roosmini, & Kunaefi, 2011). Waste pickers in the Global South may have to go through a dump which contains both toxic and hidden sharp objects. But in the list of possible causes of cuts that waste pickers suffer to their hands, Gutberlet, Baeder, Pontuschka, Filipone and dos Santos describe some of the same risks binners in North-Central Surrey face: "glass, paper, metal or other sharp objects" (2013, p.4621). In the case of Surrey and the rest of the Lower Mainland, with the opioid crisis increases the risk of injury from "sharps," including needle sticks, is high (CCOHS, 2018). Nevertheless, just as Gutberlet et al. discovered, the binners I interviewed seem to like the idea of gloves but prefer not to wear them because with the added layer they lose a fine-tuned ability to identify the recyclables by touch (2013, p.4621). However, even Cacha, though understanding why workers would prefer not to wear gloves (reduced tactile ability, precision, dexterity), advises that these

¹⁶ Kroemer describes a hook grip as hooking "one or several fingers onto a ridge or handle" in a way that does not require use of the thumb (Kroemer, 2008, p. 73).

¹⁷ In a power grasp, Kroemer describes that "the entire inner hand surface is grasping the (often cylindrical) handle" (Kroemer, 2008, p. 73).

are an important part of ergonomic hand safety in certain work circumstances (1999, p.85).

Emotional attachment to work tool

Belk, whose work to understand “the nature of the relationship between possessions and sense of self” explored the emotional impact of the objects used as tools (1988, p.139). His research into “contamination” helps explain how positive and negative aspects of an object can “attach to [their owners] through physical contact or proximity” (p.140.). This process helps explain the preference for bicycles as a binning tool, despite the lack of ergonomic appropriateness in the actual act of binning. As a tool, the bicycle is an object which becomes an extension of the binner over which the binner has control. Belk describes a study in which university students whose bicycles had been stolen were interviewed. The students expressed grief at this involuntary loss: one student even claimed that something of her was embedded in the bike, now gone: “Everyone who owns a bike has their own story that makes their bike more than just machinery to them.” (ibid, p.142) This is a sentiment I hear from one of the binners I interviewed who, homeless, cares for his bicycle by sleeping with it even after his work shift is done, always vigilant even while half asleep. Investing such mental or emotional energy¹⁸ in the bicycle, according to Belk, makes it an even greater extension of the binner than it already was as a work tool (1988, p.158). He identified as a being a more powerful person on his bicycle, a worker of higher status. When his bicycle is stolen, he is bereft.

But perhaps Belk’s research best explains the grocery cart as a binning tool when it also serves as a partial home place. Some grocery carts double as both collection tool and home space, as they transport the belongings of the binner as well. One such binner along the Strip was on his twelfth grocery cart of the year when I interviewed him; the other carts had each been confiscated by law enforcement. Belk describes the pain of such losses as “damag[ing] the sense of self derived from the attachments to home and neighbourhood”; in the case of a grocery cart that is a double extension of the binner -- both a tool and a home place -- it is easy to see how this could be so (ibid. p. 143). He also suggests that involuntary losses of such possessions could

¹⁸ Belk refers to this investment of care in a possession as “cathecting.” (1988, p.158)

involve a sort of trauma. This, when considered along with the multiple and ongoing losses of working grocery carts that double as home spaces, speaks to the damage that can be wreaked on a marginalized population that lives in spaces where it is vulnerable to authority.

2.2. Worker Wellness in Urban & Suburban Binning

“[F]or most of human existence, workplaces and residences were one and the same. Gatherers and hunters lived in the midst of the territories that were the source of their sustenance...” - Rudi Volti (2012)

The case of the binner whose work tool was also his home space is an extreme example of how binners' work tools can impact their lives both in and outside of their workday. WorkSafeBC, expounding on hand tool ergonomics, advises that employees “pick a tool that fits [their] workspace” (WorkSafeBC, “Hand tool ergonomics”) But what about their living space? What happens when, as in the case of homeless binners, the work place is where they sleep? Another homeless binner told me he was “having issues with work-life balance.” This is not surprising since a binner who works in public spaces and sleeps in public spaces never really finds himself outside of the work setting. The Canadian Centre for Occupational Health and Safety recommends that employers consider programs to encourage work-life balance (CCOHS, “Work/Life Balance”). Unfortunately, that advice doesn't help if a worker doesn't have an employer. Certainly, binners who are homeless are not the only autonomous workers who find themselves in this situation. In a paper studying the work-life imbalance of bed and breakfast innkeepers, Shen, Miao, Lehto and Zhao found that, like binners, these workers experience “highly blurred work-life conditions such as the lack of spatial, temporal, and relational boundaries between work and personal life” (2018). Yet in a survey of professionals who were asked to discuss and rate their work-life balance, 36% said they believed it to be the responsibility of the company (Robert Half, 2018). Autonomous employees like bed and breakfast innkeepers and binners who live outside regulated work and have no employer have no access to programs advocated by organizations like the CCOHS.

The concept of work-life balance to a binner who sleeps rough might seem strange and even impossible. The Work Foundation defines work-life balance as “having

a measure of control over when, where and how [one] work[s]. It is achieved when an individual's right to a fulfilled life inside and outside paid work is accepted and respected as the norm to the mutual benefit of the individual, business and society" (as cited in Byrne, 2005, p.55-56). For a binner who can decide the when, where and how of they work, this measure of control does not prevent the binner from always seeing the never-ending possibility of work around them.

The stress binners feel isn't limited to the omnipresence of work but can also be caused by lack of access to basic amenities. Unsurprisingly, as Wittmer and Parizeau observed, informal recyclers experience difficulties accessing public washrooms, amenities that would be offered to regulated employees. (2018, p.339). Further, regulated employees will often have access to work tools that are maintained and stored by their employer (OSHA, "Hand and Power tools"), free or subsidized personal protective equipment (PPE) including visibility vests (WCB, "Stand out safely"), padded or anti-vibration gloves (WorkSafeBC, "PPE"; WorkSafeBC Reg. 8.19 "Limb and Body protection") and special clothing (Employment Standards Act, Chapter 113, Part 3). As informal workers, not only do binners have no access to these benefits, but also their work tools, especially a grocery cart or wheeled basket from a store, may prevent them from entering an establishment to purchase food, stopping for a 30-minute rest break in a public place without being asked to move along, and accessing food preparation and storage areas, free and safe drinking water, and all forms of public transportation. Further, binners face two kinds of serious injury from their work tools. The first is exposure to vibrations, the second is stress leading to mental injury. Both, over an extended period, can cause permanent damage.

Hand Arm Vibration Syndrome (HAVS) was first identified by Alice Hamilton over a century ago. Hamilton who specialized in industrial toxicology and occupational medicine had noticed that workers holding power tools that vibrated could end up with "white finger," indicating a temporary loss of circulation (American Chemical Society, 2002). Longer exposure to vibrations in the hands could cause HAVS, which permanently impacts nerves and can cause loss of dexterity (Youakim, 2009). Although we associate HAVS with chainsaws, power drills and jackhammers, those who push heavy grocery carts long distances over uneven terrain are definitely susceptible. Even cyclists riding long distances over potholes, cobbles or very uneven terrain, depending on how tightly they grip their handlebars, may suffer from HAVS (Taylor, Oliver, Bayram,

2018). Although we might more generally think of professions like bicycle couriers being at risk of this syndrome, binners on bicycles, especially in suburban and semi-industrial spaces, where the terrain can vary widely, are at greater risk, as are, to an even greater degree, binners pushing grocery carts.¹⁹ Exposure to cold, which can bring on secondary Raynaud's phenomenon,²⁰ can exacerbate loss of sensation, something which causes a ripple effect in binners: in order to maximize precision and dexterity in their work, many binners will not wear gloves; this puts them at risk of Raynaud's and HAVS. In order to reduce risk of HAVS, binners should wear anti-vibration gloves or stop binning for several weeks until sensation has returned to the hands (Trotto, 2015; Worker's Compensation Board, 1998) This poses an impossible dilemma. If they wear gloves, binners have less dexterity with the work product; if they stop binning temporarily, they lose an important source of income. For a binner, there is no good solution. Most will continue binning gloveless, increasing the loss of sensation to their hands, which prevents them from recognizing immediately cuts incurred during the course of their work. These can lead to infections that further endanger not only their livelihood but the health of their hands and fingers.

2.3. Stigma at Work: Danger, Dirt and Parasites

While the previous section outlined some of the physical damage binners can experience from use of their non-custom tools, this section will describe some of the emotional damage binners face -- *mental injury* -- in part because of their tool choice. In the same way that tools like a bicycle can have a positive impact on a binner's identity, others tools, like grocery carts, can negatively affect a binner as they move through the community. According to Belk, contamination from a stigmatized object can further stigmatize its user through physical contact or even proximity (1988). For binners in the

¹⁹ Those who push grocery carts over long distances, especially carts made entirely of metal, experience a higher degree of vibration rising up through the frame of the cart. Further, the grocery cart wheels, not intended to mitigate shocks from rolling slowly along a smooth, linoleum floor, are not made for rough terrain and further exacerbate what is termed "surface excitation" -- the bumpy vibrations created by contact and friction between the wheel and the surface it is rolling on (Giubilato & Petrone, 2012; Granlund, 2012).

²⁰ Raynaud's phenomenon is a medical condition causing reduced blood flow primarily in the fingers, but can also occur in the toes, ears and nose. One way to avoid symptoms is to avoid exposure to cold temperatures.

Global North, to what extent will their tool selection make them doubly-parasitic or doubly enabled?

Binning is, in itself, a type of gleaning of waste materials that some members of the community consider stolen. In 2004, Becker identified the important contribution of informal work to meeting the financial needs of very socio-economically challenged individuals (p.10). However, she also noted that informal work can be identified negatively as “undeclared labour, tax evasion... and criminal activity” (p.11). This idea of parasitism in the informal economy is echoed by the particular form of subsistence activity undertaken by binners: garbage picking has been framed economically as a “parasitic survival activity” (Rosaldo, 2016). To compound this problematized work, those binners working with a tool like a wheeled grocery basket or grocery cart might be seen as having first fed from corporate parking lots, where such tools are vulnerable, before feeding off the waste from residential neighbourhoods -- those whose citizens are sanctioned users of corporate baskets and carts within the confines of the store. Gleaning with a work tool that itself has been gleaned and repurposed can further contaminate a grocery cart or basket and its user.

However much the grocery cart might disable a binner socially, there is little doubt that it enables binners economically. In Latin America, *cartoneros* appreciate the use of pushcarts as a tool, as they offer access to places where other vehicles cannot go (Gutberlet, 2016, p.130). In his book on Vancouver’s grocery carts, Wood describes these tools as “icons of labour, economies, mobility, commodity relations, citizenship [and] property value” (2016, p.10). With a grocery cart, one recycler told Wood, he can make \$40/day for just 4 hours of work (2010, p.10). This may seem undesirably below minimum wage; however, as Wood notes, it is a wage that can be earned without the worker feeling “trapped by an indefinable ‘system’” (2010, p.10), a sentiment echoed by Zlotniski in his study of informal immigrant workers in Silicon Valley (2000).

Moreover, depending on strategic choice of neighbourhood and timing, that salary can rise. One grocery cart binner in a wealthy Vancouver neighbourhood told me that he bins for 36 hours straight on “Welfare Wednesdays”²¹ when he knows his

²¹ “Welfare Wednesdays” is a nickname for the day that social assistance cheques are handed out. For some people, this will mean they are indisposed from self-medication for the next day or two.

competition will be out of commission. During that time, if he is efficient about the storage and crushing down of his work product, he can make up to \$500 with only one trip to the recycle depot at the end his shift.²² But his strategy may come at a cost: binning in such residential areas of higher income and higher value waste put him further outside of his socially accepted realm. Parizeau refers to this paradox as a matter of asset trade-offs. In selecting wealthier neighbourhoods that provide a work product of greater value, thus reducing financial precarity, binners may also increase their vulnerability by straying into neighbourhoods that are likely to see their presence as a threat (2014). The binners' choice of neighbourhood is facilitated by the enhanced mobility and volume of the grocery cart as a collection technology; however, at the same time, this tool is one that most stigmatizes the binners. In Surrey, travelling to such a neighbourhood would involve a lengthy ride on public transit, an impossibility for anyone using a grocery cart as their work tool.

2.3.1. Dirty class, dirty work, dirty worker, dirty tools

People who appear poor will face stigma through othering by those who are not (yet) poor and fear the proximal threat of poverty. A privileged population defines itself as “not poor” by identifying the poor as not only “not Us” but as “Other.” This creation of “in-groups” and “out-groups” is built into the subconscious of not just humans but also other species, claims Sapolsky; it is evolutionary and unavoidable (2017). Our “Us” and “Them” reaction is hard-wired and subconscious, automatically assisting a privileged population in excluding a non-privileged population in an instantaneous dichotomous judgment that looks at another person and makes a decision: “like me” or “not like me.” This decision requires an arbitrary marker to identify who is “Us” and who is “Them.” According to Sapolsky, all it takes is superficial signals such as clothing or ornamentation to identify someone with whom we do or do not identify. In the instance of poverty, physical appearance -- clothing and grooming -- may offer us the visible cue we need to begin “Us/Them-ing” (2017, pp. 388-395). It doesn't take much to solidify this othering when we add the image of someone picking waste materials out of a garbage or recycling bin: this does not fit with our idea of “Us-ness” -- this is dirty work. Add to

This day will also cause a spike in overdoses in places in the Lower Mainland where there are a high number of drug users, like Vancouver's DTES and the former Surrey Strip.

²² Conversation with binner in an alley behind Kerrisdale restaurant at approximately 8:30pm, 16 March 2016.

this scenario an illicit grocery cart as the worker's tool -- as audible as it is visible -- and the spoiled identity of the binner is complete (Goffman, 1963): the non-normative use of a tool taken from a squeaky-clean site of capitalism, in the hands of a binner performing informal and dirty work that doesn't contribute to the accepted capitalist norm. This is not "Us"; this is definitely "Them."

But the question of "Them-ness" when considering our reaction to a binner peering into a dumpster becomes a bit grey if we compare that image to a millennial "freegan" (Skidelsky, 2009). We should ask ourselves why we respond the way we do to the idea of a privileged young person blogging about the thrifty and ecological act of eating only scavenged food waste from supermarkets and restaurants. If stigma is rooted more in emotion than reason (Sapolsky, 2017; Goffman, 1963), what is it that causes us to react with less negative emotion, with less disgust, when we contemplate a *freegan* than when we watch a binner? Or when we consider attending a meet-up of the local litter-picker-ramblers²³ or Adopt-a-Street folks? And what about the *plogger*, a jogger who has discovered the virtuous value-laden add-on of taking along a garbage bag and collecting litter and recyclables while running, later posting Instagram photos listing weights and amounts collected along with the time of the run (CBC, 2018). If someone does the work a binner does -- but out of passion, as a lifestyle choice -- why should the binners receive financial compensation for the same work?

Dirty work is performed by "socially impure" individuals whose profession has been "discredited and disqualified." The workers doing this work, which is judged to be morally repugnant, elicit a reaction of disgust from greater society; the workers themselves are "tainted" by their profession, and are considered "filthy" (Soria Batista & Codo, 2018, p.73; Ashforth et al., 2016; Ashforth & Kreiner, 2014; Ashforth et al., 2007). Although Douglas makes a strong case for dirty work stigma connecting with our "dirt avoidance" and need to impose order on our environment (1966), it is not only by virtue of getting physically dirty that binners are considered "dirty workers." Rather, this

²³ Among the converts to the litter-picker-rambling community in the UK is American essayist David Sedaris, whose litter picking habit in his adopted community in West Sussex resulted in a garbage truck being named after him. If the garbage truck, adorned with the image of a pig, and named "Pig Pen David" is intended to be tongue-in-cheek, this might be considered further proof -- or at least a halfway acknowledgment -- of the stigma associated with litter-picking. The joke here mocks the fact that a famous individual of a certain status, albeit a bit eccentric, would participate in an activity that others in his community might consider beneath them.

categorization results from their profession being considered parasitic, undesirable and even undeserving. City employees collecting garbage are also considered to perform dirty work, even though that work is formal and funded by taxpayers. Sex workers perform dirty work, as do the medical professionals who care for them, “tainted” by association with a form of “courtesy stigma.” And our fear of the dead brands undertakers and cemetery caretakers as dirty workers, just as a societal mistrust of the stereotype of the overly opportunistic lawyer taints all lawyering as dirty work.

Dirty work is not necessarily destined to remain so in the minds of all citizens. A study of funeral directors and morticians in Brazil revealed that increased appreciation of the role and value of these professions could remove stigma from both the work and the workers (Soria Batista & Codo, 2018, p.80). It is possible that increased understanding of binners by the communities in which they work could help to destigmatize them. This is one of the hopes of Vancouver’s Bidders’ Project, which shares the stories of individual binners, humanizing and highlighting the value of those who recycle in Vancouver’s core (Bidders’ Project). The research on the dirty work of binning that this thesis undertook is important for an even more basic reason: to contribute to our overall understanding of work, work tools, and working life (Jensen & Sandström, 2016). Through this research, I concluded that binners in North-Central Surrey, despite taking pride in the work they do, have difficulty reframing their work and work tools to resist stereotypes and harm to their self-identity (Yu, K.-H., 2016).

Until dirty work is understood, appreciated and valued enough by society for the moniker to disappear, those who perform this work will carry the stigma associated with their profession. What is intriguing about binning is that it moves beyond its category of stigmatization. In their 2014 article, Ashforth & Kreiner lay out the three main categories of stigmatized work: work that is either physically, socially or morally stigmatized (pp. 83-85). Binning should fit neatly into the category of physically stigmatizing work, as it is connected to waste and is associated with the “contagion” of physical dirt. However, binning with a grocery cart is also symbolically threatening, which places it in the shadow of moral stigma. How else to describe the reaction of property owners who report abandoned grocery carts in their neighbourhood and express concern over “urban blight” that will negatively impact their property value? (Mah, 2016) And how else to describe the Bidders’ Project’s design decision to create custom-made carts that no longer

resemble those of a grocery store shopping cart? (Zeigler, 2018) Surely this rebranding of the work tool carries a symbolic as well as a practical function.

Responses similar to that of the Bidders' Project are taking place within the disability population (Bispo & Branco, 2018) and the marketing industry (Morales & Fitzsimons, 2007). Bispo and Branco's investigation questions the contribution to stigma of objects that become part of the body of their user. Could the same be said of grocery carts, whether stolen, found or rescued by their users? In bidders' opinions, to what extent do grocery carts impact the stigma they experience in their work? And from a marketing perspective, it would be interesting to find out if it is more likely that the morally "disgusting" aspect of a repurposed grocery cart carries contagious stigma over to the bidder, or if the physically "disgusting" work of the bidder is what contaminates the grocery cart they use. If, as the researchers found in their product contamination study, the grocery cart adds significantly to the disgust elicited in onlookers who see cart-using bidders, what would be the asset-risk assessment of bidders considering this choice of work tool?

A 2011 study of an object whose stigma surpasses that of the grocery cart -- discarded needles -- used GIS mapping of discarded needle sites to identify possible reasons for the choice of location where they were used and disposed of. In looking at the physical and social environment, the study came to some obvious conclusions, including that police presence had a deterrent effect on intravenous drug users and where they chose to inject (De Montigny, L., Vernez Moudon, A., Leigh, B. C., & Ki, S.-Y.). In this thesis, bidders likewise revealed preoccupation with avoiding law enforcement; however, in their now highly surveilled workplace in North-Central Surrey, this is challenging. The greatest surveillance is not, surprisingly, in residential neighbourhoods, but in a commercial section of town where it is possibly the concerns of the BIA that direct the actions of the RCMP, especially when a bidder is using a grocery cart as their collection tool.

