

# Canadian Homeless Mobilities:

Relational perspectives on At Home/Chez  
Soi participants' interurban migrations

By

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## Abstract

This thesis examines the mobility patterns of 613 participants from the At Home/Chez Soi Research Demonstration Project on Mental Health and Homelessness who were surveyed in five Canadian cities (Vancouver, Winnipeg, Toronto, Montréal, and Moncton). Participants' mobility histories are treated as life courses: visualized using a GIS spatiotemporal analysis and complemented by examining their self-described reasons for movement (n=1,750). I contend that homeless mobilities are complex, entangled, and multiple.

To better understand these mobilities, I apply relational theoretical perspectives to literature from the mobilities turn. I conceptualize mobility as composed of the relations between various actors. These relations coordinate amidst social differences, histories, and orderings of power. Together, actors and the relations between them, become more than the sum of their parts. To see mobility relationally, is to say that mobilities have emergent properties that reproduce, deepen, or ameliorate marginalization for those experiencing homelessness.

I identify a series of actors and their relations composing homeless mobilities via time-space mapping, descriptive statistics, and the exploratory coding of survey data. I conclude by detailing a relational view of homeless mobilities while suggesting that expulsion is one emergent property of this system.

## Acknowledgements

When I hear people acknowledge living on Treaty 1 Territory in the Heart of the Métis Nation, it sounds too comfortable. It's too rehearsed. Sometimes it comes off empty. Sure, there's power in language; building in recognitions of territory can change conversations. But is it dangerous to get too comfortable acknowledging place and territory? By officiating how we acknowledge colonialism, do we wipe away everyday violence?

And yet as a straight, white, cisgendered, abled, male, settler concerned with place, living in Winnipeg for the past 14 years has shaped who I am. This city has stories I've needed to hear; stories absent when I grew up in Southern Ontario. These stories come from the First Peoples here and from Winnipeg's background as a slow-growing city with pronounced concentrations of urban poverty. These stories were shared with me by friends, neighbours, coworkers, and from the people I met through my three-and-a-half years working with the At Home Project.

I need to acknowledge the storytellers and the stories they shared with me over the course of 800 plus interviews. Sometimes these stories were steeped in violence and trauma while other times they were full of hope and recovery. The thing is, whether these stories were horrific or beautiful, it was strange when they stopped being surprising. Hearing the same thing, again and again, meant that I stopped getting unsettled. And that's the danger—that when we start to feel too comfortable, we lose sight of brutality. So, instead of acknowledgements, I offer my sincere and humble thanks by committing to serve this place and its peoples.

*Kinana'skomitina'wa'w, kinanaakomin, kichi marsii, chi-miigwech, wopida, ish nish, masi chok.*

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## List of Abbreviations

AHCS	At Home/Chez Sois Research Demonstration Project on Mental Health and Homelessness
ACT	Assertive Community Treatment
ANT	Actor Network Theory
GIS	Geographic Informational Systems
GSTP	Generalise Space-Time Path
HF	Housing First
HH:MM:SS	A time format consisting of hours hours: minutes minutes: seconds seconds. For example, 12:04:36.
ICM	Intensive Case Management
IUS	Institute of Urban Studies, University of Winnipeg
LGBTB*	Lesbian, Gay, Bisexual, Transgendered, Transsexual, Two-Spirited, and other Queer identities.
MHCC	Mental Health Commission of Canada
MINI	Mini-International Neuropsychiatric Interview
PTSD	Post-Traumatic Stress Disorder
Post-ANT	Post- Actor Network Theory
RCT	Randomised Control Trial



# Chapter 1 - Introduction

## *The Complex Mobilities of Individuals Experiencing Homelessness:*

### 1. Preface

Charles Neil-Curley and Jeremy Roy were two Indigenous men, out of work, on the streets, and looking for a place to stay. It was March 2016, and winter gets cold in the Canadian Prairies. Both were trying to get a bed in in North Battleford's Lighthouse Shelter. In Saskatchewan, like other Canadian Provinces, you have to apply through Social Services to get costs covered for shelters. This application process is complicated and has loopholes that may make you lose out on a bed. Under a mantra of 'New' Saskatchewan, the Province has implemented cuts to social service and shelter provision (CBC News, 2016; Enoch, 2011). Partly as a result of the administrative obstacles, only one of the pair got a room (Hill, 2016). Both were frustrated by how difficult it was to get housing and support in Saskatchewan and soon Neil-Curley and Roy started to wonder if they should make the trip to another city. Neil-Curley explained that "if he has to be homeless, he might as well be homeless by the beach" (Hill, 2016). The two decided to move to Vancouver.

While the specifics of the cases are protected by confidentiality agreements, within five minutes of speaking with a social worker, Neil-Curley and Roy had their costs covered for two, one-way bus tickets to Vancouver. Neither Neil-Curley nor Roy had a firm plan for what they would do when they got to Vancouver. Worst come to worst they could sleep in emergency shelters (Zeidler, 2016). They each had health issues, and neither had a transition plan for keeping up with their prescriptions or had arrangements for lodgings (Zeidler, 2016).

In one sense, Neil-Curley and Roy made the decision to move on their own. They were coping with complex personal histories and moved for a fresh start. In another sense, the decision to ship out was made for them: Saskatchewan's cuts to shelter allowances for intoxicated individuals and First Nations peoples drove both of them to British Columbia. The state in fact paid for the two men to ship out to BC. Neil-Curley and Roy's experiences turned into a story about Saskatchewan shirking its social service responsibilities, dumping a perceived social problem onto another jurisdiction. Vancouver social agencies could underline the narrative that the city is a national port for Canada's homeless, a story based on appeals for more social service funding and the social dangers of a transient homeless population.

This introduction describes the complex relationships that entangle homelessness with mobility. Neil-Curley and Roy's event speaks to the relationship between homelessness, mobility, social service provision, addiction, Indigenous Peoples, and policy jurisdictions. As the story illustrates, moving does not happen for one reason alone; mobility is produced by and emerges from a web of relations. How can we read this claim against what we know about homeless migration in Canada? Where and when do people move? What things cause people to migrate? How do these phenomena and effects make people mobile and what do these movements result in?

## **2. Introduction**

Rising homelessness in the Global North has been linked to psychiatric deinstitutionalization, the withdrawal of social safety nets, and the effects of neoliberalism on the urban environment (Menzies, Lefrançois, & Reaume, 2013; Wolch & Philo, 2000). Research on homeless mobilities has flourished in this context, particularly in terms of policy interventions (Peters, 2013), exploring marginalized mobilities (Christensen, 2012a; Cloke, Milbourne, & Widdowfield, 2003; Peters &

Robillard, 2009; Toro, Lesperance, & Braciszewski, 2011), improving health and social service delivery (Gray, Chau, Huerta, & Frankish, 2011; Tompkins et al., 2003), examining regional and spatial difference in health, social, and justice services (DeVerteuil, 2004; DeVerteuil et al., 2007; Gray et al., 2011; Wolch & Philo, 2000), and understanding how personal mobilities complicate service provision (Bachrach, 1987; Wolch, Rahimian, & Koegel, 1993). Together, these studies suggest understanding homeless mobility patterns is essential for equitable service distribution and recovery in Canada. Yet, this literature largely conceptualizes mobility in terms of physical movement while underemphasizing the connections between drivers.

Recent scholarship develops a more nuanced understanding of mobilities. Whereas movement describes the act of displacement (Cresswell, 2006), mobility is concerned with the body-in-motion (Revoll, 2011). This expanded definition sees mobility as composed of three elements: movement, meaning, and practice (Cresswell, 2006; Revill, 2011). Urry (2014) describes an interdisciplinary mobilities turn where movement is understood as occurring through interdependent environmental, cultural, and social systems that transcend territorial spaces and disrupt traditional notions of fixity. Some scholars now go as far as to say that everything in our world can be understood as mobile (Adey, 2006). The common theme through this new research is an examination of the social importance of mobility. Mobility is a social product which includes bodies but also encompasses the movement of objects and ideas (Cresswell, 2013). In this view, physical migrations can demonstrate particular arrangements of social relations while also making broader claims about power (Cresswell, 2014; Massey, 1991; Rogaly, 2015). Movements, migrations, and wider mobilities are indicative of orderings of power and the mechanisms in which inequality is reproduced through physical displacement (Clark, Ham, & Coulter, 2013).

The literature concerning homeless mobilities presents dissonant approaches. Some researchers explore the physicality of movement while others examine discourses and power. Some researchers highlight personal factors while others articulate structural influences. Researchers have predominantly focused on adverse results of these shadows including how physical movement and residential relocation adversely impact coping (Tompkins et al., 2003), recovery (DeVerteuil, 2004), and mental health outcomes (Lindquist, Lagory, & Ritchey, 2014). Physical mobilities can exacerbate victimization and substance abuse (Gray, 2001, and Christensen, 2011), disrupt labour force participation, or can disturb social supports and family ties (Gasper, 2010). Migrations can also provide new opportunities and help sustain relationships (Bruce, 2006; Cloke et al., 2003). Mobilities research can show both the embodied experiences of movement as well as illustrating broader social arrangements and phenomena.

### **3. Research Conceptualization**

This thesis applies insights from relational theories to literature from the mobilities turn. I argue that the relationships between the actors driving homeless mobilities are complex, entangled, and multiple. To accomplish this goal, I examine data collected from a longitudinal, multi-site examination of 2,149 individuals coping with homelessness and mental health issues in Canada.

Formed under the Mental Health Commission of Canada in 2008, the At Home/Chez Soi Research Demonstration Project on Mental Health and Homelessness (AHCS) was a four-year investigation using a Housing First (HF) approach to transitioning people from streets to homes (Mental Health Commission of Canada, 2012). The \$110 million randomized control trial was launched in Vancouver, Winnipeg, Toronto, Montreal, and Moncton. I have been involved as a researcher with AHCS Winnipeg for the past five years. I spent over three years interviewing people about their lives

in shelters, on the streets, at social agencies, in institutions, and in their homes. Through this work, I became familiar with hundreds of people while hearing stories about recovery, resilience, dispossession, trauma, and systemic marginalization. I gained insider perspectives on the implementation of AHCS and research protocols by attending research team meetings and events which facilitate nuanced critiques of the project. Coming to this research from a place of privileged whiteness, masculinity, and education, my time with AHCS enabled access to particular stories while simultaneously refining my understanding of homelessness in Canada.

The research component of AHCS included 25 different surveys administered over a two-year period. We used a mobility history survey conducted after participants had been enrolled in the study for 21 months. The survey asked people about their migration patterns for ten years prior to their entrance into the study.

Individuals coping with homelessness are physically mobile as they move in and around various locations and are socially mobile as they move through periods of homelessness, housing precarity, and residential stability all while grappling with various degrees of financial (in)stability. Mobility history surveys can be treated like people's life courses, a research mechanism, for analyzing homelessness (Christensen, 2012a). Physical movement provides a path through space and time while people's reasons for movement detail these pivot points in people's lives.

## **4. Research Objectives**

This thesis explores the interurban migration patterns of 613 individuals coping with homelessness and mental health issues from AHCS. By examining participant data from the five AHCS study sites I arrive at five research objectives:

1. To review how scholars understand the drivers, physical dimensions, and social differences of homeless mobilities;
2. To explore theoretical frameworks for conceptualizing AHCS participants' mobility patterns;
3. To outline a research approach for understanding AHCS participants' mobility histories;
4. To visualize and describe the spatial mobilities of AHCS participants; and
5. To describe the self-identified reasons that AHCS participants are mobile.

Together, these research objectives provide an overview of homeless mobility patterns in Canada while revealing who and what drives mobilities, how these things drive movement and what the larger outcomes of these migrations are.

## **5. Thesis Structure**

This thesis is organized into six chapters that follow the introductory outline. Chapter Two discusses how homelessness is a mobile social process driven by a number of personal, institutional, and structural factors. Drivers of homelessness and the different physical expressions of homeless migration intersect with personal identities across social differences. As a mobile social process, I contend that the reasons people migrate cannot be distinguished from the reasons they become or remain homeless. There is a need for a theoretical model which unpacks the linkages between the drivers of homeless mobility, the physical manifestations of mobility, and how these relationships coordinate amidst social differences.

Chapter Three provides a theoretical foundation for this thesis. I contend that developments from the mobilities turn can be strengthened with relational perspectives. I propose a relational theory of mobility to understand homeless mobilities.

Chapter Four explains the research methods used in this thesis in order to understand AHCS participants' mobility histories relationally. I justify a mixed methods approach and detail ethics

protocols, survey instruments, research measures, data sample, data cleaning, and analytical procedures. I explain a General Space-Time Path (GSTP) analysis, the generation of descriptive statistics, and the coding of qualitative responses to participants' reasons for mobility.

Chapter Five explains how to interpret GSTP maps before describing how the physical movements of AHCS participants vary across sites by distance, scale, and direction. Physical movements described here are one component of relational mobilities. The chapter identifies routes, institutions, and sites as actors constituting mobility.

Chapter Six outlines why participants' migrated. in Canada. I outline the frequencies of participants' responses before detailing thematic codes. I explore multiple themes as components homeless mobilities in order to identify a number of actors and relations that drive mobilities and to explore how exactly they do so. I detail three thematic alignments of these actors including institutionalized mobilities, mobilities of escape and survival, and mobility as connection.

Chapter Seven outlines theoretical, methodological, empirical, and policy contributions. Following this, I use relational mobilities as a heuristic device to argue that the relations between these actors are multiple, contingent, non-linear, and have emergent properties.

# Chapter 2 - Literature Review

## Homeless Mobilities: *Actors, Patterns, and Social Difference*

### 1. Introduction

I begin this chapter cognizant of how past scholarship stigmatized and enacted particular messages about homeless mobilities (Klodawsky, Farrell, & D'Aubry, 2002) and yet sympathetic of the need to unpack experiences of marginalization in order to assemble them critically (Bowleg, 2008). I position AHCS participants' mobilities within a broader context of physical and social mobilities.

This literature review is organized into three sections. First, I position homelessness as a process in which the drivers of mobility mirror the reasons individuals become and remain homeless. By developing homelessness as a mobile social process, I provide a context to interpret AHCS participants' reasons for mobility. Second, I examine what is known about homeless mobility and migration patterns in Canada. This section situates the scale, direction, and regional qualities of space-time movements. Third, I explore how individual's encounters with mobilities and homelessness vary across social differences. This section establishes a precedent for disaggregating findings by socio-demographic characteristics and regions.

### 2. The causes of homelessness mirror the drivers of mobility.

I contend that homelessness is a mobile social process. People cycle through periods of being housed and homeless while at the same time being physically mobile. When homelessness is understood as a mobile process, it is driven by both personal and systemic factors. The reasons that people become and remain homeless are consistent with the reasons that people



experiencing homelessness are mobile. Primary literature on homelessness supports this argument: Morrell-Bellai, Goering, and Boydell (2000) find that,

*“people both become and remain homeless due to a combination of macro-level factors (poverty, lack of employment, low welfare wages, lack of affordable housing) and personal vulnerability (childhood abuse or neglect, mental health symptoms, impoverished support networks, substance abuse)”* (p. 581).

This study highlights that homelessness occurs in relation to structures, institutions, and individual experiences. The components that drive social mobility concurrently drive physical mobility. Researchers point to individual-level drivers including social networks, personal safety, substance abuse/dependence, and a need for travel. Scholars also describe institutional components of homeless mobilities such as health, social, and justice services. Finally, research suggests that mobilities are driven by macro-processes such as housing markets, labour markets, and urban ideologies. While homeless episodes are precipitated by critical incidents (McDonald, Dergal, & Cleghorn, 2007), I assert that mobilities are a complex and entangled process where personal vulnerabilities are exacerbated by institutions and structures.

## **2.1 Social Networks and Mobility**

Social networks are a key component of homeless mobilities (Christensen, 2012; Cloke et al., 2003; Gray et al., 2011; May 2000; Peters & Robillard, 2009; Springer, Roswell, & Lum, 2007; Wolch et al., 1993). While relationships provide a form of social capital for individuals accessing the resources needed to survive homelessness (Wolch et al., 1993), challenging or negative components of relationships may also exacerbate instability. For instance, reconnecting with family, friends, or parents was an important reason that homeless men migrated in British Columbia (Gray et al., 2011). Research by Cloke et al. (2003) in the U.K., found that people were less likely to move when they had robust and supportive social networks. Both of these studies imply a relationship between

mobility, residential stability, and social ties. May (2000) echoes this point, finding that families remain stable nodes as people move physically and socially through periods of homelessness. Family nodes drive mobility when adults reconnect with their birth parents after prolonged separations due to foster care, interpersonal problems, or life choices (Christensen, 2012a; Peters & Robillard, 2009). Family ties are reciprocated when homeless parents migrate through Northern Canada to be near children in foster care (Christensen, 2012a). Interestingly, much of the research on social networks and mobility focuses on Indigenous experiences.

Social networks also drive mobilities when interpersonal problems occur. Rifts in social networks lead to rural-urban migration in the Northwest Territories (Christensen, 2012a), cyclical moves between reserves and urban centres (Peters & Robillard, 2009), and residential mobilities within urban centres such as Toronto (Springer et al., 2007). At their worst, interpersonal problems result in individual banishment from communities. Relationship breakdown often corresponds to substance abuse, poverty, and housing issues (Birdsall-Jones, 2014). Other times, individuals move to preserve relationships by not overstaying their welcome (Birdsall-Jones, 2014; Peters & Robillard, 2009; Springer et al., 2007; Whynes, 1991).

Unhealthy and unsafe relationships force people to migrate when individuals, primarily women, try to escape domestic violence or access victim services (Anderson, Fallin, & Al-Modallal, 2014; Christensen, 2012a). The use of movement to escape victimization has been discussed with moves between reserves and urban centres (Peters & Robillard, 2009) as well as within and between cities (Morrell-Bellai, Goering, & Boydell, 2000). Movement however, does not immediately solve interpersonal problems. Individuals often struggle to build supportive relationships after relocating.

All told, social networks drive mobility whether they are supportive or antagonistic. In both instances, mobilities are a geographical mechanism to solve complex interpersonal issues.

## **2.2 Mobilities of Addiction**

The relationship between homelessness and substance abuse/dependence also exemplifies how mobility is a geographic solution. Substances are often used as a form of self-medication for trauma (Haskell & Randall, 2009) and as a mechanism to cope with homelessness (Morrell-Bellai et al., 2000). Both substance abuse and dependence can have mobile outcomes. People migrate to access particular, more affordable, or higher quality substances (Christensen, 2012; Lankenau et al., 2008). Homeless individuals coping with alcohol abuse and substance dependence exhibit particular migration patterns (Gray, 2009; Lankenau et al., 2008; Tompkins et al., 2003). In northern England, Tompkins et al. (2003) found homeless men with alcohol dependence were more likely to migrate while substance abuse was associated with decreased migration—potentially because the connections needed to access certain substances require work to establish.

## **2.3 Mobilities of Mental Health**

The process of deinstitutionalization and disinvestment in the 1970s and 1980s contributed to a wave of homelessness as individuals coping with mental health issues were pushed into post-industrial, inner-city environments (DeVerteuil, 2004). Researchers still debate whether mental health issues are an outcome rather than the principle contributor to homelessness and hypermobility (Morrell-Bellai et al., 2000; Snow & Anderson, 1993). Indeed, a HF approach (Tsemberis, 2004) contends that traditional continuum of care models for mental health issues exacerbate homelessness (Goering et al., 2014).

Several studies have examined mental health, homelessness, and mobility (Abergavenny, 2000; Breslow, Burton, Erickson, & Klinger, 1998; DeVerteuil et al., 2007). These mental health geographies weave spatial, epidemiological, demographic, social, economic, and political relationships together (Jones, 2001; Parr, 1999; Wolch & Philo, 2000) in an effort to avoid the reductionist perspectives of early homeless mobilities research (see Cresswell, 2001). DeVerteuil (2007) followed a cohort with schizophrenia for two years examining movement from suburban to urban neighbourhoods in Winnipeg. Abergavenny (2000) examined the relationship between high mobility rates and increased time in institutional settings, finding that geographically mobile individuals spent longer periods hospitalised than those who are residentially stable. Bender et al. (2010) found links between trauma, PTSD, and homeless youth transience while Breslow et al. (1998) explored the clustering of psychiatric patients around mental health services. The prevailing narrative among these studies is that movement is a predictor of service usage. Countering this view, work by Tompkins et al. (2003) finds little difference in migration patterns between those coping with mental health issues and the general public. Other research supports this second perspective, suggesting that homeless individuals with chronic physical and mental health issues are just as mobile as those who do not have issues (Wolch et al., 1993). Evidently, there is confusion regarding the extent to which mental health issues influence migration. Longitudinal (long-term) datasets are needed to explore homeless interurban mobility in the Canadian context.

Medical approaches suggest there is a need to understand mental health and mobilities differently (Shah & Mountain, 2007). Other perspectives contest what they claim are biologically-reductionist models by combining anti-psychiatric approaches, psychiatric survivor narratives, and radical mad activism (Menzies, Lefrançois, & Reaume, 2013). These mobilities of madness are dependent on

individual life histories and socio-spatial contexts. The gap between these two models arises in different research methods. Critical mental health geographies are concerned with problematizing categories. In this vein, there has been a push to reconceptualise *madness* in the same way that *queer* has undergone reclamation (Starkman, 2013). The juxtaposition between these approaches points to the need for a model which incorporates systematic data with critical perspectives.

Other mental health geographies show how mental health, mobility, and homelessness are driven by complex relationships that manifest differently in different places in different people (Wolch & Philo, 2000). For instance, bipolar disorder alters the experiences of moving through places (Chouinard, 2012; Hornbacher, 2008; Parr, 1999). Parr (1999) explains that delusional experiences offer different worlds, problematizing traditional physical geographic scales as individuals move through conscious and unconscious worlds.

## **2.4 Mobilities of Social and Health Services**

The discussion on social networks, personal safety, and addictions focuses on individualised experiences with homelessness and mobility. These areas relate to other drivers of homeless mobilities, but they occur at a different scale from social, health, and justice institutions. Services pull people to some locations while pushing them out of other places. People move because of the loss of benefits in one jurisdiction, systemic barriers to accessing support, or due to the complexities of social systems navigation (Morrell-Bellai et al., 2000).

Mobilities motivated by health services have been discussed as *county drift* in Albany, New York when psychiatric patients relocate to be near institutions (Breslow et al., 1998). Migration towards services also figures in British Columbia (Gray et al., 2011) and Northern Canada due to the

geographic concentration of social supports in urban centres (Christensen, 2012a). The urbanization of homelessness has been described in the U.K. where people relocate from rural areas to cities to access emergency shelters (Cloke et al., 2003). An alternative view holds that people do not migrate to be near services, but that services locate in the spaces in which their target populations move to and through (Peters & Starchenko, 2005). There is most likely interplay between both of these arguments: social services drive individual mobility while population migration drives institutional relocation.

Service-driven mobilities occur against a backdrop of ideological shifts. In the 1980s, the dismantling of psychiatric institutions and the concurrent process of deinstitutionalization was compounded by the retrenchment of the welfare state, cutbacks to front-line services, and the individualization of responsibility for homelessness (Hopper, Susser, & Conover, 1985; Kingfisher, 2007; Lyon-Callo, 2000). For example, while the gradual closure of the Riverview Hospital outside of Vancouver was meant to be accompanied by increased community health supports, reduced funding from the provincial government to regional health authorities meant housing and recovery-oriented supports did not materialise (Boyd & Kerr, 2015). Neoliberal service arrangements have reorganized the mobility patterns of homeless individuals seeking social, mental health, and physical health supports. At times, individuals engage in a form of urban service migration in order to access resources that are no longer available where they live (Dear & Wolch, 1987; Mitchell, 1997). This fracturing has resulted in urban mobilities patterns where homeless individuals engage in daily survival circuits as they negotiate spatially fragmented services.

## 2.5 Juridical Mobilities

Justice services and judicial policies are other components of homeless mobilities. Deinstitutionalization contributed to an upsurge in mental health-related incarcerations. Concurrently, the rise of punitive approaches has resulted in increasing incarceration of marginalized groups in Canada and the United States (Birdsall-Jones, 2014). The criminalization of poverty has encouraged citations on petty crimes including panhandling, flagging, and loitering. This enforcement is principally enacted on non-white homeless individuals who are overrepresented in the justice system (Novac, Hermer, Paradis, David, & Centre, 2009). Amplified policing prompts individuals to migrate away from heavily policed urban environments (Davis, 1992) or to move to other jurisdictions (Lankenau et al., 2008). While research has touched on how the intensification of punitive approaches modified intraurban mobilities, little is known about interurban shifts.

Prisons contain the physical movement of incarcerated individuals, but there are particular carceral mobilities when inmates move within and between prison walls. While it can be argued that individuals are not homeless when incarcerated, people face significant housing challenges once terms are served. Upon release, it is common for people to locate in the urban centres adjacent to correctional facilities (Christensen, 2012a). Court-order release requirements drive mobility when individuals are “redzoned” from being in particular locations or are required to remain within specific geographical boundaries (McNeil, Cooper, Small, & Kerr, 2015; Sylvestre, Bernier, & Bellot, 2015). It is common for these individual to stay in emergency shelters or to become part of the hidden homeless population by temporarily staying with family or friends (Novac et al., 2009).

Correctional facilities are not always viewed as adversely impacting recovery. Paradoxically, the withdrawal of social supports has meant that jails became a place of stability for those coping with

mental health issues and homelessness (Greenberg & Rosenheck, 2008). For some people, jails can provide a source of housing and food with *three hots and a cot*—even though these facilities may have fewer supports. Critical perspectives contend that this incarceration is only a warehousing of social issues (Fields & Phillips, 2013). Punitive approaches co-exist with the retrenchment of the welfare state to create flows of individuals from inner-city environments into correctional facilities.

## **2.6 Mobilities of Urban Change**

The extent, complexity, and mainstream adoption of anti-homeless policies have matured amid ideological shifts and urban restructuring (Dear & Wolch, 1987; Mitchell, 1997). Flows of capital exclude and displace individuals from the urban environment via weaponized policies of gentrification (Smith, 1996). Anti-homeless ordinances involve the militarization of urban spaces with fortified architecture like spikes and loitering deterrents such as sprinklers (Davis, 1992), reinforced with the increased surveillance and policing of homelessness (DeVerteuil, 2004; Friedstat, 2014; Smith, 1996). Revanchist policies push individuals out of neighbourhoods and complicate daily mobilities as people access services (Cloke et al., 2003; Dear & Wolch, 1987; Friedstat, 2014; Smith, 1996). “Public safety” and anti-homeless municipal ordinances push people although it is not clear how these factors drive mobility beyond the urban scale.

## **2.7 Mobilities of Housing**

Homelessness, by definition, is tied to housing availability, affordability, and quality. As a result, housing markets impact individuals’ movements. People use mobility as a tool to solve housing needs by moving between various buildings, neighbourhoods, and cities (Coulter, van Ham, & Findlay, 2015). These moves become a form of residential transience complicated by poverty and discrimination. Housing loss is principally an issue of poverty that surfaces when people cannot



afford to pay the rent or the bills associated with housing (Peters & Robillard, 2009). The influence of poverty is exacerbated by racial and ethnic discrimination in housing markets, principally for non-white individuals and Indigenous peoples (Belanger & Weasel Head, 2014; Springer et al., 2007). Canadian Newcomers also face discrimination in rental markets which can intensify their experiences of homelessness. In cities such as Toronto, newcomers compete for housing with already established individuals who have larger social networks (Springer et al., 2007). Newcomers face housing precarity and take on distinct mobility patterns through both outer suburbs (Hulchanski, 2005; Preston et al., 2009) or inner-city environments (Carter, Polevychok, Friesen, & Osborne, 2008; Carter, Polevychok, & Osborne, 2009). While the nuances of housing markets emerge at the urban scale, it is clear that housing precarity also drives longer migration pathways.

Housing not only drives mobilities within cities but also between different urban centres and rural areas. For example, Gray et al. (2011) found that the primary reason homeless migrant men left a town was a “dissatisfaction with, or a lack of housing or shelter services” (p. 85). Hill (2010) finds a grossly inadequate supply of on-reserve housing, which Schiff et al. (2014) argue drives homelessness and relocation. This trait is shared in the Northwest Territories as individuals move from rural settlements to urban centres because of chronic housing needs (Christensen, 2012a). For rural residents, short supplies of both public housing and rental units drive urban migration (Cloke et al., 2003). Yet while there are supply-side factors in Northern and rural communities, the urbanization of Indigenous populations places demands on housing markets in cities. When people relocate to cities, as in the case of individuals moving from reserves to Winnipeg, it is often to be in areas of low-cost housing (Peters & Starchenko, 2005). This research on housing and mobility

presents a piecemeal picture of homelessness in Canada. There is a need to generate a wider picture about how different housing markets affect homeless mobilities.

## **2.8 Places of Mobility**

Both sites and places are another component of mobility. Where *site* delineates a specific location of study, *place* describes the ongoing construction of sites into landscapes of meaning (Henderson, 2009). Places and sites can attract people or drive them away. Research has examined this push and pull by exploring specific attributes of sites, connection to places, and the social networks.

It is commonly presumed that homeless individuals migrate for better weather and greater social supports. Tent cities in Vancouver and Victoria seemed to prove this claim. Other researchers dispute this proposition. Gray et al. (2011) found little evidence that British Columbia's weather and service provision climate attracts migrants. Christensen (2012) found that people move from northern rural areas to urban centres due to the opportunities and resources available there along with climatic reasons. These migration patterns fit with popular notions that the concentration of homelessness in urban centres co-occurs with the urbanization of social problems. Yet, Cloke et al. (2003) found that some homeless people moved to rural areas as a way to escape urban problems in England. Contrasting migration patterns also show how homeless mobilities can be unidirectional between both urban and rural locations. More research can clarify the role that site attributes, such as weather and service provision, play in pushing and pulling individuals.

The non-physical attributes of sites influence homeless migration when people relocate to places of familiarity. Here, home functions as a driver of mobility for homeless individuals both in the United Kingdom and in Canada (Cloke et al., 2003; Peters & Robillard, 2009). People also feel connections

to place when that area includes people of similar socio-demographic backgrounds. For instance, Indigenous peoples choose to migrate from reserves to specific neighbourhoods in Winnipeg and Edmonton because they have high concentrations of similar residents (Peters & Starchenko, 2005).

For homeless individuals, certain places draw people with the prospect of providing change. Places and sites here pull people through moves and travel. Traveling to places is both a mechanism of escape and a tool for creating fresh starts. While travel connotes impermanence, trips can lead to permanent relocation when people stay in these locations due to personal choices or when circumstances prevent them from moving beyond a location. For homeless men in British Columbia, a desire to travel and a need for change were both reasons why people relocated (Gray et al., 2011). At some points, this travel for change is driven by individual needs to start a new life in a different environment (Christensen, 2012a). This travel can also be a form of visiting when people temporarily stay in home communities or reserves (Peters & Robillard, 2009).

Mobility as travel can be distinguished from *travelers*, a migratory group of homeless individuals that build an identity around nomadism, freight hopping, and a gutter or crust punk aesthetic (Lankenau et al., 2008; Radley, Hodgetts, & Cullen, 2006). By following transportation corridors and specific subcultural scenes, the mobility patterns of travelers take on distinct appearances from other homeless mobilities. Unlike the other drivers of homeless mobilities above, travel as a function of homelessness has not been developed in detail.

## **2.9 Mobility as Work**

Work-related mobilities have been approached through a lens of labour migration where homelessness and poverty are intimately linked—the prospect of wages can draw people to move.

Early investigations on homeless mobilities documented that individuals relocate to find work (Snow & Anderson, 1993). More recently, Peters et al. (2009) find that the search for work is an important reason that individuals migrate from reserves to urban areas. Often labour migration involves precarious employment such as for young homeless travelers who migrate based on the rumor of work from social networks (Lankenau et al., 2008). Casual labour is argued to be essential for those who are not comfortable settling in one location—particularly for seasonal work that brings travelers to migrate to specific locations (Cloke et al., 2003; Lankenau et al., 2008). However, the precarious nature of this employment means that individuals are unable to accumulate a safety net of funds and are vulnerable stresses precipitating homelessness (Morrell-Bellai et al., 2000).

## **2.10 The Components of Homeless Mobilities**

Interestingly, these ten components parallel previously identified drivers for general human mobility and fixity which include people (proximity/privacy); environment (locomotion/shelter); information (curiosity/apathy); and place (placelessness/attachment) (Kellerman, 2006a). Here, homeless mobilities are not necessarily so different as Wolch et al. (1993) explain, “homeless people may move around for the same reasons that homed people do—to meet needs for food, shelter, income, friendship and various services” (p. 159). And yet there are clearly differences in how individuals experiencing homelessness are mobile. The next section turns to describing how these differences in homeless mobilities manifest in terms of physical movement.

## **3. Patterns of Movement: distance, scale, and direction**

This section turns to describing the physicality of migration. Migration refers to physical interurban mobilities rather than intraurban mobilities within cities. Scholars examine mobilities because they can tell us something about social relations (Cresswell, 2006; Massey, 1991; Rogaly, 2015). I suggest

that physical migration patterns can do the same. The scale, direction, and regional dimensions of movement are a tangible outcome of how different relationships align and enact mobilities.

### **3.1 Homelessness, Mobility, and Scale**

Homeless mobilities are driven by factors that simultaneously exist at multiple scales. An understanding of scale contextualises which factors motivate mobility and at what level. For Morrell-Bellai et al. (2000), individual issues impact homelessness and mobility within macro-level processes. Conversations about scale reference debates on how power operates. Scale can be used to describe the physical patterns and extent of homeless migrations.

When people move through homelessness, they move within cities, between regions, and across continents. Homeless mobilities occur across multiple scales with differing patterns of movement. While mobility is constituted by more than physical movement (Cresswell, 2014a), considering physical distance articulates individuals' migration pathways (Tsai, Mares, & Rosenheck, 2011). One study examining the physical distance (N=394), found that the majority of individuals travel short distances within regions while only 12% travel more than 100 miles (Tsai et al., 2011). Other research suggests migration is rare (Wolch et al., 1993) and that homeless individuals may be less mobile than the general population (Parker & Dykema, 2013).

The distance individuals' travel raises questions of how frequently individuals migrate between different jurisdictions and various policy spheres. Parker (2013) finds that people are most liable to remain in the jurisdiction in which they become homeless while Gray et al. (2011) find only a moderate level of intra-province migration for homeless, migrant men in B.C. Yet, individuals clearly

transition through different jurisdictions as in the cases of international migrants entering Canada or Indigenous cycles between reserves and city.