Once again, we react differently to objects in the hands of different users. Why do we react differently to a young mother entering a library with a child in her stroller than we do to a bidder with a stroller trying to enter that same library? Why is our reaction different when we see an off-store (free range) grocery cart in the hands of a senior citizen walk-rolling back to her condo with several bags of groceries, to what we

experience when we see a repurposed grocery cart as the working tool of a binner. Does the object carry the stigma of the work, or does its role impart stigma to its user? What about a stroller used by a female binner with no children?

2.4. Bidders and Social Control in Urbanizing Suburbs

“As the “Others” of society who can never really belong, strangers threaten the moral and social order. But they are simultaneously essential for its survival because those individuals who stand at the margins of society clarify its boundaries.” - Patricia Hill Collins (2000, p.87)

Although in the quote above Collins is not referring to informal recyclers, her observation of Others and the threat they pose could easily be applied to bidders in North-Central Surrey, as could the observation that their presence clarifies both the boundaries of a rapidly urbanizing space and what residents and council in Surrey currently deem acceptable. As Keil notes, suburbs “are now in a complex ... renewal and urbanization process” (2018, p. 141). As revitalization processes take place, poverty formerly associated with urban core areas becomes visible in suburban spaces, including homeless people who must perform private activities in public spaces, having no access to private spaces of their own. This challenges the assumption that suburban space is “the domain of family life” (Chellew, 2019, p. 26); clearly the activities of homeless people do not belong in such spaces. In order to re-impose order on this unexpected disruption of safe space, cities establish surveillance regimes to enact social control.

Often associated with homelessness, especially when using grocery carts as their collection tools, bidders pose a threat through what Petty (2016) might refer to as “(ab)using streets” (p.70) in performing work that is more frequently associated with a downtown core. Bidders signify their “Otherness” by their homeless and transient lifestyle; as rough sleepers the bidders in this thesis evoke “crime, disorder and poverty ... thus disrupting the projects of aestheticisation and securitisation” (Petty, 2016, p. 73) in the gentrifying spaces of North-Central Surrey where they live and work. Although Petty identifies these figures as specifically urban, Bergamaschi, Castrignanò, and De Rubertis (2014) recognize that this phenomenon is now appearing in “suburban territory” (p. 8) as it becomes a space of consumption. Bidders, signifiers of homelessness,

poverty and need, become a “nuisance” as they are increasingly “visible to the common citizen” (Bergamaschi et al., 2014, p.16). The private acts they carry out in public spaces begin to blur lines, especially in suburban spaces formerly “thought to be the domain of the private sphere” (Chellew, 2019, p. 25). This transformation may be perceived as frightening to those who bought into the myth that “suburbia wasn’t built for poor people” (Burns as quoted in Keil, 2018, p. 109). To protect their suburban myth and take back their public space, the stakeholders impose regulatory regimes (Ruppert, 2006). In the case of Surrey, these stakeholders include suburban homeowners, members of the business community, and the City Council members they voted in. Already in 2015, responding to expressions of fear from residents, planners at the City of Surrey were attempting to “make [the] city safe” through design plans that would use “passive surveillance” and “make residents the watchers” (Collins, 2015). City staff boasted that their enhanced use of CPTED²⁴ would “create[] parks to be open and welcoming” and “keep[] them safe and clean” (Collins, 2015). The irony of this is that the City parks became less inclusive places for rough sleepers -- not welcoming at all -- and that those rough sleepers who worked as bidders were better equipped to clean the parks than many of the staff.

In her study of North York as an urbanizing suburban space, Chellew notes the use of “defensive architecture” to keep undesirable humans out of spaces where they are not wanted but have begun to appear (2019). Taking photographs in spaces for public enjoyment, she notes that the enjoyment for some will be curtailed: by design, the spaces are not meant to be used by skateboarders, and interrupted benches prevent sleeping in public spaces, an “unwanted use” (p.21). The language of this design, Chellew notes, “informs our conception of “the public” and who is considered to be a part of it” (2019, p. 20; Petty, 2016). In this same way, Surrey’s Holland Park, once a small urban forest dense with tall trees, has now become a curated place of low shrubs to ensure good sightlines for a perception of security by some. Those who seek privacy in this place or who wish to pitch a tent at night, unseen, will have to go elsewhere. Petty describes rough sleepers for the suburban population as individuals who “evok[e] crime, disorder and poverty”; they “disrupt,” he claims, “projects of aestheticisation and securitisation” (2016, p.73). I would take this further, applying it to the bidder population

²⁴ Crime Prevention Through Environmental Design. These designs can form what some refer to as “defensive architecture” and what others call “hostile architecture.”

in North-Central Surrey. Those who work with grocery carts epitomize Petty's descriptions of crime, disorder and poverty. Their stigma does not disappear when they awake from sleeping rough: it follows them and their grocery carts along their binning routes by day. -- Unless they choose to evade the growing social controls and switch to binning at night. Chellow points out how defensive design elements alter "how the space is experienced." This is evident in Surrey as well, with bright lights²⁵ directed on grass fields like Chuck Bailey where no one plays at night. These illuminated spots would not be restful for rough sleepers; moreover, those courageous enough to wander into those spaces would be spotted right away and likely reported to the RCMP. Defensive design has also replaced the tent community along the former Surrey Strip: trees, used as a type of "street furniture," have been planted at intervals in the sidewalk where people once slept. These serve the same function as "anti-homeless spikes" (De Fine Licht, 2017), except they have the added benefit of allowing those who planted them to claim this as an act of beautification, not an act of hostility or exclusion. The other side of the Strip is lined with "no loitering" signs that are now enforced. The defensive design is enhanced by humans authorized to constantly move people along. If two or more people who don't look like they fit the neighbourhood are gathered for any length of time, the binners tell me, RCMP officers arrive to invite them to move along.

Of greatest inconvenience to the population that used to sleep along the Strip, however, is what Chellow refers to as "ghost amenities" (2019, p.23). These are amenities like safe drinking water or accessible washrooms that are no longer available, hostile in their very absence. In their study of exclusionary policies and practices in Bologna, Bergamaschi, Castrignanò and De Rubertis describe the perfect irony of the elimination of washrooms for those who do not have a home: "activities like sleeping and urinating which are perfectly legal if performed in private, are banned in public" (2014, p.14). On the Surrey Strip, to discourage the population that used to live there from returning, the Front Room, one of the only places where people could use a washroom and put their name on a list to take a shower or wash their clothes, has shut down to all those who do not live in the small number of shelter beds. Removing infrastructure that allows people privacy to perform necessary everyday acts not only imposes great

²⁵ This "high mast lighting" is used along roadways but also to spotlight infrastructure at night to exclude undesirable humans and allow others to see more easily and report unwanted individuals in their neighbourhood spaces.

indignities but also places people at greater risk of confrontation with law enforcement if they are caught urinating in public spaces. De Fine Licht sees this exclusion as “an act of disrespect” (2017, p.33).

Although Chellow observes in her study of spaces that “people are adaptable and can circumvent inflexible design elements,” this adaptation is not readily visible in Surrey. People have been encouraged to move into the available modular housing, despite finding the concession, as one binner told me, an acceptance of social control. Others have moved away to the Downtown Eastside where they are less visible as individuals in a space of more concentrated homelessness and where they are, once more, part of a community. Those who stay in Surrey camp down ravines, finding ways to make do. But the surveillance regime enforced by RCMP is assisted by watchful eyes of suburbanites who wittingly or unwittingly participate in “low intensity warfare” (David, 1999, as quoted in Bergamaschi et al., 2014, p.16), both buying into the fear created by the securitized design, and then feeding that fear by reporting nuisances and disordered elements to law and by-law enforcement.

2.5. Summary of Literature

In summary, the literature centered around work tools and ergonomics has helped me understand the ways in which binners’ tools affect them physically. Further, the psycho-social side to ergonomics -- hedonomics -- explains what my interviewees express about both the positive and negative emotional impacts of moving among other people with work tools that signal who and what they are. Bidders I interviewed describe two types of injury resulting from their work tools: injury to their hands and injury to their sense of self (through stigma). The latter falls under what WorkSafeBC calls “mental injury” and the Mental Health Commission of Canada (MHCC) refers to as “harm to mental health” (2009). The former, visible physical injury, is clearly addressed in ergonomic literature, based in the discipline of engineering (Harbison, Bourgeois, & Johnson, 2015; Darcor & Ergoweb, 2001; Cacha, 1999; Kroemer, 1986). This scholarship includes research that examines the physical interface between structures in the human hand and the structure of the handles of the tools (technology) they grip. The hedonomic literature, based in the discipline of social psychology, provides studies that examine the social interface between the human-with-tool and other humans in society. Within this psycho-social research, I have included business and marketing research

that shows how objects (like work tools) can become embodied extensions of the worker. This literature supports what the binners in my research have expressed about their attachment to the technology they use and the ways their work tools affect their identity.

Both the ergonomic and hedonomic scholarship intersects with literature I have categorized as “worker wellness.” This consists of not only academic studies examining the health impacts to waste pickers from the Global South and informal recyclers in the Global North, but also grey literature including regulatory documents protecting worker health and safety in a Canadian context. Within this literature, I have included also studies of similar health issues experienced by workers in professions quite different from binning. This has helped me situate not only binning-as-work, but also binners as workers who, despite their low socio-economic status, must manage occupational health challenges similar to workers in more normative jobs. This type of comparison is missing elsewhere in waste picking literature but plays a significant role in addressing binners as more than poverty-stricken subsistence workers. Although other researchers (Gutberlet, 2010a; Gutberlet & Oliveira Jayme, 2010b, Ashenmiller, 2009) have recognized the role of binners as ecological stewards, in discussing binning as a potential way out of poverty, they frame this work as temporary. It is not my intention to disprove this hopeful ideal; in fact, I would like, as I suggest in my Conclusion, to see binners appropriately compensated for the work that they do. However, I agree with O’Hare in his challenge of the formalization-equals-security myth. He cites Millar, suggesting that informal waste picking might “be thought of as a refuge from wage labour” (O’Hare, 2018). There are factors beyond economy and autonomy, however. Ecological stewardship should not be considered temporary: those binners, including some of my research participants, who remain in this work for the foreseeable future deserve to be regarded as carrying out important work by the communities in which they bin.

Finally, literature on the stigma attached to both poverty and what is considered “dirty work” helps explain why informal recyclers performing legitimate work are often delegitimized in everyday encounters in their work environment. The literature in this section allows me to apply a lens that interrogates society’s acceptance of lifestyle-litter-pickers (*ploggers*, *freegans*, litter picker rambles) who perform the work of binners as an instagrammable passion and trendy hobby that is a virtuous lifestyle choice -- while judging and pitying those who perform it as a necessary way to subsidize their income.

Further, continuing the comparison begun in the first chapter of this thesis, I again contrast the work of binning with that of custodians, street cleaners and MSW collectors. In connecting stigma research with the hedonomic literature explored earlier, I ask whether the tools binners choose further separate them from other “dirty workers,” lowering binners within the hierarchy of “dirty” jobs. I ask the reader to consider the multiple ways in which repurposing an everyday object as a work tool of binning makes it an object of stigma.

To conclude this section, I explore elements of surveillance regimes that arise during rapid urbanization and gentrification. Examples from literature illustrate how social control can be enforced through architecture described as “hostile” or “defensive.” In a similar way, “ghost amenities” (Chellew, 2019), through their absence, can be used to control the movement and behaviour of people perceived as a threat because of their low socio-economic status. These examples help explain that, when combined with increased human security, defensive infrastructure poses challenges to homeless binners in North-Central Surrey, and impacts choices binners must make about not only where they work but also where and how they live.

This combination of literature has offered me a way to examine binners and their tools that has not been done before. This approach has also helped me better understand, in a uniquely suburban context, how, despite the importance of this work, the choice of binning tool can impact binners’ occupational health and safety, block their access to public amenities, and increase their risk of social exclusion.

Chapter 3 briefly outlines the research design and methods used to collect data for this project. It ends by introducing the reader to the individual binners who generously participated in this research.

Chapter 3.

Research Design and Methods

This thesis does not strive to capture the story of nor generalize all binners. I did not try to “build a boat that tries to fly,” but rather a boat “that sail[s] effectively” (Small, 2009, p.28). My inductive, ethnographic approach based in grounded theory allowed me to get an in-depth view of the experiences of a small number of individual binners and their working lives with a variety of work tools within a context of observed and reported patterns established by my observations, interviews and work-along experiences. These resulted in the identification of myriad challenges that binners face while working with tools in the variety of landscapes that form their workplace. I have chosen to address nine of those challenges and nine work tools I observed binners using in my findings. From observations, work-along experiences and then through follow-up interviews with binners, each work tool was assigned a number to rate its usefulness in each challenge area. These are organized in a matrix table and individual tool hierarchies.

3.1. Observations

I conducted non-participant observations at five recycling locations (Return-It and bottle depots) in New Westminster²⁶ and North-Central Surrey. These informed my subsequent in-depth interviews and work-alongs, and allowed me to identify potential research participants. This sequencing was necessary as the research participants who agreed to interviews and work-alongs were those who indicated an interest in my research and a willingness to participate and teach me about their work.

3.2. Surveys

I conducted five surveys (See Appendix B) with recycling depot employees at their respective workplaces. They offered me an overall view of who their patrons are and their relative earning potential depending on the season. Two of these surveys

²⁶ New Westminster was included because binners can cross municipal lines and some will cross the Fraser River and work in both Surrey and New Westminster.

turned into semi-structured interviews, where the employees were in senior positions (managers or owners) and were interested to share information with me beyond the scope of the survey.

3.3. Semi-Structured Interviews

Semi-structured interviews were conducted with nine binners who agreed to spend time sharing their stories and perspectives with me. Their narratives illustrate how each binning tool both aids and hinders binners in their work. I asked about physical barriers like infrastructure (roads and pathways), and psycho-social impacts like perceived discrimination resulting from the work of binning and of performing this work with various tools. The rich data I collected builds on Gutberlet's interviews with binners which asked specifically about binning as a stigmatized profession in Vancouver Island's Capital Regional District (Victoria) (Gutberlet & de Oliveira Jayme, 2010, p. 3347).

The open-ended approach of semi-structured interviews allowed binners to share with me as much as they wanted about their working lives.

3.3.1. Recruitment of interview participants

I recruited my interview participants after identifying them as binners through observation. I approached them, expressed interest in their work and work tool, and explained my research. Although many were interested to speak with me, conversations were often limited in my focal study area by the circulation of RCMP who, enforcing new "no loitering" signs, regularly stop and encourage small groups of people to move along. As a result, most of my interviews were walking interviews or interviews held at night in spaces where binners gather for a free meal. Despite the presence of female binners in Vancouver's downtown core, I did not encounter female binners during my research in Surrey. All my participants are male, and all are homeless or precariously housed.

Whenever possible, and depending on what the binner's work tool would allow, I interviewed binners over a meal or coffee. I asked open-ended questions to encourage story-telling and the sharing of detailed individual experiences (Valentine, 2005, p. 120). (See Appendix A for sample interview questions.) Most interviews lasted more than an hour, although two were just over 20 minutes; one interview with a binner who was

eager to share thoughts on local waste management and perfecting the circular economy lasted more than five hours. All interviewees were given an honorarium of \$25 cash as a token of appreciation for their time.

Bidders who participated in semi-structured interviews and/or work-alongs were invited to suggest a first name other than their own to be used as a pseudonym. Although a couple did this, most did not and agreed to be assigned a pseudonym. As one of the goals of this thesis is to humanize the bidders and their work, it was important to me to use names instead of numbers to identify the research participants who worked with me.

3.4. Work-Alongs

Three bidders invited me to shadow them in their work. These work-alongs allowed me to accompany bidders on their work routes and to experience the reality of their job (Wadel, 2015; Evans, 2011). These shifts lasted from three to five hours, not including breaks for meals. Two bidders invited me to participate in further work-alongs, taking me to different areas and, in one case, using different tools each time. These bidders were patient teachers, all of whom took time to explain details of the work to me and shared stories with me about their working and non-working lives.²⁷

Participating bidders received a \$50 honorarium as a token of appreciation for their willingness to take on a work-along apprentice. This also helped replace lost income from working with an untrained partner: each bidder moved more slowly as they shared techniques or quizzed me on elements of their work.

Each of these bidders also invited me to organize follow-up interviews. This proved useful in helping to correct misperceptions in my data, and to refine elements in the matrix of work tools and challenges.

²⁷ One bidder even prepared curriculum for me, announcing at the beginning of one session, “This chapter is called ‘How to be a bidder with no tool and sore feet.’”

3.5. Background on Participating Bidders

Bidders with whom I went on work-alongs.²⁸

Theo

Leaning against the blanketed mound strapped to his cart, Theo tells me binning and scavenging help him buy things he can't afford on social assistance. He bins at night because "no one's going to bother you then." He's used every type of binning tool but prefers a grocery cart. During our first interview, he tells me he's on cart number twelve: the RCMP have confiscated eleven of his carts in just over two months. In five years of binning, he's only had one grocery cart stolen. He sleeps rough by choice; only one shelter in Surrey will accept grocery carts. 25% of his cart is filled with his belongings.

Johnny

Johnny introduces me to the Surrey Urban Mission Society (SUMS) and the Front Room while it is still open. He considers himself more scavenger than bidder but can easily fill two large garbage bags with cans when he needs money for tools or cigarettes. He collects litter in his backpack until he finds a garbage can. He frequently holds something up for me to see, muttering, "Why did they throw that out?" He invites me to scavenge; we climb over fences and descend partway down a ravine. He holds up mysterious objects that defy my imagination. "Oh, this is a really nice one," he'll say.

Ryder

Ryder is the only bidder who will talk to me the first day the RCMP ask us to move along. Still in his thirties, he's the only one who shares dreams of an alternate life where he has a home, a partner and children.²⁹ He sees himself as separate from ordinary people he calls "civilians." He invites me on multiple work-alongs in different neighbourhoods to show me various aspects of his work. He reframes his role in my research for two acquaintances, "She's making a documentary about me." Afterward I clarify, "You know it's just a research paper, right?" "Yeah, yeah, I know. But you *could* make a documentary about me if you wanted to."

Bidders I interviewed in North-Central Surrey

Ajay

Ajay bins only as he needs to, proud to survive on only \$5/week from binning. Friendly and creative, he attracts people who listen to his stories and then hand him their empty beer cans. He'll gladly take donations of money and items that mean he doesn't have to bin. He takes me to a place on the Strip and points at the sidewalk. "That was my home."

Archie

Each time I see Archie, he has a different work tool. Quiet, head down, he moves slowly around the community where he collects a small amount of work product. He shows me his hands the first time we meet. He's switched from a grocery cart to a plastic wheelie

²⁸ As previously indicated, all bidders agreed to be assigned pseudonyms. No one is mentioned by their real name.

²⁹ Like a couple of other bidders I interview, Ryder has already raised several children and was a stay-at-home dad prior to being homeless.

bin with a larger handle and softer grip. “I’ve been worried about vibrations,” he tells me. But the next two times I speak with him he has two different metal grocery carts.