Migration research, however, typically focuses on transnational movements across borders (Rogaly, 2015). Conversely, Canadian homeless migrations often consist of translocal movements. In this research context, short distance residential moves have not received as much attention as international migration (Coulter et al., 2015; Rogaly, 2015). Migration and residential mobility are just part of the spectrum of spatial mobilities (Kellerman, 2006b). The real difference in the study of translocal versus transnational migrations may come down to perceived differences in reversibility.

Distance travelled has been used as a mechanism for differentiating and classifying experiences with homelessness (Lindquist et al., 2014; Snow & Anderson, 1993). Terms such as immigrant, migrant, trans-local, or transient connote different scales of movement. Yet these differences in the extent of physical mobility are just different expressions of homelessness. Thus, categorizing mobilities by distance is problematic due to pejorative association with terms like drifter, tramp, bum, hobo, and transient. This classification based upon categorizing movement may present a false dichotomy between those engaging in larger migration pathways versus those individuals who remain residentially stable (Lindquist et al., 2014). Researchers challenge how homelessness is known through strict categorizations of movement and social differences (Belanger & Weasel Head, 2014; Cresswell, 1999, 2001; Kingfisher, 2007).

### **3.2 Mobility has Direction**

Early mobilities research defines three forms of mobility: the movement in and out of homelessness, diurnal or seasonal movement, or migrations across vast distances (Bachrach, 1987). Each of these movements has a direction as people move in, out, or through spaces.

Examinations of homeless interurban mobility are numerous. Yet, few studies have described regional variations in movement, limited to small samples along the west coast, through the prairies, and in specific areas of the Canadian North. Along North America's west coast, there are particular migration routes between San Francisco, Portland, and Vancouver (Lankenau et al., 2008). Work in the Canadian prairies has focused on the migration patterns of Indigenous homeless individuals (Belanger & Weasel Head, 2014; Christensen, 2012a; Distasio, Sylvestre, & Wall-Wieler, 2013; Peters & Robillard, 2009; Schiff et al., 2014). Two major patterns appear here: multiple moves circulating between the urban and reserve locations to meet social and housing needs, and nearly permanent stays in the city or reserve punctuated by extended visits to either location for work, school, or to visit family (Peters & Robillard, 2009). The research available for central and eastern Canada mentions movement and migration in passing discussions related to newcomer experiences (Preston et al., 2009). The largest geographic sampling found that migrating individuals tend to follow major transportation routes (Lankenau et al., 2008).

Early research holds that homeless migration is unidirectional from rural to urban areas. Homeless policy interventions are rooted in understanding homelessness as an urban phenomenon. Recent studies on interurban migration complicate this notion by exploring homeless mobilities within rural settings and between rural and urban environments (Christensen, 2012a; Cloke, Milbourne, & Widdow, 2001; Cloke et al., 2003; Distasio et al., 2013; Peters & Robillard, 2009; Schiff et al., 2014).

Christensen (2012) explores the rural-urban dynamics of homelessness in the Northwest Territories finding that mobility was seldom unidirectional. Movement not only occurs between Canadian Metropolitan Areas but also among rural destinations.

A blurring of migration sites indicates other possibilities regarding mobilities. A distinction can be made between people moving to, versus through, places. People are in a liminal state when they are mobile through multiple locations being, “both here and there” (Hutchins, 2013). Thus, for homeless mobilities people can be simultaneously stable or unstable in multiple locations.

These studies illuminate different mobilities but they focus on localised patterns with relatively small sample sizes. There remains a lack of research on “the paths homeless people take through different urban and rural places” (Peters & Robillard, 2009, p. 652). These mobility patterns manifest uniquely across different spaces, places, identities, socio-demographic experiences.

#### **4. Social differences and mobilities.**

This section describes different socio-demographic groups homeless mobilities. The AHCS Project is concerned with different encounters with homelessness. Each study centre investigated site-specific elements of Canadian homelessness. Vancouver, Montreal, and Halifax looked at aspects of housing, region, and treatment; Toronto observed HF delivery for Canadian newcomers while Winnipeg examined Indigenous cultural adaptations to HF delivery. Likewise, mobilities research has investigated dimensions of social difference based on race, ethnicity, gender, sexuality, class, and age, and ability (Kellerman, 2006b; Sheller & Urry, 2006). Research concerned with social differences and homeless mobilities predominantly focuses on Indigenous or newcomer experiences. Differences related to gender, sexuality, and age are examined to a lesser extent.



## **4.1 Indigeneity, Mobility, and Homelessness**

Research on Indigenous homelessness asserts that colonialism produces past and present mobilities (Belanger & Weasel Head, 2014; Christensen, 2012a; Distasio et al., 2013; Peters & Robillard, 2009; Schiff et al., 2014). In Canada, the creation of the reserve system altered mobility patterns as entire nations were resettled from and within their homelands. Ongoing colonialism surfaces in mobilities informed by racism, trauma, alienation, loss of trust, loss of communities, and loss of families and friends for many that become homeless (Belanger & Weasel Head, 2014; Christensen, 2012a). Research on indigenous mobilities has paid particular attention to the movement between reserves and urban centres (Belanger & Weasel Head, 2014; Christensen, 2012a; Distasio et al., 2013; Peters & Robillard, 2009; Schiff et al., 2014). People relocate from reserves to urban centres due to housing issues, poverty, the cost of goods, educational needs, employment, lack of basic infrastructure, health and social services, gendered violence, inadequate transportation, and family conflict (Bruce, 2006; Christensen, 2012a; Peters & Robillard, 2009). Others suggest that amidst settler colonialism, people travel between colonial outposts, rather than through their own nation's territory and sites of power (Belanger & Weasel Head, 2014).

Indigenous mobilities are not just informed by inequalities and colonialism. Distance from land, family, and culture also influence these mobilities (Schiff et al., 2014). Social networks can figure prominently with mobilities based on reciprocity and obligations to family (Belanger & Weasel Head, 2014; Birdsall-Jones, 2014). Migration patterns take on a webbed appearance in contrast with point-to-point movement when people travel by visiting social networks. This research suggests that Indigenous homeless mobilities should be understood within the ongoing settler colonialism.

## 4.2 Newcomers, Mobility, and Homelessness

Changes in work, media, technology, finance, ideologies, and other patterns of globalization have motivated various waves of international migration (Kellerman, 2011). While migration connotes movements made by choice, forced migration implies involuntary displacement. In both cases, homeless newcomers face distinct barriers in accessing resources when compared to immigrants. These differences can be explained by the *healthy immigrant effect* where homeless immigrants have higher educations and lack health issues compared to refugees (Chiu, Redelmeier, Tolomiczenko, Kiss, & Hwang, 2009). Thus, immigrants are less likely to be mobile for health issues than the general homeless population. Yet, homeless newcomers face self-isolation from friends and family due to the stigma associated with mental health issues (Stergiopoulos et al., 2014).

Examinations of newcomer mobility in North America have focused on moves first to the inner-city to access affordable housing followed by relocation to suburban areas as people gain wealth (Burgess, 1925). Newcomers may move directly to suburban areas (Ley & Murphy, 2001) but these patterns still hold true for mid-sized Canadian cities such as Winnipeg (Carter et al., 2009).

Toronto has historically had the highest proportion of homeless immigrants and refugee claimants (Springer et al., 2007). These newcomers principally become homeless because of financial and housing reasons (Chiu et al., 2009). Addictions and mental health issues were the least significant drivers of homelessness (Chiu et al., 2009). Homeless newcomers in Toronto use fewer shelter and social services, instead experiencing hidden homelessness by relying on social networks (Preston et al., 2009). Newcomer mobilities are less driven by service usage and physical and mental health issues. Social networks and work may figure more prominently in individuals' mobilities.

### **4.3 Age, Mobility, and Homelessness**

Experiences with homeless mobilities can also be differentiated by age—particularly in the distinctions between homeless youth and older adults. Tompkins et al. (2003) find that there are different mobility patterns associated with age linked primarily to the pathways that lead people to become homeless at various ages. Youth and younger adults become homeless because of abuse, substance dependence, mental health issues, family disintegration, leaving home/being kicked out, poverty, sexuality, gender, and/or a rejection of middle-class values (Bender, Thompson, Komlo, & Pollio, 2010; Lankenau et al., 2008; Peters & Robillard, 2009; Springer et al., 2007). These pathways result in distinct mobility patterns of homeless youth. Lankenau et al. (2008) found that homeless migrants in the United States tended to be young, have mental health issues, and/or newly homeless. For movement between locations, these differences mean that younger homeless individuals are more likely to stay with family and friends while older adults are more apt to reside in emergency shelters or be absolutely homeless (Warnes, Crane, & Coward, 2013). Older adults who cope with homelessness have a different set of health, housing, and service needs than younger individuals (McDonald et al., 2007). Older adults may enter homelessness later in life when their specific needs are not met by current supports (McDonald et al., 2007) while their mobilities may be complicated by health, ability, and need to access particular supports. Further research unpacking social differences can distinguish the extent to which age influences mobility.

### **4.4 Gender, Sexuality, Mobility, and Homelessness**

Gender and sexuality have not received adequate attention in accounting for homeless mobilities (Radley et al., 2006). Scholars have effectively examined gender and homelessness to explain that women's experiences complicate traditional notions of homelessness premised on male experiences (Evans & Forsyth, 2004; McDonald et al., 2007; Radley et al., 2006). While women are

more likely to experience homelessness later in life (McDonald et al., 2007), they are also more liable to use social networks to reside in temporary accommodations (Radley et al., 2006). Though popular sentiment suggests women enter relationships to maintain stability through these periods, researchers found that only one in twelve women began a relationship to stay housed (Evans & Forsyth, 2004). In this way, many women are mobile through periods of hidden homelessness.

Homeless women, lesbian, gay, bisexual, transgender, and transsexual (LGBT\*) individuals are more likely to experience physical and/or sexualized violence (Cochran, Stewart, Ginzler, & Cauce, 2002; Evans & Forsyth, 2004; Keuroghlian, Shtasel, & Bassuk, 2014; Radley et al., 2006). When these identities intersect, individuals face acute marginalization complicated by questions of safety and survival (Crenshaw, 1991). Women's shelters may provide a site of departure for gendered experiences of mobility and homelessness (Anderson et al., 2014).

Gender also determines access to resources such as time and money which enable physical and social movement (Kellerman, 2006b; Law, 1999). These mobilities, occurring through gendered and sexualized spaces, create experiences that depend on the relationship between individual's identities and the spaces they move through (Kwan & Lee, 2003; Kwan, 2002). In particular, women have been found to have a transportation disadvantage that results in them travelling shorter distances than men because of gendered divisions of labour (Kellerman, 2011; Law, 1999).

#### **4.5 Social Differences Co-Constitute Homeless Mobilities.**

Homeless mobilities are shaped by race, ethnicity, gender, sexuality, and age. The majority of research on social differences specifies particular categorical experiences as independent socio-demographic groups (e.g. migrants). This research shows how mobilities are complicated as

individuals move through gendered, aged, sexualized, and racialized spaces. Distinguishing those stories not often told in traditional research is critical for dispelling homeless homogeneity. Yet, there is a paucity of research concerned with how social differences co-constitute mobilities.

## 5. Conclusions

This chapter reviewed three key areas of research concerning homeless mobilities. First, I focused on how individual experiences, institutions, and structures motivate homeless mobilities. Both personal and institutional factors figure prominently in why people choose to move to some locations or leave other places. At first glance, many of these motivations come from individuals' free, rational choices. However, these decisions are complicated by and align under different conditions. Second, this chapter surveyed how homelessness, mobility, and scale are understood across physical distances, jurisdictions, and classifications. I articulated the need for further research on actual mobility patterns. The question is how different actors, sites, and conditions align to create mobility patterns. Third, this chapter explored how researchers approached the intersections between homeless mobilities and social differences. Mobilities coordinate within existing orderings of power. In Canada, this means that homeless mobilities are rooted in legacies of capitalism, colonialism, and the neoliberalization of urban social welfare policies. Yet, more thought is needed to understand the relationships and connections that drive mobility. A theoretical framework should unpack the relationships that drive mobility into different patterns of movement and how these mobilities align across social differences and orderings of power. The next chapter applies relational perspectives to the mobilities turn.

# Chapter 3 - Theoretical Overview:

## *A relational understanding of mobilities*

### 1. Introduction

As part of the wider AHCS study, I interviewed participants in Winnipeg about their mobility histories. The questions within this interview were structured, focused on mobility as physical displacement, and left little room for people to elaborate on their experiences. Outside of the formal interview process, participants expanded on their stories by explaining the intricacy of each move. Maybe they planned to move for a fresh start in a city that had better social services; perhaps they needed to get away from someone, or perhaps they wanted to be near someone else who also had access to housing. These conversations taught me that the reasons people moved were complex, entangled, and seldom singular. While literature from the mobilities turn provides concepts for me to engage with these reasons for moving, I need a conceptual framework that examines complexity by looking at the connections between these drivers.

A relational approach to mobilities offers an alternative route for understanding homeless mobilities. Relational theories propose phenomena are constituted by the complex connections between different actors. Complexity, here, is defined as a measure of the relations and degrees of connectivity between actors. Relations are contingent, meaning that the pathways can be direct, indirect, and evolve in line with other actors. It is this focus on connection that distinguishes relational approaches from other social theories. To apply relational perspectives to mobility is to examine the actors and their entangled connections that enact mobility. And this approach is not without merit when other scholars have examined mobility relationally (see Adey, 2006). Yet, these applications are grounded in a different literature such as a politics of mobility (Adey, 2006). To

develop a relational perspective on mobility, I examine other approaches concerned with relations including Actor Network Theory (ANT), Complexity Theory, Assemblage Theory, and Intersectionality. What do these theories contribute to understanding mobility relationally? I answer this question by exploring agency, actors, and relations. I question what emerges from the relations between actors and suggest actors assemble to become powerful entities capable of entrenching or alleviating marginalization. In total, this chapter provides theoretical guidance for understanding AHCS participants' complex, entangled, and multiple mobilities.

## **2. Developing a relational perspective of mobility**

I begin by drawing from ANT and complexity theory to propose that mobilities are constituted by non-linear relations where agency exists as a network (Bosco, 2006). Mobilities are driven by more than personal desires alone, fitting with common mobilities approaches that explore an assortment of internal and external actors. Cause and effect are no longer directly related, and instead, relations distribute agency (Willekens, 2013). For assemblage theorists, mobilities are in a constant process of becoming: phenomena are continually assembled through processes, networks, histories, and potentialities (Farías, 2011). Scholars studying migration and displacement share this view seeing movement as the outcome of processes that cut across time and space (Gill, Caletrío, & Mason, 2011). A relational view argues that mobilities are not static but continually unfolding.

What drives mobility? Latour (1996) explains that actors are, "something that acts or to which activity is granted by others ... [An actant] implies no special motivation of individual human actors, or of humans in general. An actant can literally be anything provided it is granted to be the source of action" (p. 373). ANT proposes that phenomena are enacted by both human and non-human actors (Latour, 1996). In this way, a relational understanding sees mobility composed of hybrid

relationships between people, places, and things (Haraway, 1991). However, there is a danger in creating an infinitely variable set of actants. Adey (2006) narrows the scope of study by explaining that we need to examine the differences and relations between things to prevent research from becoming featureless. As a starting point, a relational view of mobilities needs to contain itself to pertinent actants which can be identified by following the most important relationships.

To examine mobility relationally, researchers should begin by mapping the patterns of movement and then ask what actors influence these spatial mobilities? Actors and their interrelations are linked across different scales (Bosco, 2006). These actors can be uncovered by considering texts, discourses, and representations (Thrift, 2005). Scholars using relational theories can continue to look at the discourses around movement but must also contend with the material drivers and outcomes of mobility. Complexity theorists agree, suggesting that discourses alone cannot account for how mobilities occur (Smith & Jenks, 2006). This suggests that while representations of mobility are important, they do not act alone but in relation to other actors. Where actors can be both human agents such as organizations or non-human entities, movement itself is an actor with velocity, rhythm, direction influencing where people travel to (Cresswell, 2010). Policy structures, political boundaries, and jurisdictions are all actors that influence present and future mobilities. In sum, a relational examination of mobility must consider a broad range of actors.

What exactly are relations? For complexity theorists, these relations can include the exchange of information, goods, and services (Willekens, 2013). This is a relatively benign understanding of relations, and intersectional theorists contend that relations can be oppressive, privileging, empowering, disciplinary, pervasive, or hegemonic (Carastathis, 2014). In line with post-ANT, I understand that relations between different actors are coordinated amidst social differences,



histories, and existing orderings of power (Mol, 2002; 2010). Where ANT alone has been criticised for neglecting structures, coordination is a mechanism for uniting relational perspectives with commonly identified structures. For example, the relations between Indigenous mobilities between reserves and Winnipeg are coordinated by historical and ongoing processes such as settler colonialism, neoliberalism, and racism among other factors—in short, these mobilities are coordinated not just by single-issues but the connections between these systems.

Relations are referred to as feedback loops when they mutually reinforce one another. This non-linear process explains how small changes are amplified to produce disproportionately large outcomes: chaos theory's butterfly effect (J. Smith & Jenks, 2006). Feedback loops can never be simply linked to one relationship, cause, or actor. Like the creation of NAFTA driving emigration from Mexico (Fernandez-Kelly & Massey, 2007), mobilities develop from a series of relations that propagate one another. These relations are lived, contingent, and always in a process of becoming.

Third-wave feminists suggest that relations should be conceptualized as simultaneous. The idea of simultaneity proposes that embodied experiences of oppression cannot be understood as only one outcome of a category (e.g. race, class, gender, sexuality) (Carastathis, 2014). Categories are not additive but converge, imbricate, and mutually constitute one another through connections (Carastathis, 2014). To apply this insight, mobilities are enacted by multiple, intersecting, and simultaneous relations. Just as intersectionality explains that people's experiences with lived oppression cannot be fragmented, to see mobility relationally suggests that researchers cannot compartmentalize and separate why people move without looking at broader outcomes.

There is a connection here between simultaneity and scale. Relational theories that are interested in scale can help develop the idea of simultaneity. DeLanda (2006) explains that assemblages are not just a set of Russian dolls that nest within one another, but that assemblages can co-occur at multiple scales (DeLanda, 2006). The connections that compose mobility plug both internally into their constituent parts and externally into other actors and phenomena (DeLanda, 2006). Supporting this proposition, one set of relational theorists argue that social phenomena operate at multiple scales simultaneously (Jones, Woodward, & Marston, 2007; Marston, Woodward, & Jones, 2007). Together, this multiscale perspective suggests that actors and relations compose mobility at different scale levels. While it is important to look at the individual sites of mobility, examining relational mobilities require a multiscale approach. In practice, this approach means looking at multiple spaces, jurisdictions, and actors to follow their relationships—things thousands of miles away can still impact individual mobilities.

To see mobility relationally suggests that mobilities exhibit properties that become more than the sum of their parts. Both complexity and assemblage theory detail these emergent properties of relations. Borrowing from biology, complexity theory uses the concept of autopoiesis to explain systems as self-structuring. When networks of actors are self-structuring, they both produce and organize their relations (Smith & Jenks, 2006). In this light, the relations between actors have emergent properties, simple rules from which complexity emerges. Like birds migrating as a flock, relations are an agglomeration of their parts and take on properties unique to the whole. The intricate moves of massive flocks cannot be reduced to a single bird.

Similarly, the relations that make up an assemblage have emergent properties that are more than the sum of their parts. DeLanda (2011) describes these assemblages and their emergent

properties through the metaphor of the mounted archer: together, a horse, a warrior, and a bow form a hybrid that exerts more military strength than any one object alone. The warrior can travel faster astride the horse, the velocity of arrows increases, the number, and range of targets increases and defensive positioning becomes easier to achieve. As an assemblage, horse- and bow-equipped warriors display a formidable strategic advantage.

Elements of an assemblage work together to create a powerful and emergent force irreducible to individual components (McFarlane, 2011a). The relations that compose movement themselves can change without the emergent properties of the assemblage changing: the emergent properties of assemblages are driven by its interior relations rather than de facto properties of each contributing actor (DeLanda, 2006). When I apply a relational view to mobility, I need to identify common emergent properties rather than just particular thematic alignments between individual actors.

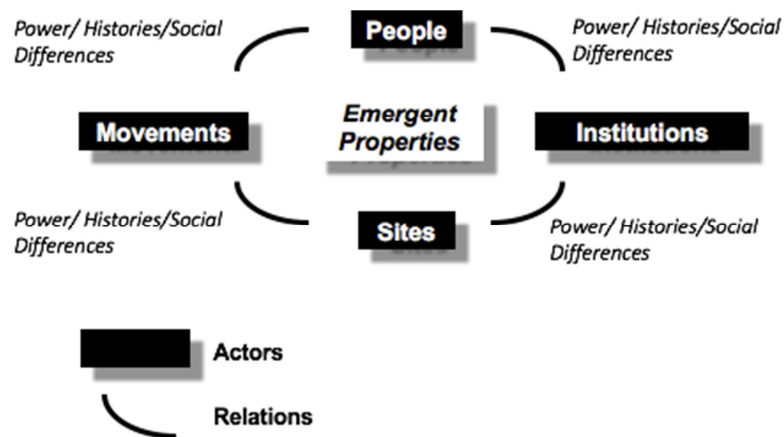
What properties emerge from relational mobilities? Literature from the mobilities turn makes frequent references to mobility capital and motility. Mobility capital and motility similarly refer to the propensity for an individual's movement; the way in which contingent relations align to influence, "a person's capacity to be mobile, whether this is physical aptitude, aspirations to settle down or be mobile, existing technological transport and telecommunications systems and their accessibility, space-time constraints (location of the workplace), acquired knowledge such as a driver's license, etc." (Kaufmann, 2002, p. 38). Here, the emergent properties of mobility are the ways in which motility and mobility capital align to increase the fluidity or friction of movement. Mobilities can be sped with capital and power or slowed by a lack thereof. This assemblage suggests a socio-mobility dialectic where society produces mobility, and yet mobility also reproduces society. Simply put, human movement can reproduce, contest, and redistribute power.

How relational perspectives understand power warrants more attention. Especially when relational theories are criticized for abstracting power and resistance (Brenner, Madden, & Wachsmuth, 2011; Latour, 2004; Lee & Brown, 1994; Wachsmuth, Madden, & Brenner, 2011). In response, defendants of relational theories explain that they are critiqued because they conceptualize power fundamentally differently (Bosco, 2006; Farías, 2011). Instead of seeing power as absent, ANT is “a sociology of power” seeing it assembled in networks instead of structures (Farías, 2011; Law, 1999). Third-wave feminists agree with this distributed view of power finding that class is not a “causal and explanatory a priori to gender and race” (Carastathis, 2014, p. 308). Power arises as a collective force through compound interactions and associations that assemble into enduring orders. McFarlane (2011c) explains that “political economies and structures emerge as relational products assembled through multiple routes, actors, histories, contingencies, resources, socio-materialities and power relations” (p. 379). As a relational view sees power stabilized through strong actors, power can be contested by changing relations (McFarlane, 2011b; Murray Li, 2007). To see mobility relationally is to see power as distributed, decentered, and continuously coordinating relations which are . Here, unjust distributions of power are open to contestation and new alignments.

### **3. Relational Mobilities**

Formulating mobility relationally unites relational social theories with literature from the mobilities turn. ANT, complexity theory, assemblage, and intersectional theories refine a relational understanding of how actors, agency, power, structures, politics, scales, potentialities, and histories can enrich studies of movement. To consider mobility relationally, we need to examine the actors and contingent relations that constitute mobilities (see Figure 1). We also need to examine what phenomena coordinate these relations be they social differences, histories, or exterior orderings of

power. By specifying these relations, we see how mobility is enacted, but more importantly, we see that the actors constituting mobility and their relations can become more than the sum of their parts. To see mobility relationally is to say that mobilities have emergent properties that can reproduce, deepen, or ameliorate inequalities.




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Figure 1: Relational Mobilities

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A relational exploration must tread carefully: relations are simultaneous, in a process of becoming, and non-linear. Researchers cannot singularize what drives mobilities. A relational examination of mobility then needs to look at how these different strands come together. And yet, there is still need to identify specific actors. Hence, a relational understanding of mobility may be more a heuristic tool for analyzing results than a methodological application.

Mobilities are visceral and embodied experiences foregrounded in power and its absence. This relational investigation of mobility should be concerned with how power manifests, how it can be challenged, and how it can be redistributed; there is a genuine transformational possibility in human mobility. In the end, this chapter creates spaces for further conversations between mobility and relational theorists who both see the movement, migrations, and mobilities of humans as fundamentally important social phenomena.

# Chapter 4 - Research Methods

## *Methodology, Spatiotemporal Analysis, and Qualitative Coding*

### 1. Introduction

This chapter develops a research strategy for examining AHCS participants' mobility relationally. There is a methodological flexibility for understanding mobility relationally. Unlike other forms of poststructural analysis (e.g. discourse analysis) relational approaches focus on processual thinking and identifying both actors and their relations (McFarlane, 2011a). Scholars focus on questions of how, rather than why, actors and relations facilitate power (Farías, 2011; McFarlane, 2011a, 2011b, 2011c). Research methods concentrate on identifying the actors instead of the context and describing instead of explaining (Farías, 2011). Ethnography, thick description, and network mapping have been the dominant research strategies (Bosco, 2006; Rankin, 2011). However, these applications characteristically focus on small-scale systems. There is room for a relational view of mobility to engage with other research methods to examine a large, longitudinal dataset of survey responses. To that end, I use a sequential, mixed methods approach to examine both quantitative and qualitative survey responses. In this way, I triangulate (Jick, 1979) results while examining how actors and relations constitute the physical and social dimensions of participants' mobilities.

I structure this chapter as follows. First, I summarise the research structure of this thesis. Second, I describe the background of the AHCS study, ethical procedures, research instruments, and the data sample. Third, I discuss the two analytical methods used in this thesis: space-time mapping and the coding of qualitative survey responses. I conclude by discussing study limitations and how I will interpret said results.

## 2. Research Structure

Understanding mobility relationally requires a multifaceted approach to identifying relevant actors and their relations. Historically linked to social science research in the 1960s and 1970s (Campbell & Fiske, 1962; Jick, 1979) and solidified as a research strategy in the 1990s (Tashakkori & Teddlie, 1998), mixed-methods research is now understood to occupy the centre point of a continuum between qualitative and quantitative research (Creswell, 2003). Tashakkori & Teddlie (1998) argue that mixed-methods generate stronger, more reliable, and more valid research findings than quantitative or qualitative approaches alone. In mixed-methods research, the deductive assumption testing of relationships meets the inductive, interpretative understanding of situational complexities (Creswell, 2003)—a logical approach for investigating systemic complexity. A mixed methods examination of mobility link relational theories with research approaches they rarely encounter. Furthermore, a mixed-methods research strategy suits the available survey data. Yet, A relational understanding of mobility runs into similar methodological dilemmas as intersectional approaches. Bowleg (2008) explains how qualitative and quantitative feminist researchers face difficulties in analyzing relational experiences additively rather than intersectionally. Though lived experiences are multiple and simultaneously constitute one another, it is nearly impossible not to isolate, count, or quantify identities or experiences. Indeed, this separation can be an important step in putting relations back together (Bowleg, 2008). Perhaps mobilities then, need to be pulled apart into their constituent elements before they can be put back together. Relational mobilities may well then be just a lens for interpreting an assortment of research methods rather than a method unto itself.

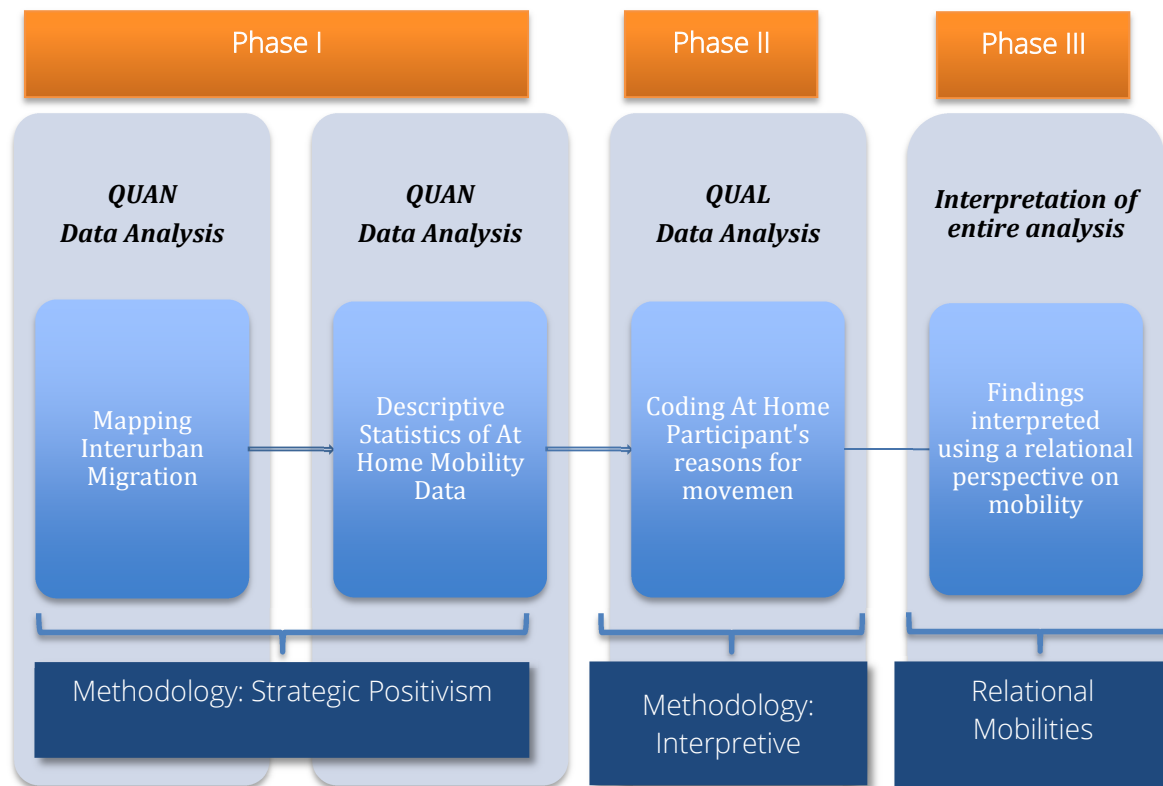


Figure 2: Research Approach - Sequential, Explanatory Strategy

This thesis utilizes a two-phase, mixed-methods approach to explore AHCS participants' mobility patterns. Figure 2 outlines my research strategy using mixed methods notations (Creswell, 2003). In Phase I, participant's mobility patterns are visualised using a General Space-Time Path (GSTP) analysis to identify the physicality of participants' migrations. Phase II complements this analysis with an examination of participants' self-described reasons for movement. A weighted emphasis is placed on qualitative dimensions in Phase II. Findings from Phase I will be merged with findings in Phase II in Chapter Seven of this thesis.

### 3. Study Background

In 2008, The Mental Health Commission of Canada (MHCC) launched AHCS as a four-year demonstration of Housing First (HF) with the goal of transitioning people from streets to homes



(MHCC, 2012). This \$110 million randomized control trial occurred in five Canadian cities. Each study centre investigated site-specific elements of Canadian homelessness including congregate housing and substance abuse (Vancouver), Indigenous with cultural adaptations to HF delivery (Winnipeg), Canadian newcomer approaches to housing first delivery (Toronto), HF delivery in community and institutional settings (Montreal), and the rural delivery of HF (Moncton).

Dr. Jino Distasio at The Institute of Urban Studies (IUS) and Dr. Jitender Sareen at the University of Manitoba were the Winnipeg Principal Investigators. Employed by IUS, I conducted more than 800 structured interviews with AHCS participants at three-month intervals from September 2010 through July 2013. In this way, I was involved both in the practical implementation of AHCS and subsequent research endeavours. Questionnaires included 25 research tools administered over a two-year follow-up period. A Mobility History questionnaire (see Appendix B) surveyed 2,148 individuals on their interurban mobility patterns for ten years prior to their entrance into the study.

#### **4. Ethical Conduct for Research Involving Humans**

Complete trial protocol for AHCS is provided in detail by Goering et al. (2011).<sup>1</sup> In conducting this research, I have abided by the 2010 Tri-Council Policy Statement (TCPS): Ethical Conduct for Research Involving Humans (CIHR, NSERC, and SSHRC, 2010). I obtained the TCPS 2 Course on Research Ethics certificate on October 21, 2014 (see Appendix A). An ethics submission was made on October 22nd, 2014 to the Fort Garry Research Ethics Board and was consequently approved (see Appendix A). The Research and Ethics Compliance Office conducted a random research quality management interview with me on July 13, 2015. This process ensured I abide by TCPS2 (2014)

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<sup>1</sup> This study was registered with the International Standard Randomised Control Trial Number (RCT) Register. The AHCS RCT number is ISRCTN42520374.

Articles 5.1 and 5.3 regarding measures for safeguarding information and confidentiality. As such, AHCS participant data remains anonymized with each participant referred to by number. All data analysis occurred on a secure, private, workstation located at the Institute of Urban Studies at the University of Winnipeg. In May 2016, the research protocol with the University of Manitoba's Office of Research was closed with no problems noted.

## 5. Data Sample

2,148 participants were enrolled in the AHCS study via service provider referrals and split into two study groups. In the *Housing Intervention* experimental group 1,254 participants received HF services with rent subsidies and mental health supports via Assertive Community Treatment (ACT), Intensive Case Management (ICM), or Aboriginal Intensive Case Management (AB ICM) models. 980 participants were randomized into the *Treatment as Usual* control group, eligible for currently existing supports.

To be eligible to enter the study, participants had to meet definitional requirements of being absolutely homeless (no fixed address for the past seven nights and little likelihood of getting shelter, or is being discharged from an institution with no fixed address to go to) or precariously housed (unstable current residence and two or more absolute episodes of homelessness in last year)(At Home/Chez Soi, 2009). Participants also had to demonstrate the presence of a serious mental illness with or without a diagnosis. Mental illness was defined as, "at least one indication of functional impairment" according to a set criteria list, "at least two indicators of psychotic behaviour observed in past month," "documentation of a diagnosed mental health condition or inpatient admission two or more times in any one year of the past five years", or one of the eligible diagnosis identified from the Mini International Neuropsychiatric Interview (M.I.N.I.) including: Current Major

Depressive Episode, Current Manic Episode or Hypomanic Episode, Current PTSD, Current Panic Disorder, Current Mood Disorder with Psychotic Features, and/or Current Psychotic Disorder (At Home/Chez Soi, 2009). The M.I.N.I also diagnoses suicidality and alcohol/substance abuse/dependence. However, these two diagnoses alone were not enough to be enrolled as a participant.