Kyle

Kyle watches new condo towers with me, wondering aloud who lives there and if they even know we exist. It is almost midnight. Rats of different sizes scurry down the street, noisily squeaking. He wonders what will happen to the community of rats once construction begins on the planned condo towers. He refused modular housing: “It’s just another way to track people.” He bins only when he needs to, using plastic grocery bags.

Matt

Matt is so wrapped up in layers of coats the first night I am introduced to him that I almost don’t see a person. At 54, he has been binning for 2 years, mainly with grocery carts. His belongings share space with his work product. He likes the carts because he can travel long distances, but he’s lost grocery carts to confiscation and theft. He bins only during the day and doesn’t travel more than 5 kilometres.

Bidders I interviewed in other municipalities

I spoke with two bidders outside of North-Central Surrey to find out which elements I observed in my study area were different from or similar to bidders’ experiences in other municipalities. Eldon is a veteran bidder well-connected to bidders and recycling in Vancouver. Norton bins in a space on the North Shore that closely resembles -- both in topography and demography -- areas I visited and observed in North Central Surrey.

Eldon

At close to 60, Eldon wonders how long he and his fellow bidders can keep working. A rough sleeper, he’s been binning for over 15 years. He rides a bike with a trailer for his work product. Like the other bidders, he is a maker, always fixing things, from his bike to electronics. He worries about closing the loop on the waste stream. He describes a dystopian future in which there is only a single bin for all waste, sorted by employees of private multinational corporations.

Norton

Norton is a grandfather who texts regularly with his children and their children. He bins with a grocery cart in a suburban, semi-industrial area similar to North-Central Surrey. He has never had issues with the police. “It’s all about relationships. They know me. I’m never hassled.” A rough sleeper, he tells me, “I was a stay-at-home dad. Without a pension, I can’t afford to live a different life.” He tells me he likes what he does. He shows me how he’s organized the recycling materials and belongings in his cart.

The next chapter presents work journeys of the bidders you met above. I first present ten different landscapes bidders move through in their shifts, highlighting the physical barriers and surveillance regimes in each space. These are illustrated with narratives from observations, ethnographic reflections, and stories shared by the bidders. Following a snapshot of nine common binning tools, I share nine challenge areas bidders face. For each challenge, I present a qualitative rating of the work tools bidders use to show how (un)helpful each tool is as the bidder navigates each challenge.

Chapter 4.

Findings: Navigating a Landscape of Challenges

This chapter shares findings from the research and is divided into three sections based on overarching themes that emerged from this research: Landscapes, Tools, and Challenges. The first section describes the types of landscapes that make up a binner's workplace and some of the physical and psycho-social barriers that emerged during interviews and work-alongs. These include forms of surveillance, both real and perceived, that can prevent a binner from entering a space or control their movement within a specific landscape. The second section briefly outlines the work tools binners use and offers visual examples. The final section is dedicated to nine common challenges that emerged from the stories of binners participating in this study. Each challenge is accompanied by narrative illustrations and a hierarchy of work tools that qualitatively rates the ability of the tool to assist the binner with the challenge.

As the roles of landscapes and tools combined contribute to challenges binners face, these must be understood in order to show the complex demands placed on each work tool as it accompanies the binners through changing environments.

4.1. Landscapes: A Binner's Workplace

In a single shift in North-Central Surrey, a binner might travel through close to a dozen types of landscapes. These range from mixed residential and commercial streetscapes interspersed with parks to intersections separating transportation hubs from industrial areas bisected by railroad tracks. The spaces within each landscape can vary widely: a street's sidewalk may end abruptly in a gravel shoulder, an alley may have half-patched potholes, a ravine's grassy slope may be less firm than it appears. Add to this landscape inclement weather -- rain or snow -- and a binner's work tool must now navigate pooling storm water, icy surfaces, or sleet that accumulates under wheels intended to roll primarily within interior spaces along linoleum floors.

The choice of work tool affects a binner's physical ability to walk and roll through these spaces quickly and with ease. Tools that must be placed on the ground during brief rest periods are vulnerable to damage from moisture and friction with sidewalk,

path or roadway surfaces. Tools with wheels may be vulnerable to damage from moving through mud or freshly cut grass, or from repeated bumping up and down sidewalk curbs with no pedestrian curb cuts. And those tools not welcome in food stores or restaurants like Tim Hortons or McDonald's may be at risk of theft or confiscation if parked outside.

Each of these landscapes also presents potential emotional obstacles for binners and their work tools. Especially by day, these spaces present psycho-social barriers: some landscapes are formally regulated with visible surveillance; others are informally regulated through citizen observation of social norms. To the general public, these might merely be spaces, many of them third places³⁰ or spaces of passage. To a binner, however, these spaces constitute a complicated workplace where they are often an unwanted presence; as their work is unrecognized by most, binners are not seen for what they are: workers in a workplace.

4.1.1. Public Parks

Physical Experience: I am on a work-along with Ryder in a small, informal park outside a business tower. We have had to momentarily abandon the cart on a paved path; the grass is wet and the soft ground sucks at the wheels. I head off toward bushes where I've been told there will be more than a dollar's worth of returnables. Ryder reaches down into a water feature and pulls beer cans from under a ledge beneath the water. Both of us glance back at the cart, aware of its vulnerability.

Surveillance Regime: This is a space where our behaviour is informally observed by a small number of business people eating lunch and smoking; we are aware of a mother and small child playing with a ball near us. My work companion, who has been talking about drug use in his community, changes the topic as the child approaches. Formal surveillance arrives in the form of a woman in a security uniform. She passes by

³⁰ "Third places," as originally defined by Ray Oldenburg, are spaces where people connect and community is enacted. Because these are often places where people consume food and beverage and leave behind waste, these spaces are an important part of a binner's workplace. Parks, outdoor plazas with seating, café patios, fast food restaurants and the outdoor spaces around them, shopping malls, and the grounds of schools and recreation centres are all types of third places (Butler & Diaz, 2016).

us, giving the cart a good look. I haven't noticed if there is a camera or if the guard is simply on a regular round. The tinted office windows look out at us.

4.1.2. Public Schools

Physical Experience: Binning by day, we don't enter the school grounds, staying with the small cart well behind the chain link fence. This means reaching through the fencing for cans and bottles among the litter at the edge of the school grounds. We can't reach a number of the items and abandon them at the secondary school. A few weeks later, on a night work-along with garbage bags, we enter the grounds of an elementary school to collect a couple of bottles that glint in the glare of our flashlights. We are expecting beer cans: Johnny tells me elementary school grounds and playgrounds are good places to find these; teenagers get together and drink in their old school grounds at night.

Surveillance Regime: I don't ask why we don't simply go around the fence onto the school grounds in daylight to collect the returnables; I used to work in the school system and know we'd be perceived as a threat. If we had a dog instead of a binning cart filled with work product, we might be more acceptable even though there are signs with a warning to dog owners. At two thirty in the morning, on the elementary school grounds, we don't worry about surveillance or cameras: we are no risk to a population that is safely tucked into bed.

4.1.3. Commercial Neighbourhoods

Physical Experience: By day, we bin in the outside spaces of a drive-thru, paying careful attention to the cars to avoid being hit as we pick up returnables and place them in the small wheeled basket. In sunlight, we move from bin to bin in a large mall parking lot, collecting cans and bottles. By night, we collect returnables in our bags at a gas station and peel off loyalty stickers still attached to McDonalds cups.

Surveillance Regime: I move toward the empty parking lot of a shopping mall, Ryder tells me no: "They'll come right away." I don't believe him and step into the asphalt space. Ahead of me, a small car races into the parking lot, circles several times. As soon as I step out of the lot, the car zips away. "They hire them to watch the spaces: no

uniforms. Like Uber security.” By day, we bin furtively at the Walmart covered parking lot; the security guard at the door glances several times in our direction. But at the drive-thru, no one seems to care we are there: consumers remain in the bubble of their vehicle; there is less chance of any real social encounter, including eye contact between binner and consumer. This requires less emotional labour³¹ from the binner, who does not have to force a smile or feign a neutral demeanour while working in this space.

4.1.4. Residential Neighbourhoods

Physical Experience: Johnny and I walk along residential streets the night before garbage collection. He picks through items looking for treasures before we head for the ravine. In daylight on a rainy day, Ryder and I walk along alleys dividing strip malls from low rise apartment blocks. He digs through lidded blue bins in a residential parking lot and finds a pair of sodden, canvas slip-on shoes. “Perfectly good,” he mutters shaking his head. “I can get at least \$5.00 for these down on the Strip.” Weeks later, at two o’clock in the morning, Ryder and I walk along empty streets lined by townhouse complexes. We stop at each bus stop. He reaches his arm into the opening of each waste receptacle, casting the glow from his lighter into the bin to see if there’s something worth digging for.

Surveillance Regime: Johnny seems unbothered by any presence of homeowners who might notice he is going through their garbage. He stands more on their property than on the street, holding items up to inspect them in the early evening light. Ryder mutters as he goes through the blue bins, “They’re watching us.” I look up but can’t see anyone at the windows. By night, however, he doesn’t seem to care. He is telling me stories as we walk; his voice seems loud in the stillness. But when I move forward with my garbage bag reaching for bottles and a beer can close to a townhouse

³¹ Explored in depth by Arlie Hochschild in *The Managed Heart: commercialization of human feeling*, emotional labour refers to the emotional effort required “when the private management of feeling is socially engineered and transformed into emotional labor for wage” (Hochschild, 2012, Preface to the first edition, p.20). Although Hochschild explored this in depth in the service industry, bidders also perform emotional labour. Their “wage” comes not from their customers but from the avoidance of conflict that will allow them to move into more intimate spaces like café patios in order to collect their work product (which they will later exchange for a type of substitute wage) without being reported to the establishment’s management and/or law enforcement.

he says no and points to a light in an upstairs window.³² The RCMP cars so active during the day are nowhere. There are almost no vehicles on the road; occasionally, a taxi passes by.

4.1.5. Ravines and Edges

Physical Experience: The first time I follow Johnny down a ravine it is afternoon. We climb over some fencing and straddle tree roots to reach beer cans and what looks like a carton of cigarettes. The second day, the ravine he chooses is steep, vine-covered, and slippery. We have a small wagon to carry some objects he saw here the other day. The wagon can't make it down the ravine. I stay with the wagon by the shoulder of the road while he figures how to bring up each of the objects. At night, Theo's cart rolls along main routes heading southward. By the light of our small headlamps, we move long distances, looking for objects in ditches, garbage bins and in the bushes alongside townhouses and apartment complexes.

Surveillance Regime: Johnny and I don't see law enforcement or by-law despite the number of objects dumped in both ravines. However, we avoid a section of one ravine where there is a cardboard shelter. "People living there. Best not disturb them," he tells me. Theo is quiet and keeps his cart that way, too. Although when there is no traffic, we can hear the tick-tick, tick-tick of his cart's wheels along the sidewalk, he has placed fabric between his work product and the metal cage of the cart: no one can hear us coming.

4.1.6. Industrial Neighbourhoods

Physical Experience: I travel alone on foot through one industrial section in order to interview one Return-It Depot manager. In order to reach the recycle depot in question, I have to figure out how to cross from a busy transit hub into the industrial

³² "How do you know when it's okay to go close enough to collect them?" I ask him on another day as we walk past cans on residential lawns. He shrugs. "Just have to eyeball it. Take a look at the yard to get an idea of what kind of people they are. These guys," he indicates a front yard filled with folk art, messy and fanciful, "probably will be fine with it." He sprints up to their lawn and picks a can off the grass.

area. Lack of signage for pedestrians mirrors the lack of signage warning drivers on the busy highway to watch out for us. In two cases, I realize that I am meant to cross in front of traffic that may not be aware they should yield to me. The controlled intersection lights force pedestrians to wait for long periods, and then force them to rush across the multi-lane road. The pedestrian islands are small and sloping; this would pose a challenge to a binner like Theo, balancing an overloaded grocery cart full of recycling. I have to cross over several railroad tracks. I ask directions of an employee working in an industrial yard and tell him about my research. He tells me he doesn't see many carts in the neighbourhood. "Not a very good area for those." Signs indicate clearly that cyclists should yield to motorized vehicles: it is obvious who is prioritized and who is not in this space.

Surveillance Regime: the light signals for vehicle entry onto the highway combined with large trucks lined up along the street create a long stretch of motor vehicles that moves only a bit each light cycle. This creates a kind of audience for any pedestrians walking through the neighbourhood. The windows of a café across from the recycle depot look out at people as they come and go from the depot. Security cameras keep an eye out for those arriving at the depot and surrounding businesses.

4.1.7. Transit Hubs

Physical Experience: Binning during the day with Ryder and his wheeled basket, we take the SkyTrain and buses from Gateway and Scott Road stations. While there, we go through bins but compete with another binner carrying a large black garbage bag. With Johnny, I travel from Gateway to New Westminster. We travel with backpacks. At night, waiting for Theo and Ryder at Gateway, I watch people arrive and leave the station, some dressed in business clothes, some in clubbing clothes, others in clothes that may have been donated. They move around each other without interacting. There are no visible binning tools.

Surveillance Regime: During the day, we are aware of bus drivers at Scott Road bus loop, SkyTrain employees in vests at Gateway and passengers at Scott Road that watch us going through bins but say nothing. At night, I don't see the same presence of transit police as at Surrey Central and King George. But waiting with Johnny on the Gateway platform one day, we notice transit police with someone who looks like a rough

sleeper, he is being ticketed as a fare dodger.³³ Johnny points to the black metal fencing down the median of the road at Gateway Station. “Supposed to stop people from jaywalking so they don’t get hit. But really, I think it’s to stop people like me from running from the cops when they try to catch me without a ticket.”

4.1.8. Stairs, Escalators & Elevators

Physical Experience: Although many locations have accessible ramps, I go up staircases on a number of occasions with Johnny and Ryder. For Ryder, even with the small T&T wheeled basket, this poses inconveniences. The strip malls, with a small number of stairs in some locations and high curbs are a minor inconvenience, and one that we could circumvent in most cases by walk-rolling around the parking lot looking for sloped options up to the stores. This would be a time cost, however, and in one case may mean allowing someone else to empty a bin before we get there.

At the Skytrain stations, we can take the elevator, but Ryder prefers to be in motion, so each time instead we head up the stairs. Whereas, he has simply tugged the wheeled basket roughly up the curbs and small number of stairs at the strip malls, this is not possible with the much longer staircases at the Skytrain stations. In these cases, he lifts the T&T cart by its long handle and stabilizes the basket with one hand. This looks awkward, but is done quickly and expediently, unconscious actions Ryder has performed many times before. Despite his agility, this two-handed grip meant he can’t reach out for the handrail to catch himself if he loses balance or if the stairs are wet or slippery.

Surveillance Regime: I don’t ever accompany a binner inside a shopping mall but Ryder indicates this is the place to be when the weather is bad. These spaces are multi-level and require use of either a staircase or elevator. Using an elevator requires waiting, often in close proximity to other people, some in wheelchairs, some with strollers or very small children. Bidders may perceive judgment in these circumstances, and may opt to

³³ Johnny shows me a number of SkyTrain tickets he had accumulated, several from the station nearest the Surrey Strip, where it is not uncommon to see Transit police ticketing marginalized people. Johnny had been receiving regular calls from a collection agency about the unpaid tickets. With his arthritis and social assistance, he would be eligible for a free compass card; but he hasn’t filled out the paperwork. Johnny’s experience mirrors that of others in the community. Lack of affordable public transit for low-income people was identified as a key problem by focus group participants in North-Central Surrey (SPARC BC, 2018).

take the stairs instead, avoiding feelings of discomfort, most especially the feeling of making others uncomfortable.

Escalators, present in some Skytrain stations and shopping malls, offer another method of navigating to different levels. However, like elevators, they often require that a binner be in close proximity to other people, sometimes for what may seem to be uncomfortable periods of time. If the work tool the binner is using is large (an over-filled garbage bag) or awkward (a wheeled basket) this may draw unwanted attention; no matter how tired the binner is, taking the stairs may be preferable.

Bidders using grocery carts face serious limitations in these circumstances. Although they are often a similar size to a very large stroller and capable of fitting inside an elevator, they are not allowed in Skytrain stations.³⁴ Presence of mall security in most shopping malls would prevent a binner from bringing a grocery cart from outside the mall into mall space. So, the use of a grocery cart means a binner must avoid spaces where this tool is prohibited or simply cannot physically go. Depending on how full the cart is, it will be able to make it up uncut curbs and perhaps a couple of stairs, but only with the effort of an able-bodied binner.

4.1.9. Recycle Depots: Encorp and Bottle Depots

Physical Experience: I accompany Ryder to a small recycle depot. We have to leave the T&T wheeled bin outside, leaning against the depot wall along with a couple of bicycles and a handcart. The only tools allowed inside the small depot are bags. While we're there, people arrive with work product in bags of all sizes and colours. Across the street from the depot, not far from the entrance, I see abandoned grocery carts. These are also at the Encorp depots I visit, abandoned beside the buildings.

Surveillance Regime: As I get on the SkyTrain to head home after one work-along, I wonder at the smell before realizing it's me. Emptying bottles and cans in air thick with a vinegar-sugary sweet-sourness, I seem to have absorbed the fragrance. I don't need a grocery cart filled with work product to alert people to my presence. It is

³⁴ Early on a Sunday morning, I managed to take a grocery cart on three Skytrains, from the Rupert Skytrain Station in East Vancouver, to the King George Station in Surrey. I was fortunate not to be stopped until I reached my destination. Although he did not ticket me, the unhappy Skytrain official repeated sternly several times in a row, "Grocery carts are never allowed on the Skytrain."

easy for me to imagine Ryder checking himself self-consciously to make sure he doesn't smell like the depot before he mingles with "civilians."³⁵ Perhaps some of his paranoia has rubbed off on me: I glance at my fellow passengers, suspicious that they might be looking at me or, worse, avoiding looking at me.

4.1.10. Night as an Urban Landscape

Physical Experience: At night all that glitters might be aluminum. Under our headlamps, the city's pedestrian infrastructure is focused into petri-dish circles of light. The darkness around us dampens distraction as we move along quiet streets, swishing our flashlights into shrubbery to see if there is a sharp glint of response as beams catch an edge of metal. This is Theo's preferred time to work because of the solitude. This is Ryder's preferred time to work because of the increased visibility of recyclables. Johnny, whose binning route is often a social circuit, would rather be sleeping along with the communities he moves through during the day.

Surveillance Regime: Binning by night, ironically, feels less furtive than binning during the day. There is no glare of sunlight, no risk of glare from human gaze. We are not escaping anything. Compared to the daytime, I rarely see RCMP vehicles. Other night hunters are aware of us and dash across streets, four-legged and furry; one night, I watch Ryder accidentally run over the tail of one with his bike. We navigate around each other, purposeful. I walk alongside Theo as he pushes his cart. I jog alongside Ryder who slowly pedals his bike. I clutch a black garbage bag. This is what it is to be a hunter-gatherer at night: while the city sleeps, we walk and roll.

4.2. Bidders' Tools: An Imperfect Fit for all Landscapes

The tools used by bidders do not help counter the negative view some hold of informal recycling. Those pushing grocery carts are assumed to have stolen them. Those pushing strollers are doubly stigmatized, assumed to have stolen them from more vulnerable members of the community: children. And though those astride bicycles are

³⁵ The most self-conscious of the bidders I spend time with, Ryder's conversations with me during interviews and work-alongs are filled with intermittent observations of the non-bidding population and how he imagines they perceive him. Although hopeful that people will see him as a hard-working and "honorable" person, he expresses fear of being seen as just one of the homogenous group of poor street people.

less likely to be immediately identified as binners, when their work activities become visible, they are assumed to have stolen their bikes as well. Though grocery carts used as work tools are obviously not the original property of the binner, it is not actually safe to assume that the binners have stolen them. In fact, in the course of my work-alongs with binners, I encountered all of these items dumped down the ravines where we scavenged for bottles and cans.