## **5.1 Case Eligibility**

To gain access to data, an *Author Initiated Abstract* and *Request for Datasets* was submitted to the MHCC. A review panel was established by the MHCC to address such requests; each request is peer-reviewed by a national cross-site panel of AHCS leads. For the present analysis, a population subsample was generated from the *Month 21 Mobility History* tool (see Appendix B). Only AHCS participants who engaged in inter-urban travel were deemed eligible for this study. More precisely, data from participants who answered “No” to question 1 are analyzed: “When you were recruited to the AHCS project, you were living in (city of recruitment). Have you lived in (city of recruitment) for the past 10 years?”

A preliminary exploration of responses found that some cases fell outside of the data collection period. Accordingly, the first stage of data cleaning defined case eligibility. Cases were eligible only if they met the following two conditions: first that the move occurred a maximum of ten years prior to baseline interview date; and second, that the first move site was not the same as recruitment site (ensuring participants moved between different sites). As a caveat, while only moves over this 10-year period are eligible – move 4 aka move 3 may have origin dates beyond 10 years old. Consequently, moves with origins greater than +10 years ago are displayed in all maps. After defining study inclusion criteria and initial data cleaning, 613 participants were included in this

study. This population completed 1,750 moves. Appendix C includes a sample of the dataset edited for confidentiality.

## 6. Research Methods Phase I: Mapping Interurban Migration

Phase I of this research uses a GSTP GIS approach to visualize and identify the physical dimensions of participants' mobilities. This quantitative phase recognises one set of actors and their relations. Before detailing this method, though, it is useful to review GSTP approaches.

The mobility turn begins with the notion that humans are constantly moving through space and time (Kellerman, 2006b; Urry, 2000). And yet research on physical mobilities has largely separated time from movement flattening individuals' life paths (An et al., 2015). From a feminist perspective, Kwan (2002) explains that this temporal neglect in GIS fails to represent individuals' lives as complex and fluid. Part of this neglect comes from the difficulties of visually representing "a spatially and temporally continuous world" (An et al., 2015). Kwan's criticisms reframe older critiques of cartography: mapping is a reductionist technique rooted in positivism conveying power and ideology (Harley, 1989; Schuurman, 2006). Instead of seeing these maps as objective representations of the world or as socially constructed representations, Kitchin & Dodge (2007) suggests that we see maps as emergent and never fully formed. From this relational perspective, maps can be understood "processually" with no standard meaning (Kitchin & Dodge, 2007). Instead, meanings materialize of the moment through context-dependent relations. We can only modify these contexts to change the way in which maps meanings are engaged with. Recent advances in GIS analytics show promise in integrating space-time approaches.

Maps can recognize the fluidity of movement by visualizing individuals' life paths in 3D space to create a measure that is more sensitive to human's mobile lives (Kwan & Lee, 2003; Kwan, 2002). Building on Hägerstrand's (1970) space-time aquariums, GIS models can insert a Z axis to represent time. This spatiotemporal mapping creates a representation of mobility as complex and fluid while being more in tune with the diversity of individual differences. Nonetheless, this approach requires further development.

An et al. (2015) distinguish between two types of space-time studies: individual movement data analysis and spatial panel data analysis. The first grouping is methodologically informative for this study, specifically those individual movement analyses centered on revealing patterns (An et al., 2015). Here, Shaw, Yu, & Bombom (2008) outline a quantitative GIS approach to explore large-scale individual-based spatiotemporal datasets. And while there are some options for crafting spatiotemporal statistics (Kulldorff, Heffernan, Hartman, Assunção, & Mostashari, 2005; Kulldorff, 2001) it could be the visualizations of people's life paths themselves, which are the most promising outcome. Supporting this idea, Thrift (2005) explains that time-geography brings important contributions to modern social theory including a visual concreteness of events, a counter to social constructivist arguments of space and time and that it bridges the divide between humans and objects. Space-time mapping of AHCS participants' movements serves two purposes then: it conveys the complexity of their lives and it enables the identification of actors and relations driving mobilities through both space and time.

## 6.1 Measure, Data Cleaning, and Validation

Four variables from the *Month 21 Mobility History* tool were used in this analysis including date of the move (month/year); move origin (verbatim response); move destination (verbatim response); and the duration of time spent in move destination (months).

AHCS data was reviewed by the research team at each study site and archived by the Centre for Research on Inner City Health at St. Michael's Hospital. Mobility History data had to be cleaned for this analysis in two phases: a missing values analysis and a geocoding phase.

Space-time mapping requires hard data points. Following Humphries (2013), an exploratory missing values analysis determined that data was missing at random potentially due to interviewer error, or the ability of participants to remember dates of moves. The random nature of these missing values meant that they could be replaced. For dates which only listed the month and year of the move, the middle day of the associated month was used. When original dates for moves were missing, the following formula was used to calculate move to date: *Date Supplied – Duration in months spent at location = Previous move date*. For all other missing dates a decision was made to use Mean Substitution as it was determined that weakened variability, covariance, and correlation estimates would not be detrimental to the final Space-Time Analysis (Humphries, 2013). Those dates that included the year of the move, but that were missing the month and day were replaced with a mean of June 5<sup>th</sup> (most recent move), June 6<sup>th</sup> (second move), and June 5<sup>th</sup> again (third move). For those moves which lacked any date information but which could be confirmed to have been completed within the eligible period (e.g. previous moves occurred within the allotted 10-year period), total value replacement occurred using the mean from those move periods. If moves could not be determined to have occurred within the study period, associated cases were excluded from

any other portions of the analysis. For the second move, 16 moves were replaced with the date mean of March 2<sup>nd</sup>, 2000. For the final move, 16 move dates were replaced with a mean of November 20<sup>th</sup>, 1995. It was integral that these new values that created an origin date for each move be inserted. Otherwise, the move sequence could not be mapped. Finally, each move was given a hh:mm:ss value of 12:00:00, as the per Geotime analysis requirements. The SPSS syntax used for data cleaning and analysis is included in Appendix D.

Eligible move locations for each case were examined by place name and standardised to the following format: Place, Province/State, Country. For some cases, only provinces or country were listed. For these cases, it was decided that the need to include cases for analysis outweighed the detrimental impacts of imprecise place name locations. For those moves originating outside of continental North America, small differences in approximate locations would do little to impact future data visualizations and distance/location analysis. When place names corresponded with more than one potential location, the best fit was determined using other information available in participant's mobility histories and other AHCS survey data available for each participant including Birthplace, Recruitment Site, and the Residential Time-Line Followback. Place names were linked with latitude and longitude coordinates using two different online batch geocoding programs. Place names were uploaded to Batch Geocode (Zwiefelhofer, 2015) and were consequently linked with XY coordinates. These geocoded locations are the geographic centre of the associated location. For those cases that only included which province the participant moved to, cases were Geocoded to the geographic centre of province. Results were examined to ensure locations were not changed by this geocoding process. Each case was examined to ensure that the assigned XY coordinates matched. Finally, geocoded coordinates from this process were compared to the second round of

geocoded coordinates from a second online utility (Schneider, 2015). Finalised Latitude and Longitude Coordinates were linked with each move case in the SPSS database.

### **6.3 Space-Time Path Procedures**

A GIS generalised space-time path (GSTP) approach visualised interurban movement among AHCS participants. This GSTP approach identified the actors and relationships that drive physical mobilities. I utilised specialised Space-Time Mapping software called *GeoTime*. Marketed towards law enforcement officials for analyzing cell-phone records or automotive accidents, GeoTime software has not yet been utilised for investigating large-scale space-time movement in any peer-reviewed publications. The unique capability of GeoTime is its ability to work with large amounts of data points while providing support for animating 3d visualizations. Within GeoTime, geovisualizations can be statically mapped or animated. The software also provides specialised space-time statistics. One weakness of this software is its inability to support map projections. Consequently, visualizations can appear distorted such as in the case when viewing Canada without the Lambert Equal Area Conic Projection.

The AHCS Mobility History Database was transferred from SPSS to Microsoft Excel after each reported move was associated with XY coordinates and a date. GeoTime provides a direct import feature for Excel databases, albeit this function requires specific data formatting. This process produced visualizations of participants' spatial mobilities while also providing the capacity to animate the results. Separate databases were imported for the entire AHCS population as well as for each study site and sub-socio-demographic population so as to produce independent maps. To ensure all participants and their associated events were imported into GeoTime, the sums of each import were calculated to ensure that they corresponded with the study sample count.



## 6.4 Descriptive Statistics

Descriptive statistics were generated from the AHCS Mobility History Database in Microsoft Excel. For each study site and AHCS subpopulation, I consider how far people moved, how often they moved, how long they stayed in each location when people moved, and the top destinations of moves of each AHCS Research site. Four variables from the *Month 21 Mobility History* tool were utilised to find these frequencies including *date of move* (month/year); *move origin* (verbatim response); *move destination* (verbatim response); and *duration of time spent in move destination* (months). Measures of central tendency were generated for each of these variables. The complete SPSS syntax used to gather these descriptive statistics is available in Appendix D.

## 7. Research Methods Phase II: Qualitative Reasons for Migration

Cresswell (2013) explains that mobility theorists have minimally approached motivations for movement. Qualitative examinations of AHCS participants' reasons for movement find the push and pull factors of mobility. This approach has four goals: to identify the human and non-human actors driving movement; identify how these actors influence mobility; identify the relations between actors; and identify those phenomena that coordinate mobility.

### 7.1 Measures, Data Cleaning, and Translation

Qualitative reasons for movement will be sourced from Question 2.d. which asked "*Why did you make that move?*" and recorded responses verbatim. If participants engaged in one or more moves, this question was successively repeated in Questions 3.d. and 4.d.

Qualitative data cleaning involved spell checking, response validation, and language translation. Misspelled words were corrected only when errors were easily identified; response validation and screening were slightly more complex. A lack of clarity in interviewer training meant some

responses were recorded verbatim while other responses were coded by interviewers. I decided that all responses would be equally used under the premise that it was not possible to make a standard decision to differentiate between verbatim and pre-coded responses. Furthermore, the AHCS data collection system limited the string length (amount of characters) for participant responses. This was in part due to the scale of the project and the need to limit data collection. However, this limit meant that longer responses were restricted in detail. Numerous responses were cut-off half-way through words. Words that could easily be identified to need letters added were corrected: for example “Winnip” became “Winnipeg.”

When answers did not contain sufficient information for coding purposes, the decision was made to refer to move locations to help specify which sub-code should be used. For example, when a response like “felt too isolated” was examined, I also looked at where the individual moved to and from to determine whether it occurred in an urban or rural area. For vague moves that referred to “because of an institution” I looked up the institution in the participant’s residential timeline history. Lastly, overly general entries could only be coded at the family code level. Complete code definitions are included in Figure 4.

A number of responses from both the Montréal and Moncton AHCS Sites were recorded in French and required translation. Due to the use of Québécois slang and mental health related terms, a Psychiatry Ph.D. student from Montréal was hired as a translator. Translations were double translated to ensure consistency. Responses could then be coded in-line with all other responses.

### 7.3 Qualitative Survey Coding Procedures

The same *AHCS Mobility History Database* used in Phase I was used to code qualitative responses. In total 1,117 reasons for movement were coded. To ensure database stability, the decision was made to code qualitative responses in Microsoft Excel. Columns were inserted beside each question response in which a sub-code and parent code could be entered. A separate column for translated responses was also included. Initial parent and sub-code categories were iteratively informed with the literature reviewed in Chapter Two. Codes were refined inductively through the iterative coding of participant responses rather than through one pass (Barry, 2014). This method allowed an in-depth engagement with participant responses to track how codes were interrelated.

An exploratory rather than confirmatory approach, was used to code participants survey responses (Weitzman, 2000). Research objectives were kept nearby at all times to ensure direction (Auerbach & Silverstein, 2003). Participant responses were limited by string length, there was no need to determine the completeness of analysis by searching surrounding text (Weitzman, 2000, 814). Be that as it may, I was interested in the context of the data which could be determined in Microsoft Excel by examining the accompanying demographic data.

The coding process in Microsoft Excel was supported by the generation of code definitions and a coding tree in *Coggle*—an online chart assistant. In Step One, I coded different participants repeating ideas by the same definition when they used the same or similar words to express similar ideas (Auerbach & Silverstein, 2003). In Step Two, code themes were used to organize and group repeating ideas (Auerbach & Silverstein, 2003). In Step Three, original codes were refined as well coded in multiple fashions. In Step Four, emergent themes were generated by considering both repeating themes, abstract ideas, and movement patterns (Auerbach & Silverstein, 2003).

Definitional refinement evolved the coding architecture into axial, selective, and theoretical codes (Barry, 2014) to inform broader understandings of mobility.

Figure 4 provides detailed notes regarding code definitions to ensure that final code categories have high degrees of validity and reliability. Here, solid lines connote direct relationships between codes, sub-codes, and parent codes. Dashed lines indicate a relationship or connection between different codes, sub-codes, and parent codes.

## 8. Limitations

There were several data limitations associated with the Mobility History tool, definitions of mobility, and self-reported data. First, AHCS interviewers collected an extensive amount of information by administering multiple surveys at each data collection point. As a result, the M21 Mobility History Survey was limited in scope to respect participants' time. This brevity meant that participants' reasons for movement were grossly simplified or could be abruptly cut-off in mid-sentence. Where possible, sentences were completed, while at other times, it became apparent that interviewers pre-coded verbatim responses. I decided to accept the precarity of the data treating responses *as is*. However, this limitation may have erased some qualitative nuance and diversity. I pursued this data under the premise that the extensive number of responses potentially offset this limitation. Second, the limited scope of the Mobility History Survey meant questions focused only on participants' three most recent moves. Future Mobility History tools would do well to include flexible character requirements as well as options for recording more than three moves. Third, the Mobility History instrument had a limited conception of mobility grounded in only questions participants about physical movement. While a relational perspective was used to bypass some of these limitations, I could not engage with a great deal of recent literature from the mobilities turn.

Future research instruments could disaggregate mobility by movement, meaning, and practice and a potential example of this extended mobility history questionnaire is included in Appendix E.

As the Mobility History tool relied on self-reported data, it was vulnerable to respondents' selective memories and ability to accurately recall events. Indeed, when other self-reported AHCS surveys were compared to administrative data, it was found that participants underreported their health, justice, and social service usage homeless (Goering et al., 2014). Consequently, participants' frequency of moves may be underreported, a limitation compounded by the inability to record all moves as noted above. That being said, this thesis takes responses as a best case scenario for gathering data from a marginalized population. Furthermore, certain descriptive results may be limited by missing data. A number of AHCS participants did not complete the Month 21 interview, and those who did could not always answer every question related to their mobility histories. While a missing values analysis determined means replacement was an acceptable to replace missing values, descriptive statistics for move dates and duration of moves may be influenced.

I have identified two research approach limitations associated with GeoTime and not incorporating an analysis of representations. The GeoTime software package does not support visualizations outside of a Cartesian coordinate system. GPS coordinates are only compatible with a World Geodetic 1984 (WGS84) datum. This spheroidal reference is accurate for displaying precise geolocation. However, this coordinate system is rarely used to display data because of the distortions associated with mapping Latitude values relative to the equator (Environmental Systems Research Institute Inc., 2006). High latitude locations, especially in Canada and the Canadian Arctic, are compressed unlike how they would appear in a NAD 1983 or Lambert Conical Projection of Canadian Locations. I have passed these concerns on to Oculus, the company in charge of

developing GeoTime. Alternatively, new methods for incorporating space-time geographies are being developed for the ArcView Suite which enables both projections and other cartographic elements absent from GeoTime. A second weakness of the GSTP approach is that, without fine-grain data, participants' moves are visualized as direct paths from one point to another. These paths falsely represent movements as routes travelled. However, as fine-grain data was not available, illustrating paths as *a crow flies* was the only option. A final limitation comes from not including an analysis of representation as actors in a relational view of mobility. Representations co-constitute mobilities. Indeed, Cresswell (1986, 1999, 2001) has outlined the role of discourses in composing mobilities. By not analyzing the discourses of homeless mobilities in Canada, I may miss out on a particular set of actors and orders which coordinate mobilities—for example my analysis of social differences is currently contained to descriptive results. To limit the scope of this thesis, I consequently decided to bypass an examination of the meanings of AHCS participants' mobilities.

## 9. Conclusion

This chapter outlined the research methods necessary to apply relational perspectives AHCS participants' mobilities. I detailed a mixed methods approach where quantitative and qualitative methods are used to identify the actors and relations driving AHCS participants' mobilities. In Phase I, A GSTP approach visualized the complexity of participants' space-time paths and was complemented with descriptive statistics. The actors and relations identified in this phase provided direction and triangulation of results in Phase II. Phase II explored qualitative survey responses regarding AHCS participants' reasons for movement and in doing so identified the second set of actors and relations. The findings from these two approaches are subsequently discussed in Chapters Five and Six.

# Chapter 5 - Phase I Results

## Mapping Movement: *The Space-Time Geographies of AHCS Participants*

### 1. Introduction

There is little research on the actual physical movements of homeless individuals in both Canada and the world. Existing research focuses on movement within cities or in smaller jurisdictions and regions. Even large-scale investigations of homeless migrations are limited in scope and detail by single-site recruitment practices and/or smaller sample sizes. This paucity of research exists, in part, because there has been a lack of large-scale, longitudinal, space-time data and because research of this nature requires a large-scale investment of time commitments by participants, researchers, and funding agencies. The AHCS provides a rich, longitudinal source of data from which to examine homeless migrations in Canada while documenting the actors and relations composing these mobilities.