With access to clean clothing, binners might be able to disguise the kind of worker they are. However, it is difficult to disguise their work tools. Carrying bulging garbage bags or pushing overflowing grocery carts along urban routes, these workers are almost as identifiable as if they wore a uniform. It is this appearance of homogeneity and identification with poverty that most regulates what is supposed to be unregulated work. Binners and their work tools are not welcome in many neighbourhoods (Gutberlet & Oliveira Jayme, 2010). They do not signal the prosperity many communities wish to project. This is a reality currently enacted in suburban spaces like gentrifying North-Central Surrey, where binning has recently become even more challenged, as binners and their work tools are encouraged to constantly move along, to leave spaces where they disturb the identity of communities undergoing planned gentrification (Johnston, 2016; Surrey Public Safety Committee, 2019, January 15). This encouragement makes it difficult for binners to rest, to socialize, and even to sleep. Since these spaces constitute their workplace, this surveillance imposes regulations on binners' break time, on their ability to share information with co-workers, and their ability to access basic amenities (Surrey Public Safety Committee, 2019, January 15). One of the factors that makes their work most precarious is the confiscation or theft of the tools that are so pivotal to the work that they do (Newton BIA, 2016). Always aware of the risks to the security of their work tools, binners must use a variety of skills in the daily decisions they make that affect how they navigate their workplace with a work tool that is most able to serve their personal and economic needs.

These trade-offs are an omnipresent part of the working lives of binners. But the greatest trade-off may be the one that communities like North-Central Surrey make by ignoring the work that binners do to maintain public spaces. As environmental stewards, binners clean spaces that are neglected by the community (Gutberlet & Oliveira Jayme, 2016; Gutberlet & Oliveira Jayme, 2010; Medina, 2000). In moving binners out of

communities to rearrange human poverty are we deciding to accept the environmental and social neglect that comes with that choice?

4.2.1. Binners' Tools: A Visual Glossary

In order to understand to what extent each tool facilitates and compromises the work of binning in North-Central Surrey, it is important to examine the breadth of binning tools. In the context of the Lower Mainland, these range from bags to carts of varying types, and are often used in combination. These are selected for the purpose of collection and for ease of transportation. In this thesis, data collected from observations of binners using different types of tools was supported and enriched by the stories binners shared during interviews, and from my own experiences working with binners on work-alongs. These reveal varying degrees of difficulty in using different tools, and clear individual preferences for tools that are specifically altered for binning work or particularly suited to a binner's personal needs. Tool choice involves inevitable sacrifice: the binner will lose something no matter which tool is chosen, whether this be speed, personal security, or invisibility in highly surveilled spaces.

Variety of Handcarts



Wheeled Baskets



Wheelie Bin
(containing shoulder pole)



Bicycle
(with plastic bag)



Stroller
(various models used)



Grocery Carts
(various models used, including metal and plastic, single or double baskets)



*Photo credit:
all photos taken by
K. Elliott*

Figure 3. A Visual Glossary of Binning Work Tools

4.3. Hierarchies at Work

Like all workers, binners face on-the-job challenges that can interfere with their ability to work efficiently. Some of these challenges will arise from obstacles in their workplace. This study focussed on the role of work tools in contributing to or mitigating challenges in the binners' workplace. The interviews and work-alongs with binners in this research revealed nine common elements which can pose daily challenges for binners, especially those who are precariously housed or sleeping rough. These binners have no secure place to store their work tool and no amenities in their "home" space; they live more precariously than their sheltered colleagues. It is important to note that the binners who spoke with me did not complain specifically about these elements; the challenges I have listed here arose over the course of our conversations. Some binners, very used to these challenges, no longer see them as major obstacles, but rather as everyday frustrations of their work.

The nine challenges identified in this study are:

- Availability: the ability to easily find a work tool;
- Capacity: the volume of work product a particular work tool is able to transport, and the durability of the work tool;
- Time & Distance: the ability of the work tool to move work product over long distances as speedily as possible;
- Mobility: the ability of the work tool to move within and between a wide variety of urban/suburban landscapes without impeding access to public transit;
- Weather: the ability of the work tool to protect the work product and ease the journey of the binner no matter what the weather;
- Security: the ability of the binner to ensure security of the work tool, not only over the course of a work shift, but also between shifts;
- Relationships: the impact of the work tool on the relationships a binner has with those who live, work and pass through their work places;
- Occupational Health & Safety: the impact of the work tool on the physical and mental health and personal safety of the binner; and
- Personal Needs: the impact of the work tool on a binner's personal needs, whether through limiting or enabling fulfilment of these needs.

Based on binners' stories of their experiences, and on my own experiences during work-alongs and workplace visits, I created a matrix which provides a qualitative rating of the role of each work tool in easing or aggravating a binner's work life in each of the areas where participating binners seem to face similar challenges. The work tools judged to be most helpful in each challenge area were assigned a score of "1"; the least helpful were assigned a score of "5."

The numbers are not meant to indicate a quantitative score, merely the overall extent to which these tools have eased or challenged the working lives of a small number of binners who participated in this research. Research participants were not asked to apply numbers to these experiences as they spoke about them; these are scores that were initially assigned by the researcher. However, following the creation of the matrix, three of the participant binners reviewed it to add insights. The result was further detail that affected the rating of these work tools. Although overall most ratings did not change, this experience reveals the importance of allowing research participants time to consider their responses during interviews and to verify and add information afterward. Despite these verifications, it is unlikely that all binners would agree on this set of numbers, as their experience with these tools can vary depending on their own physical health, abilities and work shift preferences.

Details from the narratives that contributed to the matrix are shared below it in a series of hierarchies. These are intended to display the rating of each tool in terms of desirability in each area of challenge. Selected examples -- sometimes brief -- are provided merely to illustrate some of the realities of each challenge area.

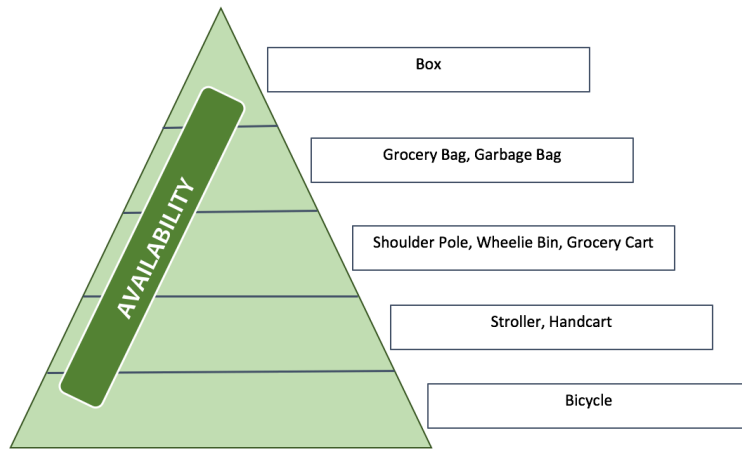
Taken together, the hierarchies in this section seek to prove what the matrix shows: that no work tool scores the most desirable "1" (top of the pyramid) in all challenge areas. What this means for binners is that their work, already challenged by virtue of the stigma attached to it, is further complicated by a set of work tools that, even combined, will not alleviate on-the-job stress. The choice of an appropriate work tool is one that will impact a binner for multiple shifts and may even play a significant role in their non-working hours.

	Grocery Bag	Garbage Bag	Shoulder Pole	Box	Stroller	Handcart	Wheelie Bin	Grocery Cart	Bicycle
Availability	2	2	3	1	4	4	3	3	5
Capacity (Volume)	4	1	5	2	3	3	1	1	5
Time/Distance	4	4	4	5	2	2	3	3	1
Mobility	2	2	2	5	2	2	4	3	1
Weather	2	2	3	5	4	4	1	4	3
Security	1	2	3	2	3	3	4	5	5
Work Relationships	3	4	3	4	3	2	2	5	1
Occupational Health & Safety	2	2	2	3	2	2	2	3	4
Personal Needs	2	4	4	4	3	2	3	4	4

Figure 4. Matrix of Work Tools and their Ability to Meet Binner's Needs

4.3.1. Hierarchy A: Availability of Work Tools

"Chow mein ruins everything." (Ryder)



Work tools in many work spaces are provided by the employer. However, in autonomous work, the obligation to secure work tools falls to the worker. For informal recyclers there are trade-offs involved in finding a suitable work tool: those that are most readily available may not offer the greatest effectiveness as work tools, but the procurement of those that are most desirable may be too costly or involve too much risk.

Most informal recyclers I spoke with had no difficulty finding thin, plastic grocery bags at no cost; these are often disposed of by consumers in outdoor garbage cans, left intact as litter in the binner's workplace, or easily available with a small purchase from a convenience store. These are the most available of all the binning tools, but also the least valued. They are also often discarded with food waste inside or residue from a take-out meal. "That's the worst. Chow mein ruins everything," Ryder tells me when he looks at an early draft of the matrix. "Those bags should not be a "1"; they are everywhere, but there's usually something nasty on the inside. They're not usable. You get oil like that on your cans and bottles, the people at the [recycle] depot are going to give you a look." He makes a disapproving face.

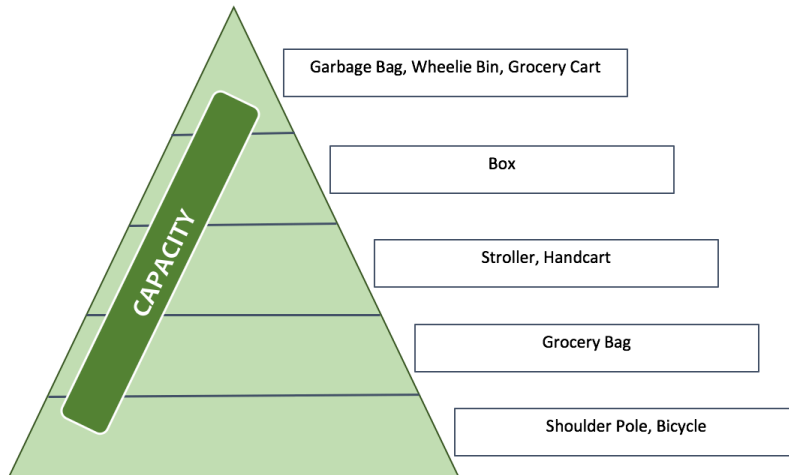
The most desirable bags -- large, black garbage bags -- are more challenging to locate; these are not discarded by users, but rather placed outside for garbage collection with contents deemed to be "waste." Like the grocery bags, garbage bags are often contaminated with waste residue. Rarely will a binner be able to use one without first having to dump out contents that may have already damaged the bag or left on the inside traces of waste.

The shoulder pole allows a binner to balance a number of bags filled with work product, and can be made from the handle of a discarded mop, broom, rake or shovel. These are sometimes discarded with refuse and placed out for municipal collection. Some residents and businesses discarding them may retain a sense of ownership of the object; binners spotted taking them from curbside garbage may face conflict if the previous owners are still on site.

Grocery carts and strollers, although often assumed to have been stolen from corporate or residential property, are often found abandoned in ravines, according to a number of binners I spoke to. In my observations of recycle depots and interviews with depot staff, although grocery carts are not officially allowed on depot property, I usually found empty grocery carts parked within the vicinity of the depot, sometimes even against an outside wall. Knowing where to find abandoned grocery carts off store property -- and off recycle depot property -- may put the binner at less risk while accessing this work tool, even if using the tool in public spaces will likely mark the binner as a thief.

4.3.2. Hierarchy B: Capacity (Volume and Durability) of Work Tools

“I’ve moved an entire apartment on a grocery cart.” (Theo)



Capacity in this thesis refers to not only the volume of material a work tool can hold, but also the durability of the work tool: how long it will last over one or multiple work shifts.

The most capacious work tools are garbage bags, wheelie bins and grocery carts. The most important of these three tools is the garbage bag because, combined with any binning work tool, it can increase tool capacity. However, not all garbage bag work tools are created equal: many are pre-used and pre-damaged by that prior use. The way the binner uses a garbage bag will also affect its longevity. Here, again, we see a trade-off faced by binners: to fill a garbage bag to bursting with uncrushed cans and bottles is to maximize capacity and income; however, in doing so, the plastic is stretched and weakened, its lifetime shortened.³⁶ Each time binners weaken this work tool, they place themselves in a type of future time debt: the time they will have to spend looking for a replacement tool when their current tool breaks beyond repair. Skilled binners are, therefore, constantly on the lookout for spare work tools that they can collect along with the recyclables.

³⁶ One bicycle binner in New West was on his second day of the same black garbage bags, but he told me this was their last shift. He had managed to get blue duct tape from a friend and had patched large gashes in the bags. Other tears were unmended; through them, I saw the sharp edges of flattened aluminum cans.

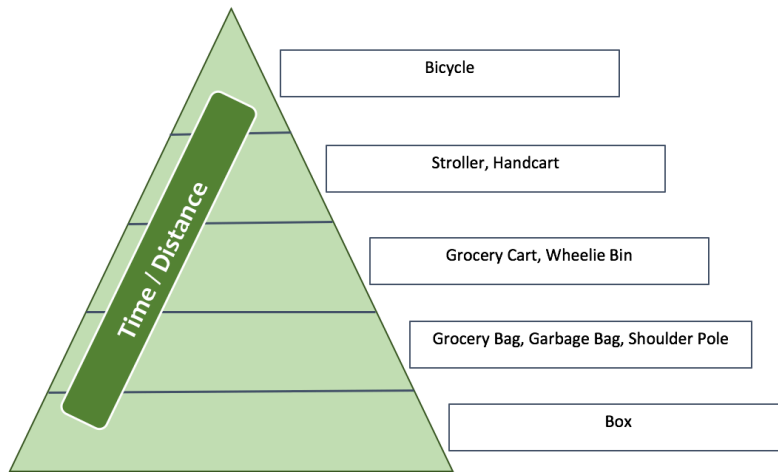
Wheelie bins and grocery carts provide a protected interior space for work product. These may not even require the use of bags. However, seasoned binners will suspend garbage bags and plastic grocery bags from the handles of bins and carts and from the metal or plastic grid of the grocery cart's basket. The use of bags within the wheelie bin and cart can help binners organize their work product and thus save sorting time later at the recycling depot. Binners using grocery carts will often pile garbage bags of work product high atop their cart, sometimes securing these with bungee cords or rope. They may also place bags or boxes underneath the basket of the cart, just above the wheels. The grocery cart thus becomes a personalized work tool whose interior space and frame serves as a scaffold allowing each worker to design for maximum volume according to personal preferences and organizational style.

Grocery carts, when not at work as a binning tool, are regularly used by binners within their community to perform other types of work that is useful within the binner's social network. When asked about the strength of the grocery carts he used, Theo recounted helping friends during two different moves. "I've moved an entire apartment on a grocery cart." The strength of the cart's frame and its wheels -- not good at absorbing shock but not bad if one simply wants to roll forward -- allowed him to balance large, heavy pieces of furniture atop a grocery cart, rolling a piece at a time from one neighbourhood to another.

Unfortunately, not all wheeled carts are as resilient as grocery carts. A type of handcart not commercially sold, but certainly used by binners -- the grocery basket on wheels -- can be a useful tool. Pulled along by its long handle, these small plastic carts are a type of small, hybrid grocery basket and grocery cart. Always branded with a store's colours and name, these are obviously stolen items, but don't seem to attract as much negative attention as grocery carts. They usually cannot carry more than a couple of grocery bags and one large garbage bag of work product. On a work-along with Ryder, whose most recent bike has been stolen earlier that week, we walk with a wheeled basket from T&T. The basket has been fine for a few work shifts; then it hits a curb too hard and a wheel breaks off, taking a chunk of green plastic with it. We limp through the 4-hour shift on three wheels and an unwieldy cart. One woman who sees us on the return leg of the work shift calls out to Ryder sympathetically, "Oh, Hon, you need a new one of those!" She suggests a drugstore nearby that has "real nice ones."

4.3.3. Hierarchy C: Work Tools to Increase Time and Distance

“I am the top level of binner when I am on my bike.” (Ryder)



A tool’s ability to allow its user to move quickly through different landscapes and to travel over long distances seems straightforward. Wheeled work tools are obviously of highest value in this category. In fact, a bicycle is a preferred tool for time and distance. As Johnny tells me, “With a bike you can cover more area, and it’s first come first served. I can’t remember how many times I am going to check out a bin and someone else with a bike beat me to the punch.”

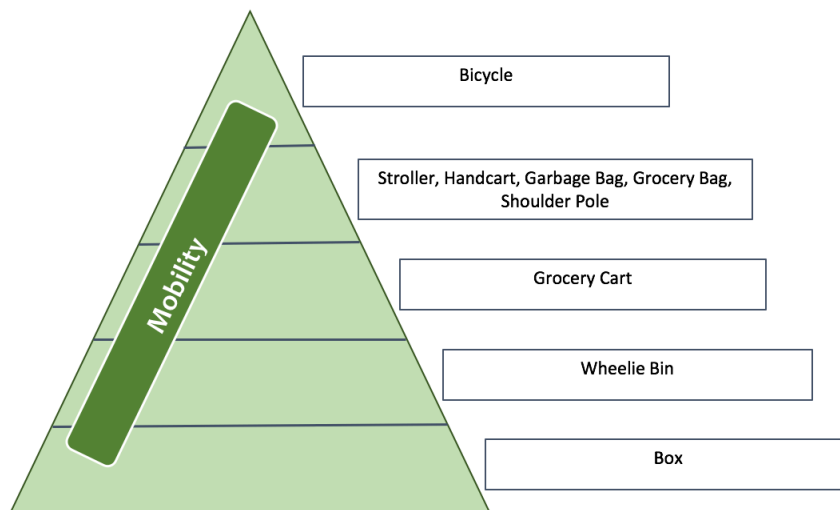
All other work tools rely on the binner’s walking speed and ability to tolerate travelling across a variety of surfaces. This aspect is one that is easily ignored but is pivotal to a binner’s work. The income of those bidders not travelling by bicycle (and that is most) relies on pace and stride. This requires not only muscles but also appropriate footwear. On one work-along, Ryder shows up, his bare feet in flip-flops. “Went to get some free shoes, but they said they didn’t have my size.” This impacts the route we take. Instead of moving through a variety of landscapes as on previous work-alongs, we take a bus to a large shopping mall surrounded by strip malls. This landscape minimizes the distance we travel from one bin to another.

However, many bidders travel much farther. Whereas Johnny prefers only bags as tools, this can reduce his speed; others I speak with agree that wheeled tools are easier for travelling long distances. The grocery cart is deemed useful for very long

distances. However, although Theo prefers a grocery cart, he advises that if time is a factor, a binner needs to trade income for speed and switch from a grocery cart to a stroller, which is easier to manoeuvre over city infrastructure. In another debate about manoeuvrability, two binners defend their selection of wheelie bins because two wheels are easier than four where there are no pedestrian curb cuts, and the plastic wheels are less likely than smaller grocery cart wheels to become stuck in potholes.