In this chapter I describe the quantitative results from Phase I of this research and explore the Mobility History Survey. First, I explain how to interpret the general space-time path (GSTP) maps included below. Second, I describe the socio-demographic characteristics of this AHCS Study sub-sample. Third, I document AHCS participants' physical mobilities across sites by distance, scale, direction, and duration of stay. Fourth, I explain how these movements vary across socio-demographic groups by distance, frequency, and duration of stay. I conclude by describing what actors and relations this research identifies.

## 2. Interpreting Space-Time Maps

GSTP maps simultaneously visualize geocoded and time-sequence data. The following chapter includes two types of maps. The first are 3D representations of space-time movement. These maps add a z-axis, onto a two-dimensional map integrating time-series data. The second maps display movements connected by a coloured pathway on a 2d planar surface.

This thesis uses a software package called *GeoTime*, which integrates geospatial data from *ArcView* with time-series data from Microsoft Excel. When examining these maps, it is important to note that each diagram contains different time scales with movements connected by a coloured line referred to as a space-time path (Kwan & Lee, 2003). There are multiple trips included on each map with different coloured lines representing different participants. Space-time paths do not represent the actual routes, but instead, just link origins and destinations.

## 3. Sample Characteristics

612 participants completed 1,750 moves over a 10-year period. Table 1 displays this study population's characteristics. In term of self-identified gender, 30% of the participants were female, 69% were male, and 1% were a non-binary gender or gender queer. While 21% of participants identified as non-White, and 20% self-identified as indigenous, the majority of the participants identified as white. Most participants qualified as being of moderate need (61.4%) while 7% of the mobility sub-study were in the top 10% of service users in the AHCS. Over 92% of the participants were younger than 54 when recruited into the AHCS study, a characteristic shared with the total AHCS sample. All study sites, aside from Moncton, are relatively equally represented in this sample.



Table 1: Participants by Site and Socio-Demographic Characteristics

Characteristic	Variable	AHCS Study Population	Mobility Study Population	% of AHCS Study Pop	% of Mobility Study Pop
Gender (Self Identified)	Female	600	182	32.6	29.7
	Male	1,223	425 (424)	66.4	69.4
	Non-Binary/Gender Queer	18	5	0.98	0.8
Ethnic Status	Ethnoracial (Non-White)	231	131	12.5	21.4
	Indigenous Status	484	123	26.3	20.1
Need*	Moderate	1,067	376	42	61.4
	High	774	236	42	38.6
	Top 10%*	143	43	7.8	7
Age (at enrollment)	≤ 34	589	253	31.99	41.3
	35-54	1,068	313	58	51.3
	≥ 55	184	44	9.99	7.4
Recruitment Site	Vancouver	432	137	23.5	22.4
	Winnipeg	497	120	27	19.6
	Toronto	314	120	17.1	19.6
	Montréal	399	138	21.7	22.5
	Moncton	199	97	10.8	15.8
	Total**	1,841	612	-	-

\*By service usage at baseline

\*\* While 2,148 individuals were enrolled in the study, complete data is only available for 1,841 participants. Other demographic categories may not total 100% due to participants skipping questions.

## 4. Results

To understand participants' physical movements, I describe the distance, scale, and direction of migration. Full descriptive statistics are available in Appendix F. I begin by examining national patterns before reviewing results from each AHCS site. I then discuss movement in relation to social differences among AHCS participants. For each study site and socio-demographic population, I include space-time maps to consider: how far and how often people moved, how long individuals resided in locations, what time of year people moved, and the top sites to which people moved.

Together these results highlight particular actors and relations while describing the physicality, extent, and regional dimensions of migration.

Migration patterns vary between each AHCS study site, but two general trends emerge in Maps 1 and 2. First, moves increase in frequency from earlier time periods (the top of the z-axis) to the start of the AHCS project. These moves coalesce into five major vertical lines above each of the AHCS sites in Map 1. Second, these maps display the majority of movement occurring between Canada's major regional centres including the AHCS sites but also Victoria, Edmonton, Calgary, Ottawa, Québec City, and Fredericton (displayed as pillars of points in Map 1). Thirdly, given the breadth of Canada, travel is minimal from coast to coast between the west coast and east coast study sites as well as within the Yukon, Northwest, and Nunavut Territories.

The physical distance people move, cannot be equated with the amount of disruption in their lives or the extent to which migrations influence social networks, service knowledge, or housing conditions. However, understanding distance travelled may be a proxy indicator of just how often people cross municipal, provincial, national, and other jurisdictional boundaries.<sup>2</sup> Move distance (n=1,139) averaged 1,536.28 km (SD = 2,458.49km) for the combined moves of all participants in this AHCS substudy; roughly 1/6 of the distance across Canada. The furthest move occurred between Mauritius to Toronto (15,317 km) while the shortest move was from Riverview, New Brunswick to Moncton (3.6 km): an approximated range of 15,313 km. Because of some extreme outliers, a median move distance of 520 km indicates that participants mainly migrated to neighbouring regions and communities rather than extreme distances. Indeed, 25% of all study participants had average moves below 128 km while at the upper threshold, 25% of the survey

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<sup>2</sup>. I recognise that this is a limited definition of boundaries; they are not always physical and can be inchoate.

population moved further than 1867 km indicate longer moves. The distance mode was 3,363 km, which equates to the distance between Vancouver and Toronto: the most frequent migration journey for this study.

Residential stability is the reasons people move and the type of residence that individuals inhabit (Bebout et al., 1997). The frequency and number of moves also contribute to this understanding of residential stability (Tsemberis, 2010). Here, AHCS substudy participants (n=612) averaged 1.86 moves (SD = 0.82) spending approximately 95 months (SD = 137.36 months) (see Table 7). During the study period, an estimated 25% of all participants lived at each of their destination for less than a year while 50% lived in each location for up to three years. At the upper threshold, 25% of the study population lived in places for longer than ten years. In total, these migrations are not indicative of a regionally transient population.

This research suggests that participants move through the early spring to summer. Looking at average move dates (n=1750), participants typically moved in June (SD = 3.48 months) and at near the beginning of the month (mean = 8; SD = 3.49). These trends were similar in each study site. The average year of the move (n=1750) was 2001 (SD = 11.22 years) which while outside of the study period, is indicative of when participants initially moved to each location. This finding fits with past literature that suggests people move at the start of the month, but these results run counter to prevailing notions of seasonal homeless migration for the winter.

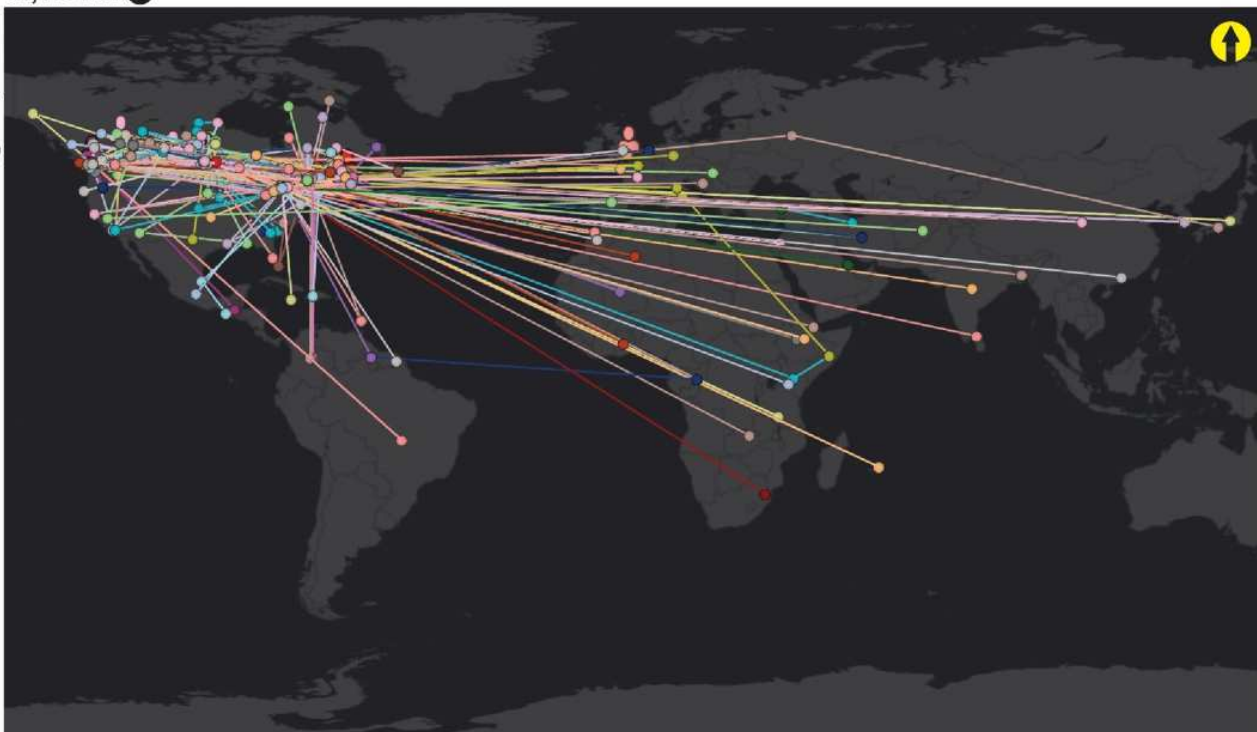
MAPS 1 AND 2: ALL AT HOME SITES, PARTICIPANTS' MIGRATION PATTERNS



32,118 km

32,118 km

19,980 km



- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

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## 4.2 Study Site Migration Patterns

Distinct patterns of physical movement emerge for each of the AHCS study sites. There are regional differences for each of the AHCS study sites based on the sites people travelled to, and the distance participants travelled.

Maps 3, 4, and 5 display migration pathways for participants enrolled in the Vancouver Site. While Map 3 shows participants' space-time paths, Maps 4 and 5 show national and regional migration pathways. In total, Vancouver participants (n=137) had 387 events comprising 22.1% of all moves in this sub-study. Participants moved through 100 different locations (see Table 2). Top migration sites include sites on Vancouver Island, Prince George, a string of sites through southern B.C., as well as within the Metro Vancouver region. Outside of the province, participants from Vancouver tended to move to major eastern cities as well as Calgary and Winnipeg. Vancouver site participants made only 11 international moves, and yet these moves may speak to a regional dimension of migration, which includes the Pacific Northwest.

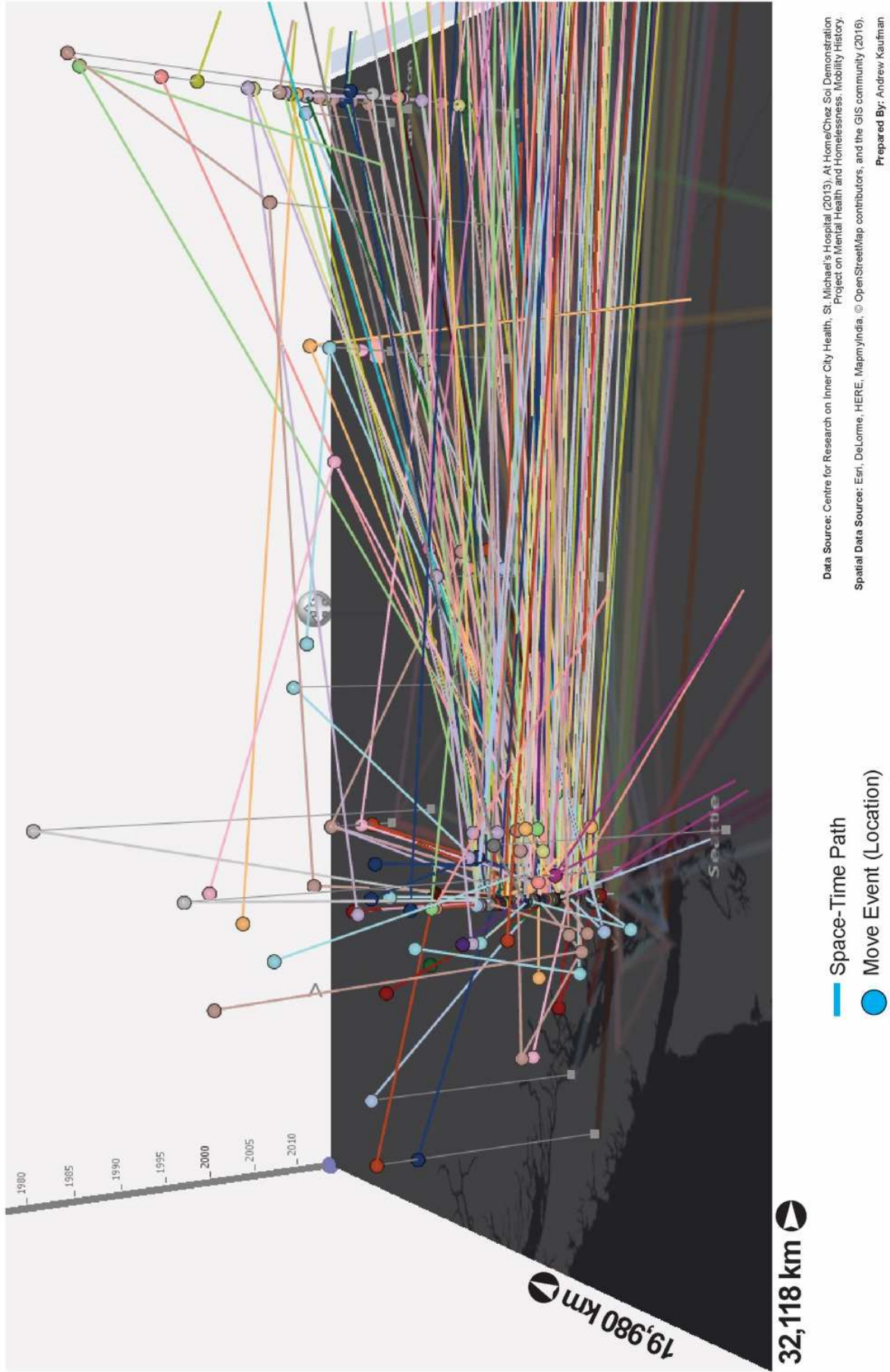
The combined moves of all Vancouver site participants averaged 1838.35 km (SD = 2174.86 km). During the study period, an estimated 25% of all study participants had average moves below 253 km while 50% had average moves below 819 km. At the upper threshold, 25% of the study population moved further than 3,363 km. The frequency of moves between Vancouver and Toronto indicates the interaction between these sites as major urban areas.

Table 2: AHCS Vancouver, Top Migration Sites

In Province Sites	# of Moves to	Out of Province Sites	# of Moves to
Vancouver, BC, Canada	161	Toronto, ON, Canada	21
Victoria, BC, Canada	10	Montréal, QC, Canada	13
Prince George, BC, Canada	5	Calgary, AB, Canada	12
Burnaby, BC, Canada	4	Winnipeg, MB, Canada	12
Nanaimo, BC, Canada	4	Ottawa, ON, Canada	5
Coquitlam, BC, Canada	3	Brantford, ON, Canada	3
Kamloops, BC, Canada	3	Saskatoon, SK, Canada	3
Kelowna, BC, Canada	3		
Maple Ridge, BC, Canada	3		
Squamish, BC, Canada	3		
<b>Total In Province Moves</b>	<b>236</b>	<b>Total Out of Province Moves</b>	<b>151</b>

Maps 6, 7, and 8 display migration pathways for participants enrolled in the Winnipeg Site. While Map 6 shows participants' space-time paths, Maps 7 and 8 consecutively show national and regional migrations pathways. In total, Winnipeg participants (n=120) had 350 events comprising 21.2% of all moves in this sub-study. Participants moved through 108 different locations (see Table 3). Top migration sites within Manitoba include Thompson (a major northern centre, gateway to other northern settlements, and Manitoba's second highest homeless population), Selkirk (home to a mental health facility), and The Pas (another large rural site). Sagkeeng and Garden Hill First Nations also figured as prominent migration sites.

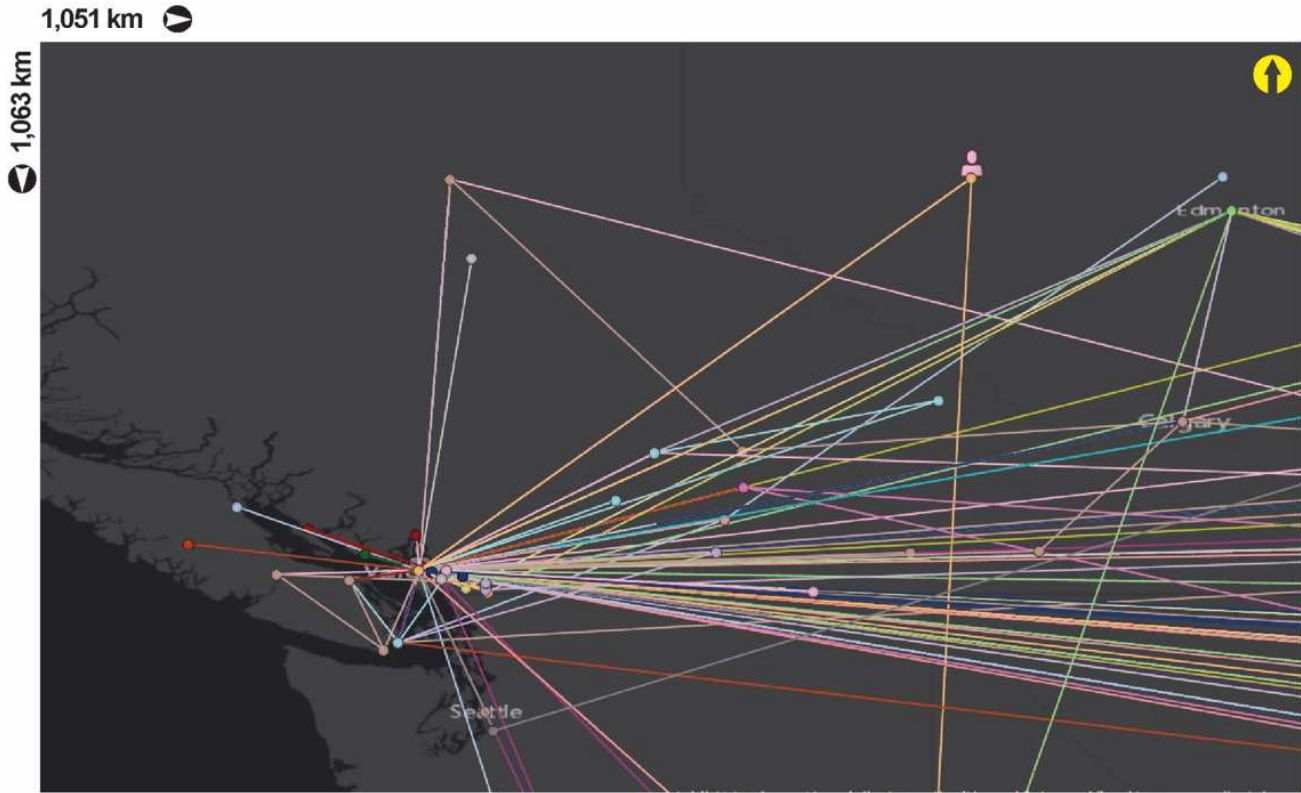
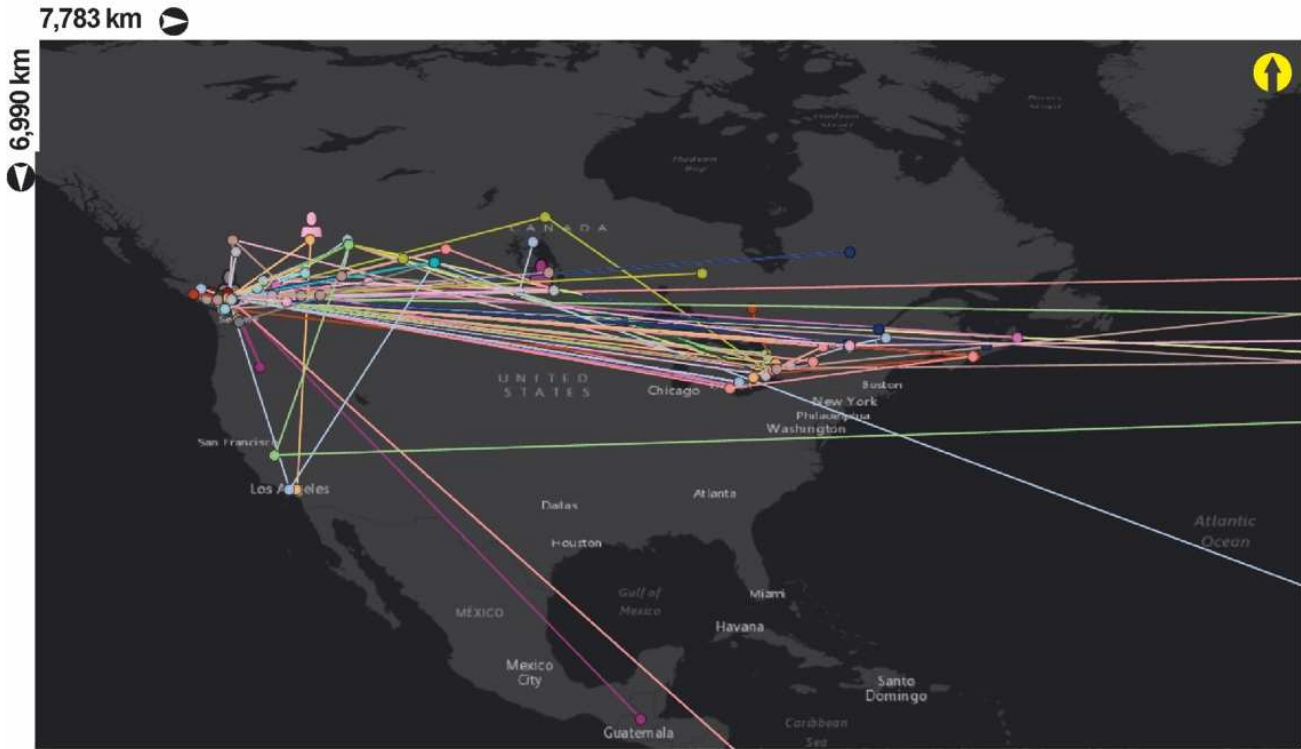
MAP 3: AT HOME VANCOUVER SITE, PARTICIPANTS' MIGRATION PATTERNS, GENERAL SPACE-TIME VIEW



Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013), At Home/Chez Soi Demonstration Project on Mental Health and Homelessness: Mobility History.  
Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).  
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MAPS 4 AND 5: AT HOME VANCOUVER SITE, PARTICIPANTS' MIGRATION PATTERNS



- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

Prepared By: Andrew Kaufman



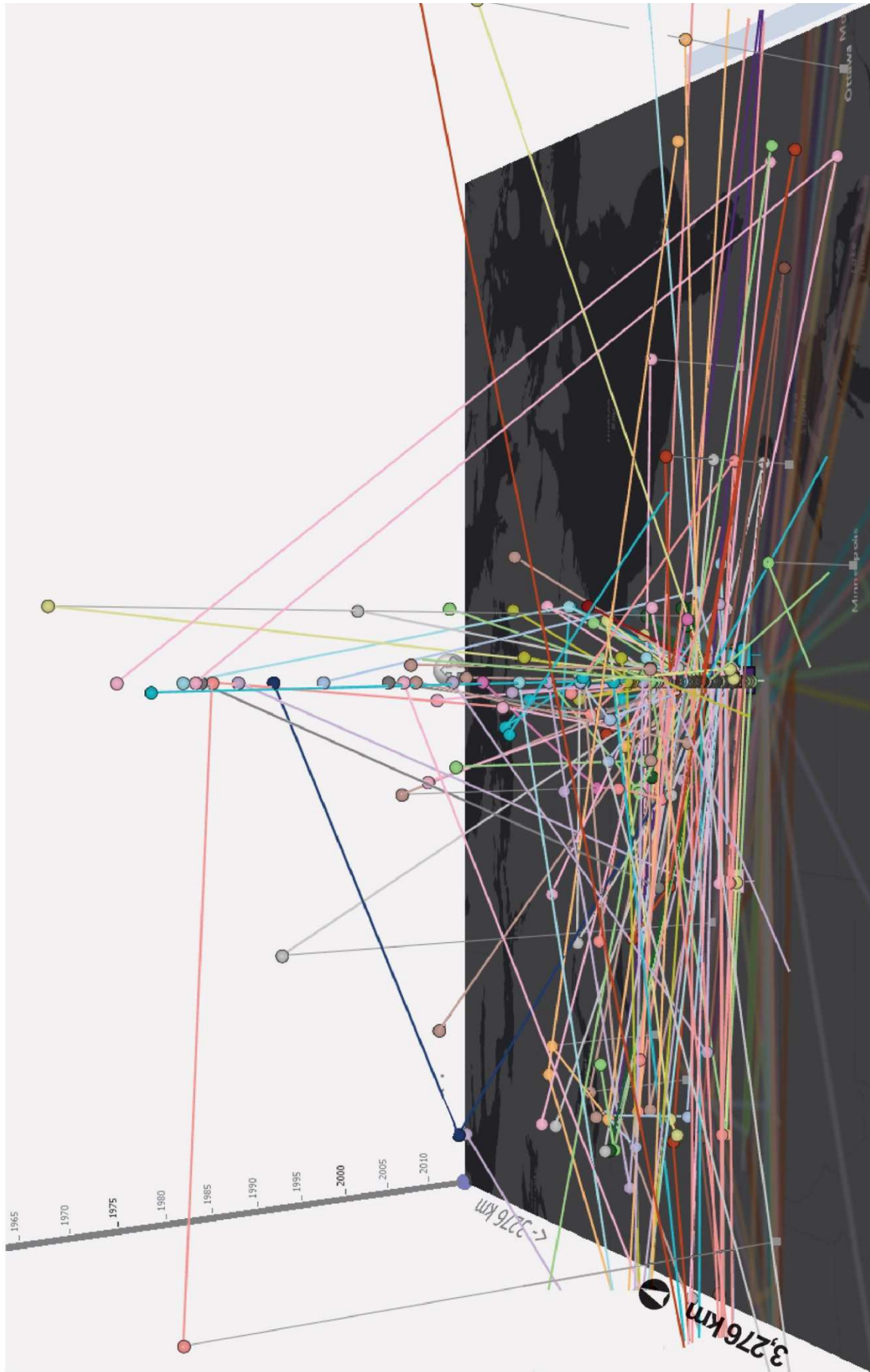
Stony Mountain figured prominently as a move destination because it contains a large federal correctional facility. Outside of the province, participants tended to go westwards to Edmonton, Vancouver, Calgary, and Saskatoon. Near the Manitoba/Ontario border, Kenora figured prominently as a migration site. In total, Winnipeg participants primarily moved to major western Canadian cities and made only 11 international moves.

The combined moves of all Winnipeg site participants averaged 1,101.13 km (SD = 1,605.13 km). During the study period, an estimated 25% of all study participants had average moves below 199 km while 50% had average moves below 652 km (see Appendix F). At the upper threshold, 25% of the study population moved further than 1,452 km. The mode of 1,867 km represents the distance between Winnipeg and Vancouver.

Table 3: AHCS Winnipeg, Top Migration Sites

In Province Sites	# of Moves to Site	Out of Province Sites	# of Moves to Site
Winnipeg, MB, Canada	164	Edmonton, AB, Canada	10
Thompson, MB, Canada	5	Vancouver, BC, Canada	10
Sagkeeng First Nation, MB	4	Calgary, AB, Canada	9
Selkirk, MB, Canada	4	Kenora, ON, Canada	7
The Pas, MB, Canada	4	Saskatoon, SK, Canada	6
Churchill, MB, Canada	3	Surrey, BC, Canada	4
Garden Hill, MB, Canada	3	Thunder Bay, ON, Canada	4
Stony Mountain, MB, Canada	3	Medicine Hat, AB, Canada	3
		Toronto, ON, Canada	3
<b>Total In Province Moves</b>	<b>242</b>	<b>Total Out of Province Moves</b>	<b>108</b>

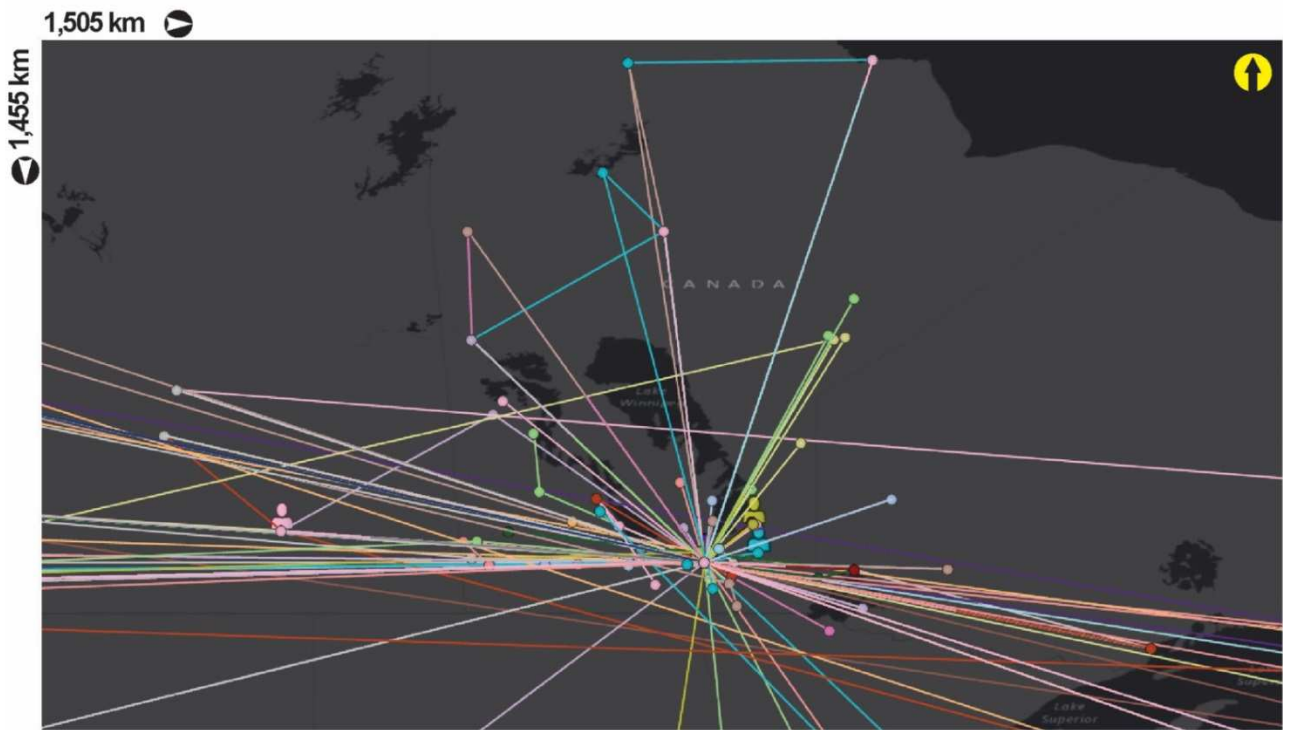
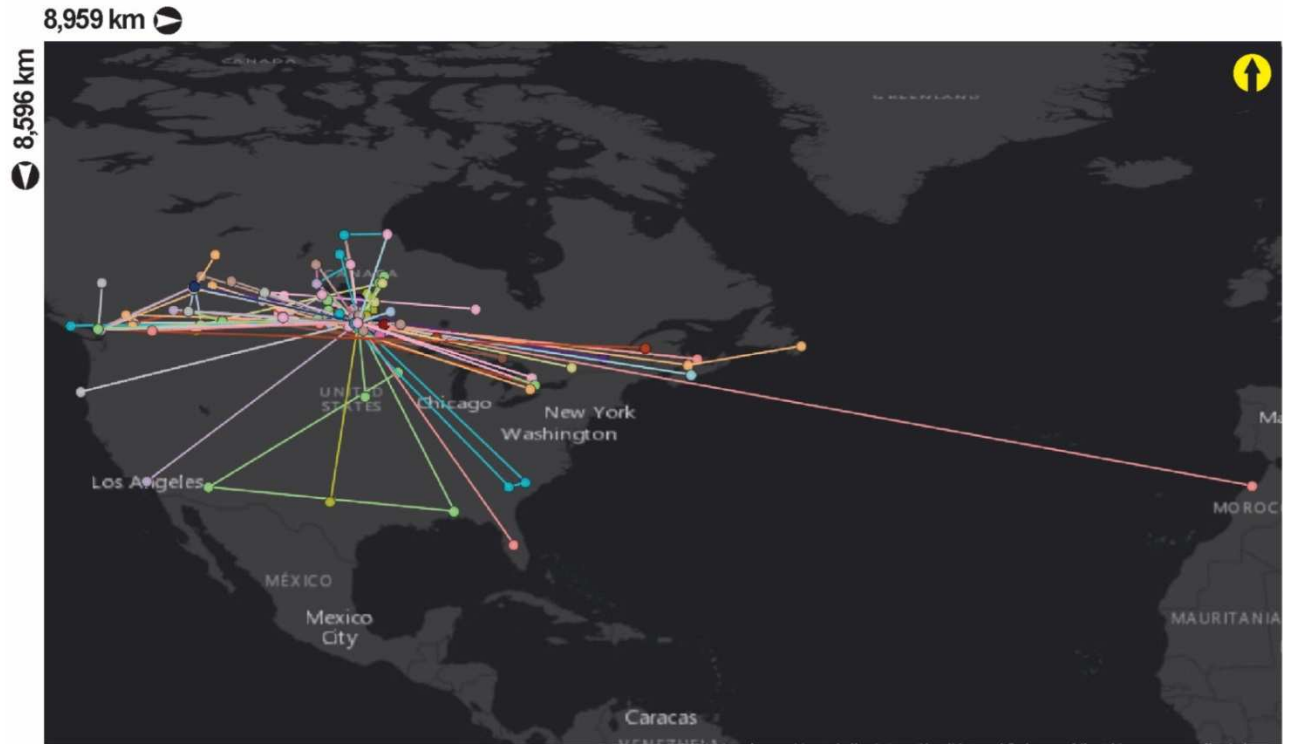
MAP 6: AT HOME WINNIPEG SITE, PARTICIPANTS' MIGRATION PATTERNS, GENERAL SPACE-TIME VIEW



Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.  
 Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).  
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2,780 km  
 — Space-Time Path  
 ● Move Event (Location)