4.3.4. Hierarchy D: Work Tools to Increase Mobility

“A lot of older collectors got bad backs or legs so they use a bike. The weight is on the wheels instead of your back.” (Johnny)



Although all binners claimed a bike was the best tool for mobility, there seemed to be a disconnect between their idea of the bike as a tool and the observed reality of a binner on a bike. Travelling from site to site constitutes only part of a binner’s movement at work. So, while a bike is indeed a useful tool to ride swiftly from one work site to another, once a binner is at a collection site, they must reach down into bins or part foliage or retrieve items from a curb, gutter or flat green space. This is hard to do astride a bike, and most of these manoeuvres require the use of both hands. This means dismounting from the bike and possibly even laying it on the ground in order to search through bushes or lift a lid from a bin or peer into a dark space with the aid of a flashlight. A binner doing all this while astride their bike risks injury. Although I witness some binners make such awkward manoeuvres, most do get off their bike, lay it on the ground, retrieve the item(s), then pick up and mount the bike to ride off with the items,

while tucking them into bags attached to handle bars. All these movements involve complicated, multi-level adjustments, some lifting, some lowering, and a fair amount of balance. A binner who is unwell might find this impossible. Regular binners who were to see themselves on camera might question the efficiency of this work tool if their work site involved multiple collection sites close together. In this case, would it simply not be better to be on foot? “On foot suits me -- more flexibility to get into all the places,” Johnny tells me. However, he acknowledges that some binners prefer the ability to be seated, especially if they are older.

But what about the younger binners? Ryder is constantly on the lookout for a bike if he doesn't have one to use. A bike helps him “get in and out of neighbourhoods” faster; it is also a vehicle that might normalize a person. Ryder, always self-conscious, worries about how others see him. Is the bike an important part of his identity? One individual told me that it's because the bike is iconic. “Everyone wants one.” This does, indeed, seem to be true for the majority of the binners. The bike is a prized and well-cared for possession, and a way to show off normative skills and knowledge. It carries a visible value across communities. It is a status symbol. Eldon is very proud of his current bike, posting on social media any improvements he makes to it. In separate interviews, he and Ryder spend time explaining mechanical particularities they have come to know about their bikes, and their particular methods for upgrading some of the elements they find lacking. In front of the SUMS place, following breakfast, several binners and scrappers pack up their bikes, one showing off to the others a recent improvement he made that allows the bike to travel more quickly. In this instance, the mobility of the bicycle seems to offer opportunity for socialization and positive reinforcement of self-identity. In ways that binners do not talk with each other about other work tools, they will eagerly discuss their bicycles.

I wonder as I watch these interactions and listen to Ryder speak of how he feels when he is on his bike if there is something more to this iconic mode of transportation. In caring for their bicycles, binners develop a relationship with this object. Although this happens with grocery carts as well, which binners will personalize, the grocery cart is merely a vehicle. The bicycle seems to be a vehicle of not only physical but also social mobility. One interview with Ryder, where he speaks several times of being an “honourable person” who is responsible and strives to “do good” and respect other

people and the environment, makes me wonder if the bicycle in this context plays a role like that of the medieval horse. Ryder's perception is that he ranks as a "top binner" when he is binning on a bike. Is this elevation more than physical positioning, where one is faster and higher than others doing the same job on foot? In this context is the bicycle idealized in a way that makes the binner into something equally ideal?³⁷

All tools that require a binner to be on foot at all times rely on the binner's own mobility. For this reason, most bidders judged a number of tools to share the same general importance, depending on personal preference. A binner who is a good walker will be mobile whether carrying bags, pushing a stroller or pulling a handcart. However, the tool may dictate tactics a binner uses as they travel. The T&T wheeled basket that Ryder used was good for mobility until it broke; but even prior to losing a wheel it impacted his ability to take advantage of every opportunity to collect more valuable cans or bottles. As we worked our way from bus stop to bus stop along one side of a busy street, Ryder saw a more valuable returnable across the road. Had I not been with him, he would not have been able to dash across the street to collect it; the jerking actions of doing so would have risked toppling the small cart and the bags of work product atop it, which were not secured with ties. Instead, he had me wait with the cart while he dashed into traffic to grab the bottle. "You can't run with these," he told me. "They'll flip and spill everything."

Like that T&T handcart, a grocery cart's mobility depends on its wheels, which most bidders agree leave something to be desired. "You have to saw them off and replace them," Ryder tells me one day in a Dollar Store, as he searches for a cheap air pump for his bicycle. He shows me the saw he'd use to cut off the back wheels. Many bidders don't get the opportunity to replace the wheels on their carts, and substitute wheels are hard to find unless they also scavenge. But for bidders like Archie, even though the grocery cart wheels are most likely to ice over in bad weather, get stuck in potholes and require lifting over sidewalks without pedestrian curb cuts, this work tool is one he can lean on, literally. Often tired because of medication or lack of sleep, Archie will sleep while standing, his upper body draped across a grocery cart or wheelie bin. A

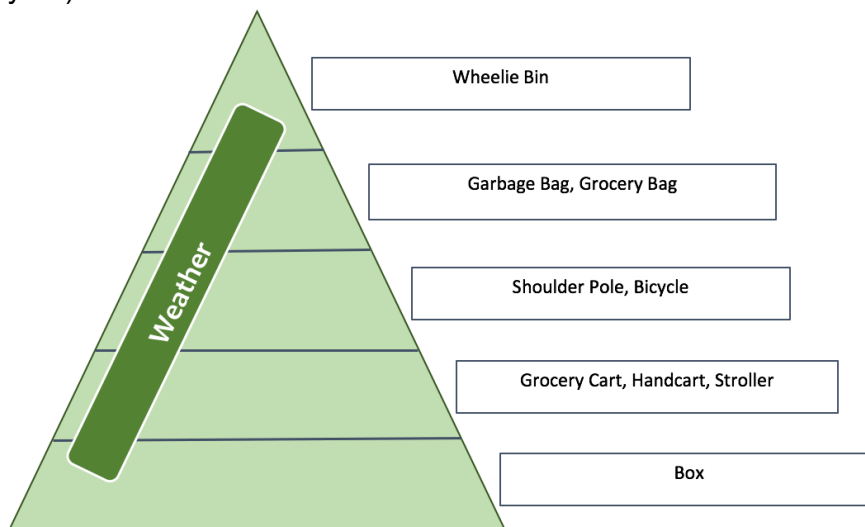
³⁷ There was, in Ryder's self-portrait, a fleeting image of a knight upon a *destrier*, even if the ergonomic reality of bicycle bidders is much less efficient than the pedestrian hunter-gatherer bidders on foot.

bicycle would not be practical for him. To be his most mobile, he needs to have something he can push that also supports him physically.

The relatively flat terrain in North-Central Surrey makes pushing a grocery cart easy for Archie, Matt and Theo. However, Theo tells me he needs to exercise different judgment when working in sloped areas. He recounts working across the river on a road with a steep slope, unaware of how heavy his cart had become until too late. “My cart was heading down faster than I was.” Without a mechanism to slow the wheels, he was forced to let go of the laden grocery cart, which rolled down the steep incline, crashing at the bottom of the hill.

4.3.5. Hierarchy E: Work Tool Performance in Different Weather

“When the weather is really bad -- like heavy rain and snow -- no tool is good for that. Not really. Smart bidders will know to go inside a mall or work close to covered areas.”
(Ryder)



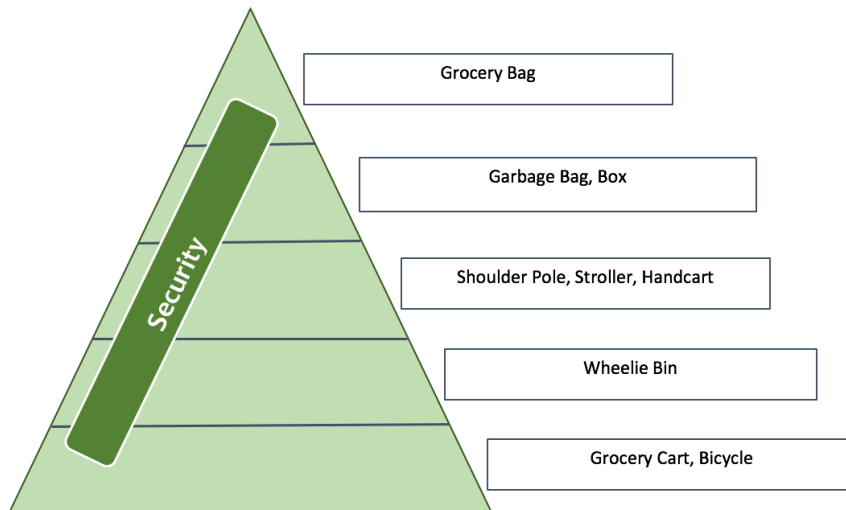
The evening I meet Matt, his ungloved hands are wrapped around the metal bar of his grocery cart. His fingers are red from the cold; his friends tell me the skin of their hands can freeze against metal handles in this winter. Moreover, his work product and personal belongings are wet from the snow.

Unlike Matt’s open cart, Archie’s wheeled bin provides the greatest weather protection for his work product. Its hinged lid is easily opened and closed quickly over

any cans or bottles added to the contents. He smiles as he opens the lid revealing a backpack atop the grocery bags of work product in the bottom of the bin.

4.3.6. Hierarchy F: Security of Work Tools

“They took my last one away.” (Theo)



The security of a binning tool depends on a binner’s ability to avoid becoming a target. Invisibility is useful. A binner who can avoid drawing the attention of law-enforcement can avoid confiscation of their work tool. A binner who does not attract the attention of residents and business owners can avoid being reported for loitering or possible criminal activity. And a binner who can avoid the gaze of others who might desire their work tool will also avoid becoming a target of theft.

The first time I see Archie, he is standing beside a City of Surrey wheelie bin. I watch and then follow him at a distance for almost half an hour as he slowly pushes the bin along a stretch of sidewalk in front of a row of storefronts. It is snowing large flakes for the third day in a row. Clumps of semi-frozen slush cling to the two plastic wheels at the base of the bin. Dressed in work boots, work pants, a plaid shirt and sleeveless jacket, Archie balances a paper bowl of hot cereal in one hand, and pushes his wheelie bin with the other, stopping from time to time to lift a recyclable bottle or can from a shrub. Over his jacket, he wears a yellow safety vest. I’m not yet sure he is a binner.

He smiles when, later, I tell him I'd thought he was a City worker. Although a wheelie bin is clearly not the property of a binner, it is unlikely to be confiscated or reported if the binner can "pass" as a City employee. Archie is thus able to leave the bin standing outside a store while he goes in to buy hot cereal; the bin will still be there when he comes out again. If he leaves it within view of the shop window, he might even be able to sit indoors and enjoy his food before going out again to continue his work shift. The trick is to leave the bin so that it looks as if the City has deliberately placed it there: hinges and wheels against a wall, the lid openable by any passerby. Not all bidders are able to dress as Archie does, and wheelie bins are likely to be confiscated and returned to their appropriate home if they are noticed out of place by municipal waste and recycling collection staff.

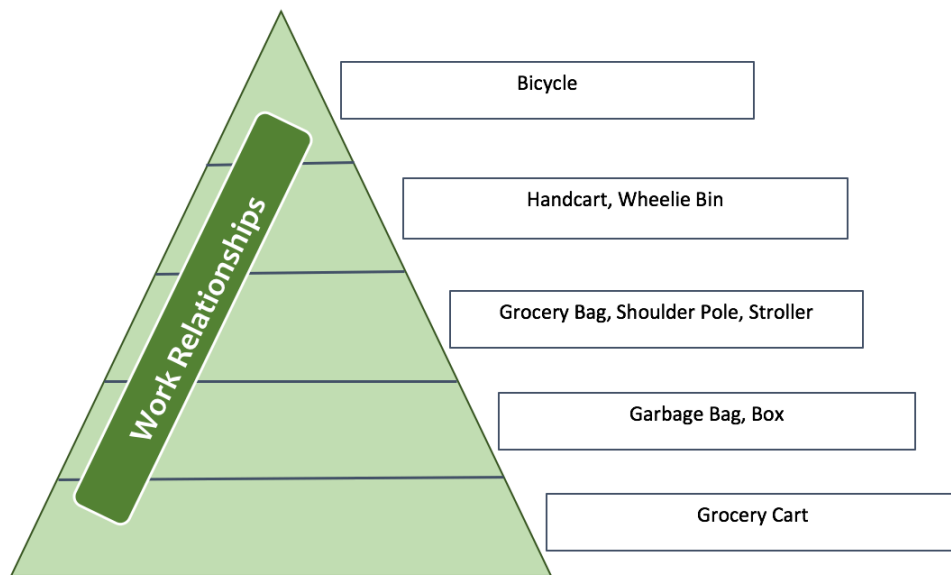
When I interview Theo at the end of the first week of March, he tells me he is on his twelfth grocery cart. The other eleven have been confiscated by the RCMP. This is a particular problem for Theo because, as someone who has been living outdoors, he stores his belongings in his cart. "They take up about 20 - 25% of my cart," he tells me. "The rest is all for cans, bottles and whatever I find that I can sell in the community." I ask if all that is confiscated each time with the carts. "No, no. They don't want that. They just dump out my cart onto the sidewalk and take off with the cart." Theo, who doesn't have a phone, has to wait with his belongings and work product following each cart confiscation until a trusted acquaintance happens to walk by. "Then I ask them to wait and keep an eye on my stuff while I go get another [cart]." Theo's situation illustrates a troubling security issue for bidders' work tools: not only does the confiscation of a grocery cart negatively impact a bidder's work, but it also places the immediate product of their work at risk.

More desirable than a grocery cart, the bicycle appeals to more than just bidders. It is an object of recreation and, most importantly, transportation. During observations in one neighbourhood, while waiting to meet with a bidder, I watch a negotiation take place between a couple who have procured a bike for a client who now wants a better deal. During my interviews with bidders, I heard about lost bikes, stolen bikes, borrowed bikes, loaned and owed bikes. One bidder tells me that it is the best tool, but simply costs too much. "It's at least \$125 and then you need to patch the wheels or fix the seat or something. And it's going to need a trailer if you want to do good work." Ryder speaks

wistfully of binning on a bicycle: “I’m the top level of binner when I’m on a bike... But then I spend all my time worrying about keeping it safe. You can get a lock and chain, but it still won’t be safe. If you don’t want it to be stolen at night, you have to sleep on it. - That’s just not very comfortable.” He bears bruises and cuts on his legs from twining them through a borrowed bicycle one night. It is stolen from him, anyway, along with his phone and wallet.

4.3.7. Hierarchy G: Impact of Work Tools on Work Relationships

“If you’re pushing a grocery cart, they all hear you coming.” (Ryder)



Co-workers: visible

Bicycles allow social and financial mobility in terms of co-working relationships. They can be “loaned” for a fee to a trusted friend or colleague and are important tools within the community of bidders who wish to participate in the more lucrative activity of scrapping.³⁸ A bidder who does a lot of scrapping tells me that, with a small trailer attached to a bicycle, he can make far more money from scrapping than from binning. His bike is what allows him to do this because of the distances he can travel.

³⁸ Scrapping involves collecting varieties of discarded metal and selling it to a scrap metal dealer.

Many binner-scrappers rely on a social network of what could be considered co-workers. Scrappers may work primarily alone in gathering their work product but then collectively store the metal scrap until they have accumulated enough to make a trip to the scrap metal dealers worthwhile. When I ask if it is difficult to tie all the metal to the bike's trailer, the binner-scrapper and his friend laugh and shake their heads. "No, no," he tells me. "We couldn't take it there on our bikes. Too much metal, too far to go." Having worked hard to forge and maintain relationships with local taxi drivers, they simply call a cabbie who offers them a good rate for a ride to the scrap dealer. Although these scrappers ultimately rely on connections with motor vehicle drivers, their bikes help them gain entry into a type of binner-scrapper fraternity, and has clearly been pivotal to the formation of some working friendships.

Co-workers: invisible

Johnny imagines a competitive relationship with binners riding bicycles. One day he describes to me calmly, as if he knows them, the binners on bikes who have obviously beaten him to the recyclables in a particular bin. He never actually sees binners on bicycles beat him to these bins; he merely assumes that is how it happens: not a binner on foot beating him to the work product; it is a faster binner, one on a bike. Because Johnny chooses to bin on foot not on a bicycle, this is not a failure nor a competitive relationship that upsets him: this is simply a matter of colleagues with superior technology that allow them swifter access to the work product.

Ryder expresses similar awareness of binning colleagues in his working environment. On various occasions, he says, "You can see a binner's been here before us." At a strip mall one weekend, he remarks, "This is the end of a weekend and already afternoon. There've been several bottlers already here, you can tell. They've got most of the cans." On two other occasions, he doesn't feel bad about unsuccessful attempts to reach an aluminum can because someone else wasn't able to get it either. The first time I hear him say this, it is about a can on the other side of a wire fence at a high school. "You see, it was just too far away. The guy before us couldn't get it, either." On another occasion, reaching in vain into a recycle bin with a stick for an elusive can, he says almost with glee, "The other guy couldn't get it either. Wonder how long he tried. Wonder if he tried with a stick." Ryder's stick can't reach it; this, however, is not a failure. Rather, it is a shared attempt: and none of the binners he imagines trying to grab these items

has been able to do so. Eldon imagines the same types of scenarios, seeing his urban environment as one that is filled with previous and future bidders all moving through the same space searching for the same things.

The “civilians”

Although I hear the occasional story of an irate bidder protecting his “territory,” none of the Surrey bidders I speak to acknowledge the existence of “traplines”³⁹ in their area: it’s a matter of first-come, first-served. So social friction is more likely to come from what Ryder terms as “civilians” -- those leading normative lives outside the binning community. Bidders who use handcarts are the least likely to experience social friction from their use of this tool. Handcarts that are not property of a store are often allowed inside recycle depots, which means a bidder doesn’t have to worry about their tool being stolen while it is parked outside, possibly out of sight. However, this was not the case for the T&T shopping basket on wheels. It is parked outside the bottle depot while Ryder and I take in the collected cans and bottles and wait for the staff to calculate their value. Ryder seems unconcerned about the cart, but this may be because it is already damaged and he suspects no one will bother to take a handcart with a missing wheel. Unlike the looks that bidders can get when walking down the street with a grocery cart, Ryder doesn’t perceive stigma related to the handcart -- even one that has clearly been taken from a store. The reaction Ryder receives from the sympathetic woman who suggests where he can replace the broken handcart -- replace an obviously stolen one by stealing another -- is not the only intentional kindness he is offered on that binning shift. Earlier in the day, he is stuck at a fare gate when his transit ticket won’t work. A young, well-dressed woman who has come out of the new condos by the station sees his frustration and says, “Don’t worry: you’ll just come through right after me.” She walks through and then holds the fare gate open for Ryder, beckoning him through. And she does this seeing that he is clearly pulling a T&T cart filled with garbage bags of cans.

Other work tools may elicit an aggressively negative response from people. Strollers can have this effect. Several people have told me with angry confidence that the strollers used by bidders are definitely stolen. However, as explained in Section 4.3.1, that is not necessarily the case. But public perception creates truth: a stroller in

³⁹ Other research has mapped out “traplines” -- a type of proprietary binning path “owned” by a bidder -- in areas of the DTES (Tremblay, 2010). I have found no such lines in North-Central Surrey.

the hands of someone who does not appear to have children with them is instantly suspect, and the person pushing it even more so.⁴⁰

The Depot Staff

Although, in comparison, a grocery bag may seem benign in its impact on most binning relationships, as Ryder identifies (See Section 4.3.1) it can cause problems with the depot staff if it has an oily or sticky substance inside it that gets on the cans and bottles. He tells me that almost every single grocery bag has take-out food left in it or an unfinished can of pop. There is spillage inside the bag. This is problematic. Ryder tells me it's important to try to maintain good relationships with the depots: some have more tolerance than others. "Some depot owners are just a dick," he tells me. "I've been told, 'We don't serve your kind here.'" He hands his bottles and cans into a depot that does not pay full price because the nearby depot that does has banned him. When I ask him what he did to get banned, Ryder replies, "Nothing at all. They just decided they didn't like me." But when I suggest to Johnny that some depots might turn away binners for no reason, he finds this hard to believe. "There's always some reason. It's never just nothing." I wonder, however, to what extent that reason can be subjective.

I am interviewing the manager of a large recycle depot who expresses challenges he's experienced with binners at another depot, seeming to reference a homogenous group. But in the middle of his negative story, a binner hauling a full black garbage bag strides into the depot and begins sorting his work product. Immediately, the

⁴⁰ Waiting for a bus by the Surrey Central Library, I witness an altercation between a female binner with a stroller and a security guard outside the library. The woman is about to push her stroller through the automatic glass doors of the library when the security guard calls to her from the sidewalk. She turns. The guard asks her where she thinks she's going. She replies that she's just going to use the washroom. The guard tells her she isn't allowed to take her stroller inside. However, people have already entered right in front of her with a stroller; this is obviously not true. She says so to the guard, who becomes angry, "Are you a mother?" he asks. "Where are your children?" She replies that people with strollers have gone in and that she just needs to use the washroom. He tells her she isn't allowed. "Do you even have any children?" He asks her. The scene escalates and a second security guard becomes involved. A small group of people gather to watch; they seem supportive of the binner. It is hard to know if they would have treated the woman with kindness had she not been experiencing harassment from the uniformed security guards. The woman never enters the library; she abruptly leaves, presumably seeking a washroom elsewhere. When I tell Eldon and Ryder the story about the woman and her stroller, they are not surprised at all. Both feel that gender played a role in the story. "People just expect more of a woman," Ryder tells me. "If she has a stroller with no kids, she's a traitor because she's a female who stole a stroller from another woman who's a mom. If she has a stroller and she has kids and she's binning, she's in trouble because she's setting a bad example, being a bad mom."

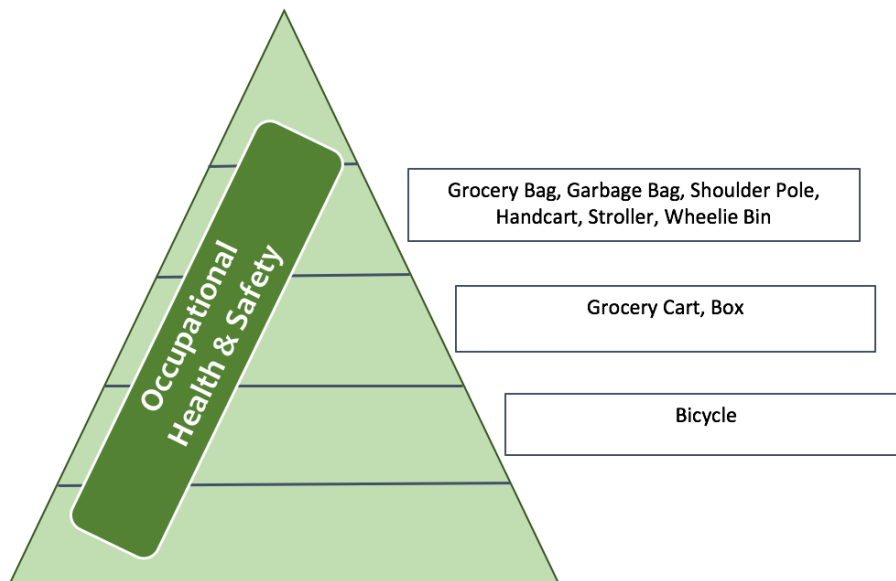
manager points him out to me, “You see that gentleman: he’s one of the regulars -- comes in three or five times a day.” When the “gentleman” has cashed in his work product, the manager strides over to him with an enthusiastic greeting and a high five. He asks how much he’s earned that shift. The binner happily holds up two bills: twenty-five dollars. “Oh, that’s really good,” the manager tells me afterward, surprised. “Normally it’s not that much.” He tells me he feels binning is important as one of the only sources of income that binners can earn without endangering their social assistance. “This is an expensive place to live. They don’t get that much.” If the regular binner had not entered the depot when he did, would I have been left with the manager’s problematic view of other binners? Is this one binner special, or are there others the manager has come to know personally who have been transformed from “them” to “gentleman”?

Although the garbage bag that the gentleman binner used had no apparent negative impact on the manager of that depot, these can be a problematic tool, depending on the neighbourhood where a worker bins. One binner’s story indicates that the manager’s attitude toward binning as income is not necessarily widely held. The binner tells me a resident came out of his house to accuse him of stealing from his neighbour’s recycling box. “He yelled, ‘You stole those bottles!’ And I said, ‘No, I didn’t steal them.’ And he yelled louder, ‘You’re a liar!’ And the thing is, I can’t prove that I didn’t go up the neighbour’s driveway. The neighbour’s not home. You can’t prove that what you’ve collected you didn’t steal. There’s no way to prove that.” This is an interesting observation in light of a conversation with one Return-it Depot owner. When I explain to the owner I am interested in the work that binners do, the owner asks, “What work is that.?” When I say, “Collecting bottles and cans,” the owner tells me that is theft not work. “It’s not work,” the owner repeats. “It’s not. They already all get money from the government. Now they want more? They already get money.” It doesn’t matter to the owner what work tool the binners use: no tool can legitimize what they do. On the other hand, the owner praises people who arrive to recycle the bottles and cans they have brought from home. “That’s a good habit. Some of them who used to come in with their parents, now they have children of their own, and they bring them in to do the recycling, too.” The owner says this with pride as if somehow having played a role in encouraging this multi-generational recycling habit. To be fair, however, she does not approve of the work tool most of these parents and children use: the car. Even though she disapproves

of binners who arrive on foot with a large black garbage bag full of cans and bottles that might earn them about five dollars, she scoffs at those who drive from home with similar bags of recyclables. The majority arriving by car, she says, will collect about two dollars from returnables. Although she approves of these as more upstanding citizens than “the homeless,” she doesn’t understand the trade-off made by those who drive to her depot. “They don’t even make that much. They spend more on gas.” She shakes her head. So, there are limits to even the virtue of “legitimate” recyclers. When I try once more to talk about the binners’ work, the owner reiterates emphatically, “That is not work. They steal the bottles and cans that somebody else paid for.” The owner indicates that you can’t trust binners, that they must always be watched -- otherwise, they’ll simply steal back the cans and bottles they just returned to try to get even more money. “In and out. Get them in and out quick as possible. Welcome them in, finish with them, and then invite them to leave.” She gestures toward the exit.

4.3.8. Hierarchy H: Impact of Work Tools on Occupational Health & Safety

“I’ve been worried about the vibrations and my hands.” (Archie)



The work tool’s ability to contribute to carrying capacity and income is often in direct conflict with protecting the worker’s well-being. As a binner moves through different landscapes, an over-filled garbage bag that threatens to break may force the

binner to carry it in a way that places strain on the shoulders, back and arms. A binner dodging through traffic on foot or bike and pulling a cart or trailer loaded with work product risks harm from vehicles, and faces potential stress and danger that comes from their workload tipping into the street and the actions they may be forced to take if they choose to recuperate spilled items.

Danger from vehicle traffic may not be the greatest of concerns to a binner on a bicycle. As Ryder indicates, the bicycle is a much sought-after item, and one whose security he worries about “every minute of the day” when he has one, including when asleep. The status of having a bicycle comes at the cost of mental health: anxiety during the day and wakefulness at night resulting in sleep deprivation, already a real health concern for binners who sleep rough. Ryder and Johnny have both indicated they have difficulty achieving a “normal” sleep; Johnny says he doesn’t even remember what that would be like, it’s been so many years. He’s seen a doctor about his insomnia. Ryder, who is self-conscious around “civilians,” may also suffer from an inability to accurately judge people’s reactions to him. As this is an important part of his job -- knowing how to be with “civilians” in order to maximize his working conditions -- this impairment from lost sleep can become a workplace challenge. Theo and Archie sleep during the day: Archie slouched over a grocery cart or wheelie bin, and Theo inside a safe injection site, where he is dry and warm, among people who care about him. Archie’s sound sleeping outside leaves him vulnerable to those who may wish to take his binning tool and work product. There is no evidence of the paranoia that can result from sleep deprivation in my conversations with Archie and Theo, but Johnny has occasionally questioned his memory and mental health and wondered aloud if this is because of lack of sleep. On the two days when I’ve seen him most sleep deprived, Ryder has expressed anxious ideas that seemed, to me, exaggerated; whether or not this is the result of lack of sleep or from his OCD and anxiety disorder, the sleeplessness that results from watching over his bike cannot be good for his mental health.

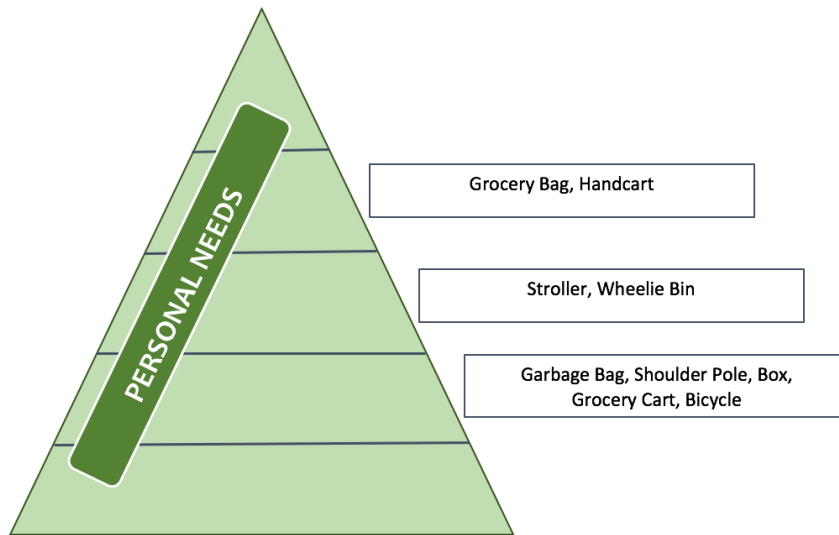
Using a bike carries another health risk, one that increases for those who use grocery carts, and can cause nerve damage to binners’ hands (Taylor et al., 2002). This can be an invisible risk to hands that bin, one dwarfed by the ordinary dangers involved in this work. It is easy to see how binners’ hands are already vulnerable to sticks, pricks, small cuts and large gashes in the course of their work shift. This may result in a wound open to opportunistic infections. They reach into spaces that are often dark and where

other objects may have been improperly or thoughtlessly disposed. Moreover, those I interviewed are rough sleepers which puts their extremities -- hands, feet, ears, nose -- at greater risk of exposure to low temperatures. Those suffering from anxiety may also develop eczema. Any of these can put their health at risk and also impact their work. Ryder shows me his hand one day in March, wondering if a crack in the skin of one knuckle might be a problem. He closes his fist: the gash opens wide like a screaming mouth. "How'd you get that?" "Dunno. Just happened. Looks scary, right?" But by the beginning of May, Ryder's knuckle is healed. He spreads his hands out so I can see: "Look at that. All good." I see scars and lumps and what looks like a large reddish volcano on the back of one hand. I see hands that look older than this binner.

Binner's hands are visibly hard-working. Aside from a binner's feet, their hands are their most useful work tool. The binner's I spoke with, prefer not to wear protective gloves. Both Ryder and Johnny will wear gloves, and claim to need them in winter months, but even during cold days when I meet them they are often bare-handed. Ryder says gloves get in the way of his work: when he wears them, he can't feel properly. However, this statement might be a general complaint of binner's and their hands even when they are not binning. Johnny complains about his hands "not working" all the time; twice Ryder's age, he has been diagnosed with arthritis. For Ryder, it's not pain but panic: he recounts a moment when he thought he had lost an important slip of paper someone had given him. "I put it in this pocket, right? Then I reach in later to get it, and there's nothing in the pocket. I think, oh no: I've lost it. I've lost it. -- Or someone stole it. But then, who would do that. So, I pat all my pockets, like this, right?" He pats all the pockets on his jacket, on his pants. "Then I feel inside them. Nothing. It's gone." He tells me he was beside himself, devastated. Then, he dumped his jacket out later and there were all kinds of things in the pocket, including the slip of paper. "It was there all the time. I just couldn't feel it. My fingers couldn't feel anything. That's just not good for someone like me who has anxiety, you know. Thinking you've lost something that's there the whole time."

4.3.9. Hierarchy I: Impact of Work Tools on Personal Needs

“Happiness isn’t a money issue: it’s a people issue.” (Ryder)



During our second meeting, as we look out at a small public park and Ryder quizzes me on the value of the recyclables we will find there, he confesses to me that he is experiencing “work-life balance issues.” I glance quickly at his face to see if he is joking. His expression is serious. He explains to me that it’s hard when you live in the spaces where you work -- when you actually sleep in your workplace. “The work is still there, all around you,” he tells me, gesturing at the landscape. Bidders who are homeless face challenges in meeting any of their needs on a daily basis. The work tools they use play a direct role in these challenges.

Bidders who sleep rough are limited in finding private places to sleep because of the need to store and protect their work tool. Whereas with only grocery bags, it would be easy to hop a fence and sleep in a shadowed corner of grass, out of public view, other work tools may be incapable of following the bidder to such locations. The grocery cart is the most bulky, least flexible and hardest to hide. For this reason, binning at night is an ideal option: there is no need to hide a binning tool if it is in use. Theo’s solution now that the tent camp on the Strip is gone is to make use of the small indoor facilities of the safe injection site, where he can rest until midnight,⁴¹ his recognizable cart parked outside the site’s trailer, not of interest to others temporarily occupying the outdoor

⁴¹ The site closes at 1:00am, and everyone must vacate both the indoor and outdoor spaces.

spaces of the site, is protected from the view of the general public. Once rested, he bins from shortly after midnight until just before six in the morning. Needing constant surveillance, his cart can't be taken indoors when he goes for a free meal at the urban mission. I find him one afternoon eating a sandwich, standing beside his laden cart, outside a Subway. It is lightly snowing. I ask him if he can go inside to eat. He shrugs and says he was inside to use the washroom and buy the sandwich. I want to know if he is ever worried someone will steal his cart. "No, no," he shakes his head. "Look at this thing," he pats the blue tarps and blankets strapped over the mound rising from his cart, "No one's going to steal this." Plus, he tells me, he's right inside buying the sandwich. He gestures to the tall Subway windows. "I'd see it happening." But this is still, I remind him, his twelfth cart this year. "Yeah. But those others were confiscated, not stolen."

I don't ask Theo whether he had to purchase a sandwich in order to use the washroom. There is a sign on the Subway door -- and on the doors of most establishments in the neighbourhood -- telling the public that washrooms are not for the public but for customers only. Ryder takes advantage of having me along for a work-along one day to use the washroom at Walmart. Wary of the security guard at the door, he feels he might not be allowed in if he were alone. Usually he just uses the bushes, he tells me apologetically. He finds it embarrassing "having to crap outdoors in public places." But recently this has become more necessary, he tells me, as some of the social services in the immediate neighbourhood "won't allow as many people in to use the facilities. -- Say they're attracting a bad element." Having to resort to using outdoor spaces and a lack of privacy carries a risk of being reported to security or law enforcement.

During the day, only some establishments are tolerant of bidders and their smaller work tools. Tim Hortons and McDonalds are the least likely to turn a bidder away. However, at least one Surrey McDonalds has signs indicating grocery carts may not be parked outside. But bidders with small work tools can likely enter without difficulty and stay for a while. Although some McDonalds have signs indicating thirty-minute time limits for patrons, this is subjectively enforced. There is no posted limit in other places: I have remained in a Tim Hortons with Johnny in Surrey and in New Westminster for well over an hour without feeling pressure to leave. I stop with Ryder one night shift to get food at a 7-11, and for a pre-dawn meal at a Guildford Tim Hortons. The staff are friendly and patient. However, at other locations, the atmosphere is controlled more by other

patrons than by the staff. Ryder tells me he won't go into a particular Tim Hortons I suggest. "Not at night. Not with the people who hang out there." He tells me it's not safe. "Then, where do you buy food at night if you're in that neighbourhood?" I ask him; there are very few places open twenty-four hours in that section of town. He shakes his head and tells me, "Night is the hardest. Sometimes you feel so much pain from hunger, so it's just easier to work than try to sleep." This hunger is directly related to the work tool: there is simply not enough space to store food without sacrificing space for work product. And food might add to the weight of what the binner is carrying around. This is especially true of beverages. On our first picnic, I purchase an extra bottle of water for Ryder to take with him. He hands it back to me, "Too heavy to carry around. I'll get water somewhere later." This means probably waiting to get water at the two free meals each day: once in the morning, once in early evening. "Just as well," he tells me. "You drink, you need a washroom."

The work tool of a binner can contribute to loss of work-life balance by preventing a binner from resting for adequate periods of time. Ryder and I sit for a lunch break on a park bench in shady green space near a business tower. He leans the wheeled basket with bags of work product beside him and says as we sit down, "I don't want to be rude, but I just want to warn you that we'll probably be asked to leave. That's what usually happens. So, don't be surprised." Each time the security guard walks by us, Ryder prepares to pack up and move along. But each time the guard just walks by, saying nothing. "That's really strange," Ryder tells me. "It must be you." Ryder is likely correct in his assumption. On another day, I sit on a curb in the sun with Johnny drinking lemonade without anyone asking us to leave. But not even 5 minutes after I leave him sitting there, he texts me that someone from one of the businesses near where we'd been sitting has come out and asked him to leave. His only tools are bags and his backpack that day. Had he been pushing a grocery cart, both of us likely would have been asked to leave shortly after we'd sat down.

However, while sorting work product in a public place, Johnny has also experienced the opposite reaction: an unexpected windfall. He texts me one day to tell me that, as he was crushing cans a safe distance from a recycle depot, someone who was driving to the depot to return bottles simply stopped the vehicle and handed him two bags of bottles and cans and drove away. Another driver stopped soon after, rolled down the window and handed him a twenty-dollar bill. As usual, he was binning using only

garbage bags and his pack as tools; however, this is one scenario where having a grocery cart may be advantageous: it is an obvious symbol of need, and perhaps the only tool that seems to bridge the panhandling-binning divide, signalling an of open-for-donations invitation.⁴²

For a binner seeking positive self-identity, however, it will not be the grocery cart, despite its strength and capacity, that will help a self-conscious binner. As Ryder notes, “Grocery carts are symbols of homeless people. They’ve just ruined it.” In this statement, he identifies as a different type of homeless person. Ryder’s landscape is one of hierarchies; he sees ladders always there to be climbed. He can be his best self, and this will mean he is better than others. The work tool that makes him most feel this way, no matter how ergonomically problematic, no matter how vulnerable to theft, is the bicycle. This tool helps Ryder cross more smoothly between two worlds, offering status within his own community and allowing him to pass as a “civilian” outside it.

4.4. Brief Summary of Findings

In this study, there was no perfect tool for binning that met all the needs of all the bidders who participated. Whatever tool the bidders chose, they were forced to make compromises during their workday and possibly during their off-work hours. The bidders in this study are well aware of these limitations; they are under no illusions that the perfect tool will transform this into the perfect work. Two main options seem to overshadow the others: bicycle or grocery cart? The first will allow bidders to travel far and wide quickly, and will increase their status, both within the binning-scraping community and in the non-binning world. The second will allow them to carry the greatest amount of work product but is limited by the topography and psycho-social elements of spaces where bidders travel. Whereas with a bicycle a bidder might escape some elements of the surveillance regimes at work in these urbanizing spaces, a grocery cart indelibly marks a bidder as “Other.” This stigmatized identity more than the topography will limit the bidder in their work and non-work life.

⁴² Johnny’s text made me smile at the irony: the depot he was headed to is owned by the interviewee who doesn’t believe bidders perform “work” and criticizes the “soft-hearted” people in her own neighbourhood who leave bottles and cans out specifically for regular bidders.

Chapter 5.

Discussion

“Men don’t get lost: they go exploring. If you have time to get used to [living rough], you become a Thor Heyerdahl.” (Eldon)

This chapter is divided into two sections, each designed to answer the research questions that guided this thesis. The discussion begins with a synthesis of some of the key findings, bringing together overall experiences of the binners I interviewed to show challenges posed by their work tools. This section seeks to answer the question: *How do these hierarchies lead to an understanding of the trade-offs that result from a binner’s choice of work tool?* I have limited this discussion to two key challenge areas highlighted by my research participants: the trade-offs their work tool forces them to make with their health and in their relationships. Limiting this discussion allows me to explore more in-depth responses from multiple binners to these two areas. This section will also show how difficult it is for binners to simply fit in and do their job in North-Central Surrey and makes plain some of the trade-offs experienced by all the binners I interviewed in North-Central Surrey. The second section will discuss the usefulness of hierarchies to qualitatively rate each work tool. It will answer the question: *What do hierarchies of binners’ work tools reveal about the advantages and disadvantages of each tool in the work of informal recycling in North-Central Surrey?* This section will end with a brief note on how this technique could be used to greater effect in future research.

5.1. Synthesis of Findings, Challenges and Trade-offs

The binners’ tools are precarious. Even those that are built-in -- hands, feet, eyes and ears -- may not work well on certain days. So, a binner is always making a series of decisions and adaptations based on the tools available, the suitability of the terrain, and planning a day based on how this combination will affect their ability to manage the nine challenges detailed in Chapter 4. Although all these challenges are important, the two that posed the greatest difficulties for the binners in my research will be explored here.

Key among those challenges are the binner's health and relationships in their work space. Although many simply accept trade-offs caused by challenges in their work, most binners in this research indicated that these are two challenges most directly impacted by the tool(s) used; several spoke of their health and relationships as equally precarious.

Trade-offs affecting health

Three main health concerns emerged during this research: damage to hands from the work tools, lack of adequate food and water without access to spaces with food and washrooms, and sleep deprivation. All of these are affected by binners' tools.

Although binners experience physical harm from handling their work product, the possibility that a work tool will injure a binner is high. Over prolonged distances, depending on workload and terrain, a binner's grip on the handle of a work tool may lead to permanent nerve damage in the hands, eventually impacting the binner's ability to accurately and efficiently perform various work and everyday tasks and placing them at risk of serious infections. As I write this, Ryder has been diagnosed with an infection in one hand. He's been told to wear gloves or stop binning for a few weeks while his hand heals. He is choosing to do neither. Because binning helps him purchase materials to build useful objects, he needs to keep working if he wants to be able to pursue his passion. Not binning would give him free time to work on what he loves but would deprive him of the materials necessary for that pastime. Worse, if the nerve damage in his hands doesn't heal, he'll lose the ability to do some of the carpentry he loves. His trade-offs seem impossible: working and losing his ability to create things; not working and having no money to create things.

Being unable to take the grocery cart into stores and restaurants to purchase food may impact a binner's ability to access adequate nutrition during work breaks; this includes access to safe drinking water and also to washrooms. Although, under the Canada Occupational Health and Safety Regulations, employees in more formal workplaces are legally entitled to free, potable drinking water provided by their employer, binners, whose workplace is the public realm, have no such employer and no such entitlement (Canada, 2019). Water is one of Chellew's "ghost amenities" (2019). The defensive architecture used against binners and their work tools compound health trade-offs. Bidders have no more access to washrooms than others who move through those

public spaces on their way to home or work.⁴³ Francesca Berardi, a journalist from New York who worked among *canners* there for eight months, interviewed one woman who denied herself liquids during her work shifts because she knew she wouldn't have access to a washroom. This is similar to the experiences Ryder shared, not wanting to drink anything. Choosing a grocery cart means less access to a washroom. However, though using a bicycle will likely allow a binner into a restaurant and a washroom, possessing and caring for the bike becomes a stressor: a coveted tool and mode of transportation, it is vulnerable to theft but cannot come into the restaurant space. Either tool means compromising an aspect of health: increasing dehydration or level of anxiety. Theo, Matt, and Archie, who stand in the snow eating beside their carts, the trade-off for using a grocery cart or wheelie bin is warmth. Like Ryder's, their hands suffer from exposure to the elements.

Theo has worked to find a sleeping arrangement that works for him. His grocery cart makes him too visible and puts him at risk of cart confiscation while asleep if he dozes off in a public space. Napping at the safe injection site allows him to park his cart in a safe corner away from the eyes of suburban residents. But if the harm reduction site becomes a space he can no longer use, as has happened with the Front Room recently, he will have to once again adjust by finding a space where he can park his cart securely and safely sleep. The recent increase in grocery cart confiscations are not a positive indicator. With personal belongings that require the space of a grocery cart, Theo doesn't have the option of another tool. His trade-off would be giving up personal items, some of them sentimental. Instead, he compromises sleep. If Ryder trades up for a tool that makes him feel more accepted, this acceptance comes at the cost of sleep: he will stay awake worrying that someone will steal his bike. Most often, he will choose sleep

⁴³ When I use the GoHere: Washroom Locator App and type in an address central to an area where a number of the bidders gather to access free meals, I am offered only two locations with washrooms open to the public: one is a Husky gas station; the other, ironically, is the Surrey Central Library (where I observed the female binner with the stroller barred entry by a security guard). Further indication of lack of public washrooms in Surrey is an article from *Surrey604 Magazine* celebrating a March 2018 tampon and pad drive in Surrey focused on those "experiencing homelessness" because "toilet paper is free in every bathroom" and, just like toilet paper, menstrual products are necessities. (Kafka, 2018) It might have been useful if the article had also recognized that public toilets themselves are necessities; the product of the donation drive was donated to women on the DTES, for use in public washrooms far from Surrey's community of rough sleepers and informal workers.

deprivation over feeling self-conscious during his work shift because he is using an easily identified binning tool. Health is easily traded for the perception of normalcy.

Trade-offs affecting relationships

Bidders have to manage multiple relationships. Most stressful to manage are relationships with family members, with strangers in their workplace who may wish to exclude them, and with those who are paid to regulate movement through public space. Bidders' work tools often impact their ability to connect with people in positive ways.

Most of the bidders I interviewed are in contact with family members, whether in person or by phone. Their ability to connect with family members depends on access to a telephone or public transportation. No work tool guarantees the safety of a cell phone if a bidder is fortunate enough to have one. However, some work tools (bags, wheeled baskets, small wire carts) will allow bidders to enter semi-public spaces, like shopping malls, libraries and even the university to charge their phone; other tools will not. Here, the shopping cart is slightly more problematic than the bike: it cannot simply be chained to a bike rack without risk of confiscation. Further, to do so would put all its contents -- work product and personal belongings -- at risk. A bike, however, could always be stolen. Archie's ephemeral carts seem to be the right idea: he works with them, turns in his work product and then loses the carts -- literally. This might be freeing if he had a place to lie down to sleep; however, defensive design elements, combined with active surveillance by uniformed security make that difficult. A bidder with a phone that needs charging may have to trade away the security of their work tool and even their belongings in order to stay in contact with family members. Public transit is physically possible for all bidders except those with grocery carts; however, as discussed in the Landscapes sections, it often requires extra courage to be in close contact with people who bidders feel may judge them. In this case, one of the trade-offs for visiting people they love may be spending time with people they fear may not love them.

When dealing with "civilians," there is an emotional labour required for some bidders to travel with non-normative work tools like grocery carts through the suburban areas of Surrey in daylight hours. Even when not in residential areas, some of the bidders are putting effort into behaving in a way that they believe will make them acceptable to others. The spaces where this effort is made includes the outdoor patios of cafes where bidders might make incursions onto private space. Here, there is effort to

normalize (or as Ryder describes “neutralize”) their affect in an attempt to become invisible and avoid potential conflict with patrons and with those who are also reported to pay the same price of emotional labour: the employees of the café. This fits with Hochschild’s description of the labour required of workers to manage their emotions in particular jobs (1983). Just as this labour is expected of teachers, nurses, flight attendants and Starbucks’ employees, it is necessary if daytime bidders are to successfully navigate encounters in populated public spaces where they may not be welcome. Such labour occurs even prior to moving into an outdoor café area: there is emotional preparation to move in and into spaces among people who might be judgmental. The bike helps mitigate harsh judgment: not only will it “normalize” a bidder, but also it is a good getaway vehicle if a bidder becomes uncomfortable. A grocery cart is stigmatized by associations with theft, poverty and homelessness. However, as Johnny discovered, it’s hard to know exactly what others are thinking; this is exemplified by the impromptu donations he received when he was sorting work product in a public space. Instead of garbage bags, had he been pushing a cart, would he have received even more generosity?

Bidders with grocery carts in North-Central Surrey will have relationships with law enforcement officers. These will be relationships of loss for the bidder. Although Theo indicates that it feels personal to have his carts confiscated and his belongings dumped on the sidewalk, this may not be personal for the RCMP officer who is being paid to enact social control in these spaces. However, the omnipresent law enforcement seems to be lodged in the heads of even those who do not use carts. Kyle, Ajay and Matt all ask me if I’m an undercover cop. “When I use a cart, I’m a target,” one bidder tells me. “They control how we stand,” Ryder tells me of law enforcement officers the first time we meet. “You can’t talk to anyone anymore. You have to be facing straight ahead, like this. If you want to talk to the person next to you, you have to stand a couple of metres apart, looking straight ahead as if you’re waiting for a ride or work. Then you talk forward. The moment you turn to face each other, [the RCMP] will show up and ask you to leave.” This will happen no matter what tool bidders use, but those on bikes might have a chance to ride far and fast to avoid an encounter with law enforcement. More than defensive design, this regime is defensive urban enforcement.

5.2. What hierarchies revealed about binners' tools

As a researcher, I found the hierarchies useful in rating the work tools and their usefulness to binners. The qualitative ratings forced me to reflect about what I had seen, heard and experienced of each of these tools. Each tool comes with at least one advantage and one disadvantage, usually several of each. Therefore, no tool receives a perfect rating; and none of the ratings fits perfectly the feelings expressed by all nine binners in my research. For this reason, it was very useful to be able to show the matrix I created to three binners who reflected and debated with me and offered adjustments based on their experiences and preferences. This process was informative and one I would use in future research. However, I would implement it differently next time: the discussions binners had about the matrix I had created informed me about what I had captured and what I had missed. Although the ratings have been refined, they are still imperfect; it was the process of creating the challenge categories and mentally testing

Cart-ographies
Binners' Experiences with Grocery Carts as Work Tools in North-Central Surrey

Research Questions:

- Where does the grocery cart fit in the hierarchy of work tools used by informal recyclers in North-Central Surrey?
- How does its position in the hierarchy reflect the grocery cart's impact on binners' work interactions and work outcomes?

Methods:

- Semi-structured interviews
- Work-alongs with binners
- GIS mapping

Tools Hierarchy:

- BICYCLE
- GROCERY CART
- STROLLER
- HAND CART
- GROCERY BAGS
- SHOULDER POLE
- WHEELIE BIN
- GARBAGE BAGS
- BOXES

Can YOU balance the challenges? Select the best tool for a work journey through these urban spaces.

Challenges:

- Mobility
- Capacity
- Time/Distance
- Safety
- Personal Needs
- Security
- Work Relationships
- Weather

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each tool in each scenario that was most thought-provoking. If I were to carry out similar research again, I would insert a further step and organize a focus group over dinner. This would allow the binners to come together and debate the tools and their relative merits, and to share stories with each other. This way, I think I would have even better qualitative data and a much more robust list of trade-offs than those I came up with from the interviews and work-alongs alone.

Eldon's quote at the beginning of this chapter -- about homeless male binners being like Thor Heyerdahl -- has stayed with me. He and several of the binners

not only enjoy a good challenge but also rise to a challenge; they adapt as their

circumstances demand. A few weeks before finishing this research I had an opportunity to see that many more people might be Thor Heyerdahls, too.

In April 2019, I shared my research with members of the public. I posed for my audience the same dilemma that the binners in my study face every working day of their lives: which tool will best balance the complex challenges of this stigmatized work? To my surprise, a number of the poster session attendees took this challenge very seriously. Several considered the poster for more than ten minutes, staying to discuss their thought process with me. Each wanted to know if they had figured out the “right” answer. I was as pleased to tell them there is no perfect work tool as I was by their dissatisfaction with this news. When faced with the work scenarios of my study participants, these non-bidders faced the same difficult decision-making process: how to balance the trade-offs between earnings and personal needs, between security of their work tool and access to hidden work product. For there not to be an “ideal” solution was as frustrating for the poster session attendees as it is for my research participants on a daily basis. Lack of a clearly defined tool for success makes binners’ work precarious and forces binners to use their skills and flexibility to make myriad compromises throughout their workday. Such discussions in the form of games or challenges can provide valuable moments to share stories and knowledge, and to build empathy on common ground.

Chapter 6.

Conclusion: Finding Common Ground

“There’s gotta be common ground. Doesn’t everyone enjoy this nice day? Don’t they have that in common?” (Ryder)

It is clear that no work tool is perfect for the job in this particular time and place. However, there are improvements that could be made to both the tools and the working conditions; this will be discussed in this concluding chapter. Here, I will outline three main work tool problems experienced by binners in this study. I will also explore possible solutions and their implementation in North-Central Surrey. Finally, I will end this conclusion with an overarching recommendation for a model that increases opportunities to include binners in the community in North-Central Surrey.

6.1. Identified Problems and Potential Solutions

The problems expressed by binners in this study encompass those directly linked to the binners’ work tools. However, some of these problems affect binners no matter what tool they use. Although this chapter addresses problems associated with the work tools, it is hard to know, when examining exclusion (Problem #3), how much of this is due to the binner, how much to the work, and how much to the tool.

6.1.1. Problems directly related to binning tools

Problem #1: Tools damage binners’ health

All the tools binners use can damage their bodies and spirits; however, the greatest damage is reported from wheeled tools. Of these, despite not being ergonomic at each collection point, the bike is clearly a positive choice to maximize psycho-social comfort, causing the least mental injury and requiring the least emotional labour. The trade-off here is clearly beneficial to the binner, no matter what an outside observer may report. A binner on a bicycle is able to ignore even the risk of Hand-Arm Vibration Syndrome (HAVS) and Raynaud’s Phenomenon because of the reduced stigma, perceived control over the object (Belk, 1988) and increased mobility. The same cannot

be said, however, of a grocery cart. Its user faces increased physical risk to the hands because of ergonomic design, and increased psycho-social risk to self-identity because of stigma and potential loss of a tool that, for some, is also a home place (Belk, 1988). Dejours (2006) describes a worker's relationship with a tool as a kind of "dialoguing with the machine" (p.50) where the machine is domesticated by the worker and, sometimes, even given a nickname. Tools such as bicycles and grocery carts are cared for, as workers "clean them, and maintain them as if they were taking care of loved ones" (p.50). Dejours describes this as a kind of intimacy between worker and work tool, which mirrors the way Ryder discusses his bicycles, and the way Theo discusses his grocery carts. And, certainly, Ryder is transformed, in his own view, through his use of the bicycle (Dejours, 2006).

Solution #1: Ergonomically-designed carts and provision of free gloves

The most logical way to improve the health of binners' hands would be to provide more ergonomically-designed carts to reduce stress on their hands. Various researchers have suggested the introduction of battery or electric-powered carts to reduce musculoskeletal strain in binners, especially in topographies where there are slopes (O'Hare, 2018; Yang, Ma, Thompson, & Flower, 2018; Gutberlet, Baeder, Pontuschka, Felipone, & Dos Santos, 2013). In the Global North, a cart specifically for binning has been tried before in the City of Vancouver's Downtown Eastside with the Urban Binning Unit (UBU) (United We Can, 2015); another initiative is to be launched this summer (2019) by the Binners Project and its Universal Cart (Binners Project, 2019). Although the UBU seemed to disappear following its release, the engineer who designed the cart described their ergonomic qualities designed specifically for binning work. Likewise, the Universal Carts appearing this summer (2019), produced in limited quantities, boast tires that are both much sturdier and easier to direct than those of grocery carts. Further, a spokesperson for the Binners Project explains that the handle of this cart is comfortable. However, it is important to note that handles are a personal part of a cart, affecting each user differently according to the size and strength of their hands. According to Darcor and Ergoweb (2010), because of the need to adjust both the thickness of the handle bar to the hand of the individual user, and to have an adjustable handhold height for the bar so that binners, whether short or tall, can all use the cart with ease, it is unlikely that a universal cart that is not adjustable will be meet the needs of all users.

The provision of gloves seems an obvious solution, supported by researchers like Gutberlet et al. (2013). However, evidence points to binners and their Global South counterparts being resistant to wearing gloves because of missing out on tactile experience of their work product (Millar, 2018). During my research, I provided four pairs of gloves to binners after they complained of problems with their hands, from scratches to exposure to the cold. However, although the gloves were received with surprised gratitude, none of the binners ever wore them. They seemed to like the idea of the gloves but ultimately found them impractical. Even Archie, who temporarily gave up grocery carts because of fear of vibrations, and who wore fingerless gloves to protect himself from the cold, did not express interest in gloves that might reduce the impact of vibrations from the cart (Chiementin, Rigaut, Crequy, Bolaers, & Bertucci, 2012).

The most practical solution seems to be to allow binners to continue to use grocery carts. There are so many different designs of carts that many binners are able to find one that best suits their personal style and physical needs. This may be the easiest way to provide carts that approximate an ergonomic response to binners' individual needs.

Problem #2: Tools are Difficult to Acquire and Hard to Store Securely

The most desirable of the binning tools are the most challenging to procure and the most precarious to store: bicycles and grocery carts. My findings clearly indicate that bicycles are important for self-esteem and inclusion -- or, at least, a perception of inclusion. However, they either cost the binner money that is hard to earn or place the binner at risk of being caught during the theft of a bike. Eldon suggested a hopeful solution, announcing that he'd seen his first binner using a Mobi bike share bicycle in Vancouver. While this is, indeed, hopeful for binners in the City of Vancouver, which has put great effort into supporting Mobi, bicycle infrastructure and a culture of cycling, the same cannot be said of Surrey. Despite an aspirational 2012 plan to improve cycling infrastructure in Surrey (City of Surrey, 2012), the City has not welcomed a bike share program, and @SurreyGames, a local group that creates satirical games to mock infrastructure and other problems in Surrey, created "Surrey Bike Pathos," a game to show how impossible it is to ride on connected bike paths in Surrey. Given the traffic collision rate in Surrey between motor vehicles and non-motor vehicles, biking binners in Surrey face dangers not only in acquiring their work tool but also in using it. Ironically,

however, the bike is still a highly desirable work tool which makes it vulnerable to theft. This places homeless bidders using bicycles at risk. Ryder's story of bike theft at night while sleeping on the ground, atop his bicycle, is a cautionary one.

Equally cautionary is Johnny's story about the grocery carts confiscated while their users were eating breakfast inside the Surrey Urban Mission Society. Although procuring the carts is much easier than procuring a bicycle, holding onto one is much more difficult. The danger of confiscation is high: although law enforcement may have a difficult time proving that a bicycle is stolen, there is no such challenge when it comes to the grocery cart. These are obviously not the property of the bidder, no matter how many alterations the worker has made to this tool. Regular confiscation of this work tool for Theo was upsetting and placed not only his work product but also his personal belongings in jeopardy. Archie's ever-rotating tools is the result of loss and theft. Had he a safe place to store his carts, he may have a more reliable work tool.

Solution #2: Provide Accessible Bike Share, Free Carts, and Basic Amenities

My suggestion for making acquisition of bicycles easier for bidders is for the City of Surrey to adopt a bike share program. Eldon's sighting of a bidder on a Mobi in Vancouver offers hope that this is a possibility elsewhere, too. It would require a payment option for those without a credit card in order to be a feasible option for many of the bidders. However, before their replacement with electric versions, this was an option in some US states with first Limebikes and then JUMP, removing barriers for cyclists along the financial spectrum. Were a similar (non-electric) system to be tried in the Lower Mainland, it would have the opportunity to set the stage for greater equity in green transportation. Moreover, bike share, like public transit, can become a great equalizer: all bodies no matter socio-economic or professional background can ride those bikes. For bidders and others like them who face stigma based on their appearance, programs like the former self-powered Limebikes and JUMP might offer a way to soften the boundaries between "others" through the sharing of objects.

Although it is tempting to consider other bike provision models, like Bikes without Borders, that actually provide low-income people with bikes of their own, such a scheme does not help a homeless bidder with safe storage and peace of mind. As one of my participants observed, "there is a rich bike ecology out there," and this includes theft and resale of bikes as they circulate in the human and economic community. A free bike

might seem like a gift but were it a burden to store and maintain it would become a liability for a homeless person and place them at risk of assault, as Ryder has experienced. This is unfortunate, as a bicycle of one's own would seem to offer freedom of mobility, and also solve issues of ergonomic suitability to an individual's body by allowing personal modifications that are not possible through bike share programs. All cycling solutions for bidders in Surrey, however, would depend on huge improvements to infrastructure and increased driver awareness of cyclists. It seems unlikely that touting benefits to bidders of bike share and bike infrastructure will help push any such initiative to the top of Council's agenda in a car dependent suburbia that is focussed on regulating bidders' movements through surveillance regimes.

In terms of grocery carts, however, I have a suggestion that could be implemented in all municipalities. Grocery carts wander off store property regularly. They can be found at transit hubs and residential bus stops because they are a convenient way for many people -- not just bidders -- to transport their groceries to a public transit point. If municipalities were to make a deal with grocery store chains to arrange for some of the carts to be collected by small businesses,⁴⁴ and other carts to simply remain in use by bidders and homeless people there would likely be financial savings on the cost of by-law and law enforcement action taken against those who use them in binning. I do not believe it would be useful to publicly announce any agreement between the municipality and the grocery chains: this would best be achieved through payments to grocery store chains to off-set "loss" of grocery carts to community use. This would benefit not just bidders, but also elderly people, parents with young children, and people with disabilities. Perhaps there is even a way to expand the role of the Newton BIA's cart retrieval system to more inclusively accept and shepherd the reality of wandering carts.

Problem #3: Bidders are Excluded in their Workplace because of their Tools

Bidders with all types of tools perceive exclusion of some sort in their workplace. For Theo and Johnny, this exclusion is most evident in the form of law enforcement disrupting their work, confiscating their work tool or checking backpacks. For Ryder and Kyle this exclusion is felt more keenly in the form of discrimination as they move through

⁴⁴ The BIA in Newton, Surrey, has organized a "Cart Retrieval Program" where people who see an abandoned grocery cart can simply input information into an app on their cell phone, and the BIA will send someone right away to pick up the cart and return it to the store it belongs to.

their work spaces. Kyle will try to avoid this, sometimes sleeping during the day and moving through the city at night, which allows him to stay away from what Ryder would term “civilians.” Ryder, on the other hand, will simply apply more effort, hoping that his affect is “neutral” enough to avoid altercations or negative reactions from members of the community, as he feels these keenly. Archie and Matt self-medicate frequently, which may help buffer their perception of the stigma others experience as they move about their workplace.

Although this exclusion is perceived to be worse by some binners who use grocery carts, it can also occur with work tools like garbage bags. One binner reported to me that “it is a rule” that you can’t get on the bus with more than one full garbage bag of work product in North-Central Surrey. Other binners have had different experiences, boarding the bus with two or more full bags, based on the discretion of individual bus drivers.

Access to washrooms is extremely limited. As indicated earlier in this paper, in the community where I focused my attention, the binners have likely had to use a gas station washroom, and even this might not be permitted to them.

Solution #3: Keep it Informal and Take Creative Action

One solution to the subjective application of rules and permissions in the binners’ workplace is to formalize these. However, there are two problems with this solution. The first is the question of who would determine the rules? Likely, it would not be the binners. Even if they were invited to the discussion (which has not happened so far in the municipality), how many of them would attend? Based on my research, many binners probably wouldn’t show up to have a say in new rules -- even if they received a leaflet or a personal message at SUMS. For individualistic reasons they might choose not to join in or might not show up on the logical assumption that their voice wouldn’t truly be heard. After all, some of these discussions take place in locations that are surrounded, on the outside, by security that might be intimidating. Second, formalization of rules usually means that leniency for certain binners would disappear with the regulation of uniform permissions more acceptable to everyone. This might mean, for example, that rules for how much work product a binner could take on the bus might be capped at two garbage bags. While this would benefit the binner who was told he could bring aboard only one bag, those who had previously been allowed to take aboard three bags might

perceive this as unfair. Rules tend to ruin the informal pathways that some workers have forged in relationship-making with people along their work route.

The same situation might arise with bathroom privileges. One binner suggested stickers on establishments that would allow binners to use the washrooms. However, another binner told me that he didn't trust others to treat the washrooms with respect. "One bad user could wreck it for the rest of us." He didn't like the idea of stickers. "If someone knows me and trusts me, that's all I need. It doesn't mean that person has to let everyone in." While regulating informal relationships might disadvantage binners whose personality has already won them extra privileges, it could also allow those not endowed with such personalities to access amenities that should be available to everyone. The tension between wanting an objective, fair, one-size-fits-all rule and preferring to keep arrangements informal is not specific to binners. Nor is it specific to the Global North. As O'Hare points out, those who choose not to be part of collective groups receiving benefits in the Global South end up lower on the waste picking chain than their counterparts (2018).

The most pressing negative force at work for the binners I spoke to was the presence of law enforcement and security in their work spaces. The "Outreach Team" consisting of RCMP officers now stationed on the Strip seems to be most active in moving people along, breaking up conversations and confiscating grocery carts. Inclusion of binners in the community cannot be achieved without a complete cessation of this activity.

Inclusion of binners and their tools requires action by Council and other stakeholders. There is, however, a small action that binners with grocery carts could take to protect their tool and perhaps smooth relationships with, if not law enforcement, then the greater community. Studies have shown that panhandlers can learn successful storytelling strategies from each other in order to maximize empathy and earnings (Lankenau, 1999). Obviously, this is a very different type of work from binning: one is performative and creative, the other very physical. However, there are panhandling strategies that might work for some binners, too, if they are willing to engage in a bit of performance work. If the most stigmatized work tool is the grocery cart, perhaps instead of working to humanize the binner, we need to work to humanize the cart. This can be achieved using techniques employed by engineers working to reduce fear and increase

positive relationships between humans and robots; these techniques have been used as a positive marketing tool (Osawa & Imai, 2010). Outgoing binners could anthropomorphize their grocery carts by naming them. Many are already personalized; some probably do have names, although none of the binners in my study reported ever having named theirs. Like their panhandling colleagues, binners who interact with the public could introduce themselves and their carts, rendering their carts “human-like.” However fanciful this seems, it may be a winning strategy for those who have the personality to pull it off. This marketing strategy is being used in other professions. Anthropomorphism is being implemented by biologists in order to protect plants. Conservationists have noted that humans have a hard time relating to plants and, thus, don’t seem to prioritize their conservation (Balding & Williams, 2016). Unlike their plant counterparts, animals that have been anthropomorphized are more likely to receive human empathy and support when it comes to conservation efforts. Plant conservationists, in order to combat what is being termed “plant blindness” in humans, have begun working on campaigns that present plants in human terms (Balding & Williams, 2016). The same could be done with grocery carts as work tools. After all, people name their pets, knights and soldiers have named their horses, and cyclists already name their bikes (BikeForums, 2018). Introducing by name a grocery cart tool to the general public and having a worker narrative attached to the cart may prevent, in some cases, complaints to law enforcement. At the very least, it may help forge a less adversarial relationship with the community at large.

Finally, forging empathetic connections with those who perform similar dirty work could help informal recyclers. The unions protecting MSW collectors and street cleaners could include binners in PSAs about worker safety and collective care of public spaces. Perhaps the work tools of binners could be seen as adding value within the urbanizing spaces of North-Central Surrey instead of posing a threat to order. Sharing positive messaging would also allow unions to fulfill some of the goals of social justice unionism; instead of donating money to labour movements abroad, they could be helping to support local informal workers and their informal partnerships in the communities they share.

Overall Recommendation: In Support of Cautious Inclusion

Studies from the Global South on waste pickers extoll the benefits of collectives in order to improve the lives of informal recyclers. In fact, WIEGO seems to base their entire international model on collectivization of waste pickers (WIEGO, 2019). However, as O'Hare (2018) notes, collectivization and the formalization it brings are not always appropriate as they risk further stratifying an already marginalized group of workers. Not everyone is a joiner: do those who choose to remain apart lose legitimacy, either within the system or the larger community? Do they lose out on better quality work tools? Does this become a two-tier system? He also acknowledges that formalized waste pickers may be over-represented in the literature because of easy entry points for researchers to study populations through a collective organization. Therefore, it is hard to know if non-formalized solutions truly exist, or if some sort of hybrid form might be feasible.

It is difficult to address some of the problems experienced by the binners in my research without looking at their challenges from a damage-centred position. However, this is not useful as it can allow a backsliding into a generic "oh, well, that's poverty" mentality that simply supports the status quo of not being able to fix a wicked problem. There are non-wicked problems here that need to be addressed, and key among them is situating binning as important work whose workers deserve protection, a secure work tool and appreciation from within their community. An effort to offer work to panhandlers in Albuquerque, New Mexico, offers one type of solution, although it is more formalized than what Eldon and Johnny might prefer. The Mayor organized landscaping and litter-picking jobs for panhandlers and put them to work "beautifying the city" (Fitzpatrick, 2016). As panhandlers may already consider what they do to be work of a certain type, the mayor's solution may be seen as disrespectful and coercive by some panhandlers. However, for others, this may be an opportunity to try a different activity and gain some gardening skills. Such approaches to realizing this support in the developing world have also involved formalization of these informal workers and unionization or collectivization to develop and ensure workers' rights. Again, this seems to ignore the rights of individuals who have chosen a particular kind of autonomous work. One of those rights is the right not to organize, the right to simply be an individual who works informally.

So, how can the City of Surrey include binners without formalizing them and thus risk creating a two-tier binning population? I suggest that a model of casual employment already exists at the street level in the form of “Rig Dig” (Saltman, 2016). This street level needle collection program, although funded precariously from year to year through the Lookout Society, has a sign-up sheet organized by case workers at a variety of free meal venues, including SUMS. Binners and members of their community who wish to work a shift can sign up for a day of their choosing. This is such a popular work opportunity that binners like Johnny are lucky to get more than one day a month of Rig Dig; the case workers try to allow as many people as possible to participate. The wage they make for the day does not meet minimum wage standards. Johnny told me that last year he would make \$30/shift for picking up needles with a grabber and putting them in a sharps pail. The year before that, the shift included a Subway lunch, but funding cuts eliminated that benefit.

The Rig Dig model could offer binners paid ecological work. On my work-alongs, I witnessed huge quantities of waste -- paper, plastic, metal, glass -- left where we saw it, hidden in greenery, merely because it is not considered to have a value. While it's true that litter currently has no value in binners' work lives, presumably protection of the environment has a value. Could the work journeys of binners not be harnessed to encompass cleaning up litter as well as collecting recyclables? This is already done in the Global South, where municipalities are much better at recognizing what can be reused and recycled than we are in the Global North. And could binners not be paid a wage for this on days that they feel like participating? Currently, it should be noted, binners are not paid for any of the work they do. The money that has been paid as a deposit is locked into the containers they collect, true; but that is not a wage. Binners work very hard for no wage. This must be remedied if we are to consider binning as work, binners as workers, and the technology they use as tools of their trade.

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Appendix A.

Sample Interview Questions for Bidders

Interview Sample Questions

In my recent experience on a housing research project, I found that asking people to talk about their stories answered far more questions than I would have thought to ask. To enable this story-telling, I asked open-ended questions and let participants answer fully. Whenever possible, I recorded interviews on a digital recorder, also making a number of notes as I listened; this allowed me to follow up on elements that the participant had mentioned that could offer me greater insights, whether unique or confirming information received by other respondents. Because each participant's story is unique, the flow of each interview tends to also be unique, picking up on threads of individual stories (Valentine, 2005, p. 120). This requires careful listening.

- Tell me about the binning work that you do...
- Tell me about how you became involved in binning. Why did you choose this type of work? How long have you been binning?
- How does binning compare to other work you've done in your life?
- What does a typical season of binning look like for you?
 - Number of shifts a week
 - Length (time) of shift
 - Distance travelled in a shift
 - Do your binning shifts change with the change in season or with the weather?
- How do you choose the neighbourhood(s) where you do your binning work?
- Have you always binned alone/with a partner?
- In the time that you've worked as a bidder, what types of tools have you used? How/Why did you choose these tools? Which one(s) have you liked most? Why?
- Tell me about your grocery cart.
 - Where did you find it?
 - What do you enjoy most about using it? - Least?
 - How do you care for your cart?
 - Have you personalized your cart?
 - Have you ever lost your cart? -- How?/Why? -- How did this affect your work?
- How would your life be different right now if you didn't do this work (binning)?
- How do you feel about the work that you do?
- How do you think others feel about the work that you do?
- If you had an opportunity to tell people in the community about your work, what would you want them to know?
- What do you think the City of Surrey should know about your work? Is there something the local government could do to make your work life easier?

Appendix B.

Survey with Recycle Depot Managers/Employees



SURVEY OF RECYCLE DEPOT EMPLOYEES ABOUT BINNERS & THEIR WORK PRODUCT Study #2018s0671

Your participation in this survey is voluntary. You may stop the survey at any time. All your answers will be anonymous. This research is being carried out by Kate Elliott, a Master's student in Urban Studies at Simon Fraser University.

You may contact her with any questions or concerns at [REDACTED]
You may also address any concerns you have to the supervisor of this research, Karen Ferguson [REDACTED] in the Urban Studies Program at Simon Fraser University.

The purpose of this study is to understand the work that binners (informal recyclers) and the work tools (ie – bags, grocery carts, bicycles, wagons) they use to do this work in North-Central Surrey and New Westminster.

This survey is being conducted between December 2018 and June 2019 with employees of recycle depots in North-Central Surrey and New Westminster.

My goal is to find out about binners' work product and how their collection tools affect the type of product they collect and the frequency of their visits to the recycle depot. As someone who works at a recycle depot, you have unique insights to contribute to this research.

For the purpose of this survey, the definition of “binning” is “**work that involves collecting discarded materials that can be sold for recycling, refining, or re-use.**” Although most binning involves the collection of recyclables like aluminum cans, this can also include other metal or electronic objects that may be sold or recycled.

Question #1:

How long have you worked at a recycle depot (including depots other than this one)?

- less than a year
- 1 – 2 years
- 3 – 5 years
- 5 – 9 years
- 10 years or more

Question #2:

How often do you work at this recycle depot?

- 1 - 2 times/week
- 3 - 5 times/week
- every day of the week that the depot is open

Question #3:

What time of day do you normally work at the depot?

- opening or/morning shift
- midday shift
- afternoon/closing shift

For the purposes of this survey, the term “**work tool**” is used to describe the containers binners use to hold and transport materials that they collect during your work.

Question #4:

During your shifts at this recycling depot, which 3 collection tools do you see used most frequently?

- plastic bags (of any type/size)
- strollers
- grocery cart
- other type of cart: _____
- bicycle
- other: _____

Question #5a:

Have you ever seen a work tool confiscated from a binner?

- yes
- no

Question #5b:

If you answered “yes” to Question #4a, what type of work tool(s) have you seen confiscated?

Question #6:

Which tools seem to arrive with the greatest amount of work product?

- plastic bags (of any type/size)
- strollers
- grocery cart
- other type of cart: _____
- bicycle
- other: _____

Question #7:

Do you tend to see the same binners on a regular basis at this recycle depot?

- yes
- no

Question #8a:

During a single work shift, do you ever see the same binner arrive more than once with work product?

- yes
- no

Question #8b:

If you answered yes to Question #7a, what is the work tool that the binner uses?

Question #9a:

What is the most common amount of money that binners collect from their work product here?

- \$1 - \$5
- \$5 - \$10
- \$10 - \$15
- \$15 - \$20
- \$20 - \$25
- \$26 - \$30
- More than \$30

Question #9b:

What is the highest amount of money you can remember paying out to a binner at this depot?

Question #9c:

What is the lowest amount of money you can remember paying out to a binner at this depot?

Question #10a:

What are the busiest times for you at this recycle depot?

Question #10b:

What are the busiest times of year for you at this recycle depot?

Question #11a:

How long do most binners linger/wait at this recycle depot when they come to turn in their work product?

- 1 – 3 minutes
- 4 – 6 minutes
- 7 - 10 minutes
- 11 - 15 minutes
- more than 15 minutes

Question #11b:

Of the binners that linger longer, what work tools do they usually use?

Question #12:

Roughly what percentage of binners linger at the depot to chat with you or other binners?

- 1% - 10%
- 11% - 20%
- 21% - 30%
- 31% - 40%
- 40% - 50% or more

Question #13:

From what you hear and see from binners, do they seem to be loyal to 1 - 2 recycle depots, or do they go to a variety during the week?

Question #14:

If you had to explain the type of work that binners do, what words would you use?

Question #15:

What is the average age of binners you see coming to this recycle depot?

- 19 - 25 years old
- 26 - 35 years old
- 36 - 45 years old
- 46 - 55 years old
- 56 - 65 years old
- over 65 years old

Question #16:

What would you estimate is the age of the oldest binners coming to this recycle depot?

- 36 - 45 years old
- 46 - 55 years old
- 56 - 65 years old
- over 65 years old

Question #17:

How would you describe the gender of the majority of binners visiting this depot?

- male
- female
- other

Question #18:

If you were interviewing binners is there anything you have been curious about that you would want to ask them?

Question #19:

Is there anything else you would like to share about what you've noticed about binners, their tools, and their work product?

Would you like to share more?

This is completely voluntary. Even if you fill out the section below, you may change your mind at any time and can refuse to share information with me.

What name do you prefer to use: _____

Phone: _____