MAPS 7 AND 8: AT HOME WINNIPEG SITE, PARTICIPANTS' MIGRATION PATTERNS



- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

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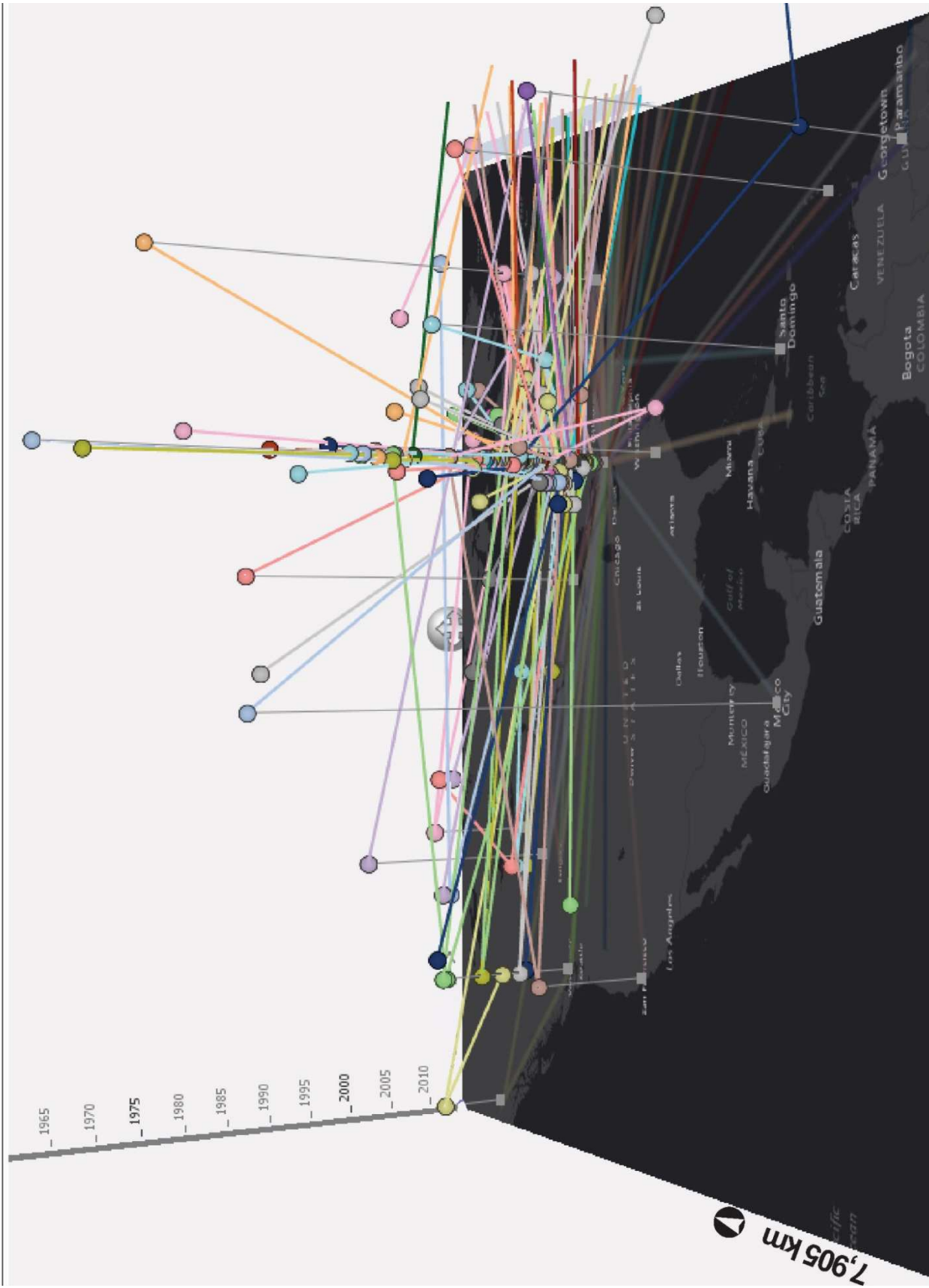
Maps, 9, 10, and 11 display migration pathways for participants enrolled in the Toronto Site. While Map 9 displays participants' space-time paths, Maps 10 and 11 consecutively show national and regional movements. Toronto participants (n=120) had 313 events constituting 17.9% of all moves. Participants moved through 108 different locations (see Table 4). The top sites stretch along the Highway 401 corridor while more flank the western edge of Lake Ontario. Outside of the province, participants moved westwards to Vancouver, Winnipeg, and Calgary. Montréal and Nova Scotia were major eastern destinations. International migrations figured prominently into sites of movement indicative of AHCS recruitment directed at newcomers, as well as the number of newcomers who are/become homeless in Toronto. There were six moves through the United States and 32 other international moves. The combined moves of all Toronto participants averaged 2,947.79 km (SD = 4,190 km). During the study period, 25% of all study participants had average moves below 122 km while 50% had average moves below 551 km. The number of moves below 122 km again speaks to the extent of movement within the western Lake Ontario region. At the upper threshold, 25% of the study population moved further than 3,453 km referencing international migrations.

Table 4: AHCS Toronto, Top Migration Sites

In Province Sites	# of Moves to Site	Out of Province Sites	# of Moves to Site
Toronto, ON, Canada	141	Montréal, QC, Canada	8
Ottawa, ON, Canada	10	Vancouver, BC, Canada	6
London, ON, Canada	9	Winnipeg, MB, Canada	4
Brampton, ON, Canada	7	Calgary, AB, Canada	3
Barrie, ON, Canada	6	Nova Scotia	3
Hamilton, ON, Canada	4	Turkey	3
Kingston, ON, Canada	4		
Mississauga, ON, Canada	4		
Windsor, ON, Canada	4		
<b>Total In Province Moves</b>	<b>227</b>	<b>Total Out of Province Moves</b>	<b>86</b>



MAP 9: AT HOME TORONTO SITE, PARTICIPANTS' MIGRATION PATTERNS, GENERAL SPACE-TIME VIEW

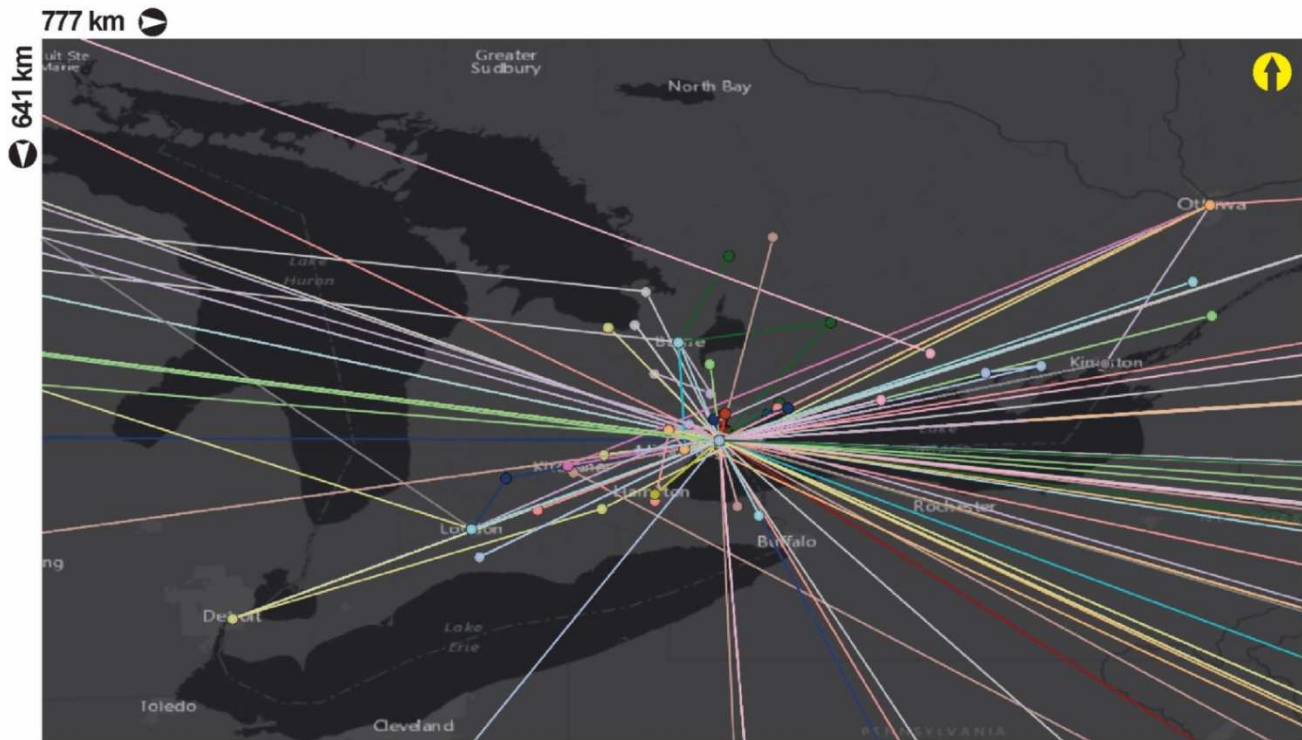
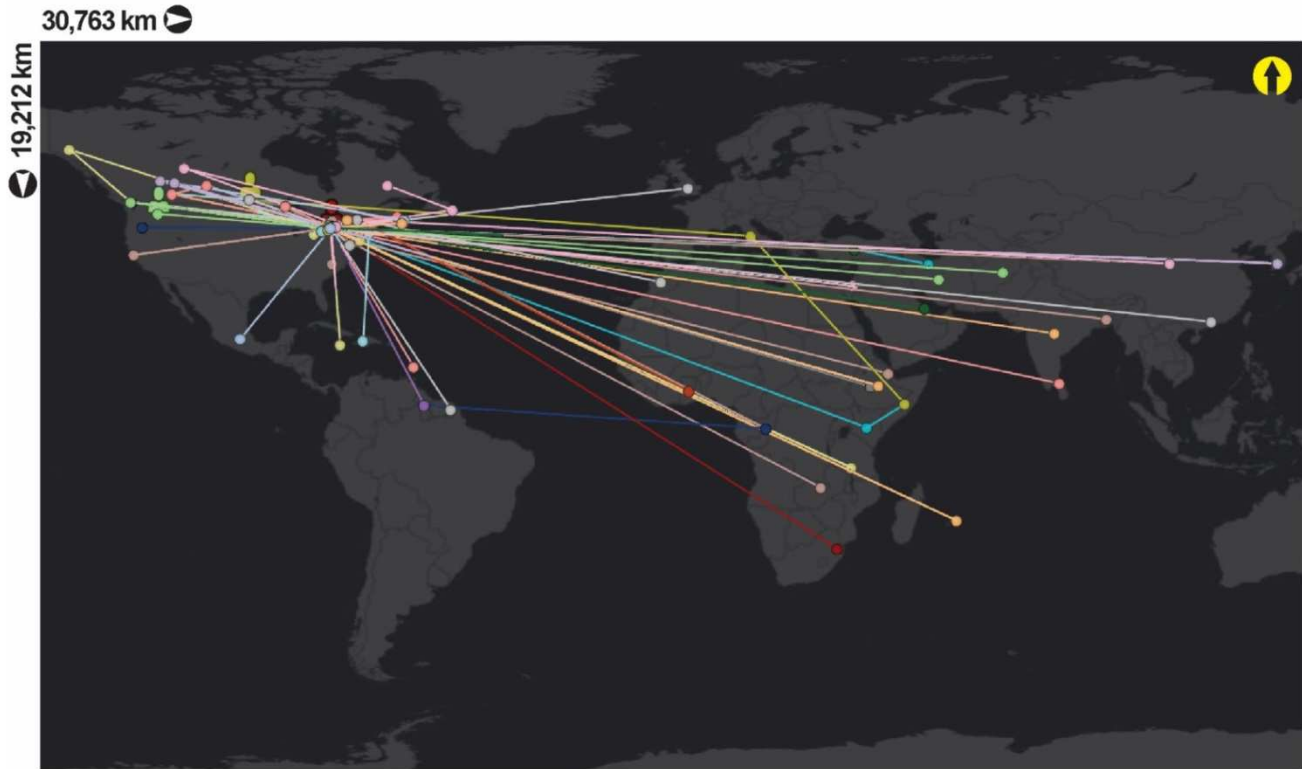


8,017 km  
7,905 km

- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chao Soi Demonstration Project on Mental Health and Homelessness. Mobility History.  
 Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2019).  
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MAPS 10 AND 11: AT HOME TORONTO SITE, PARTICIPANTS' MIGRATION PATTERNS



- Space-Time Path
- Move Event (Location)

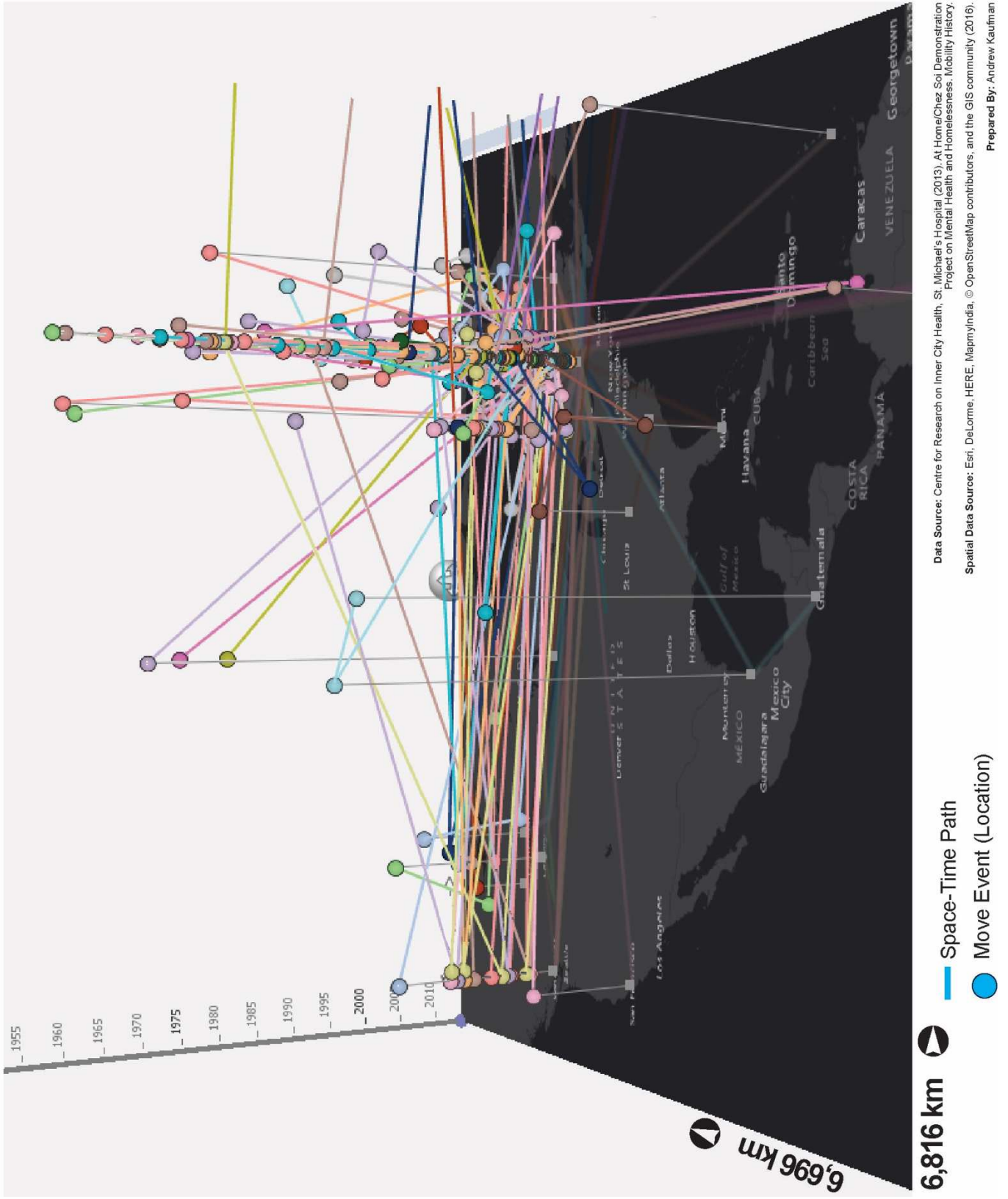
Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

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Maps, 12, 13, and 14 display migration pathways for Montréal site participants. While Map 12 displays participants' space-time paths, Maps 13 and 14 consecutively show national and regional migrations pathways. In total, Montréal participants' (n=138) had 416 events constituting 22.5% of all study moves. Participants moved through 121 different locations or about 23.8% of all migration sites (see Table 5). Top migration sites within Québec include Québec City, Joliette, Sherbrooke, and Grandby. While both Sherbrooke and Granby are located in southern Québec along Autoroute 20, other top sites like Québec City extend through Trois-Rivières, which joins into Highway 401. The Greater Montréal region is another example of metropolitan migration with both Laval and Saint-Jérôme figuring as prominent sites. Montréal is the one site that had numerous moves to northern centres speaking to its status as a hub for northern centres in Québec, Nunavut, and Labrador. Outside of the province, Toronto and Vancouver are the major migration destinations, while immediately across the Ontario/Québec border, Ottawa is another major draw which brings up questions about short cross-provincial mobilities. There was little interaction between Montréal site participants and western Canadian sites aside from Calgary. Participants that moved east tended to stay within Québec. Finally, Paris figured prominently as an international destination which highlights relations between place, culture, and language. The combined moves of all Montréal site participants averaged 1,068.33 km (SD = 1,702 km). During the study period, an estimated 25% of all study participants had average moves below 68 km while 50% had average moves below 283 km. Here, Montréal participants had slightly longer moves than individuals from the Moncton site. At the upper threshold, 25% of the study population moved further than 828 km.

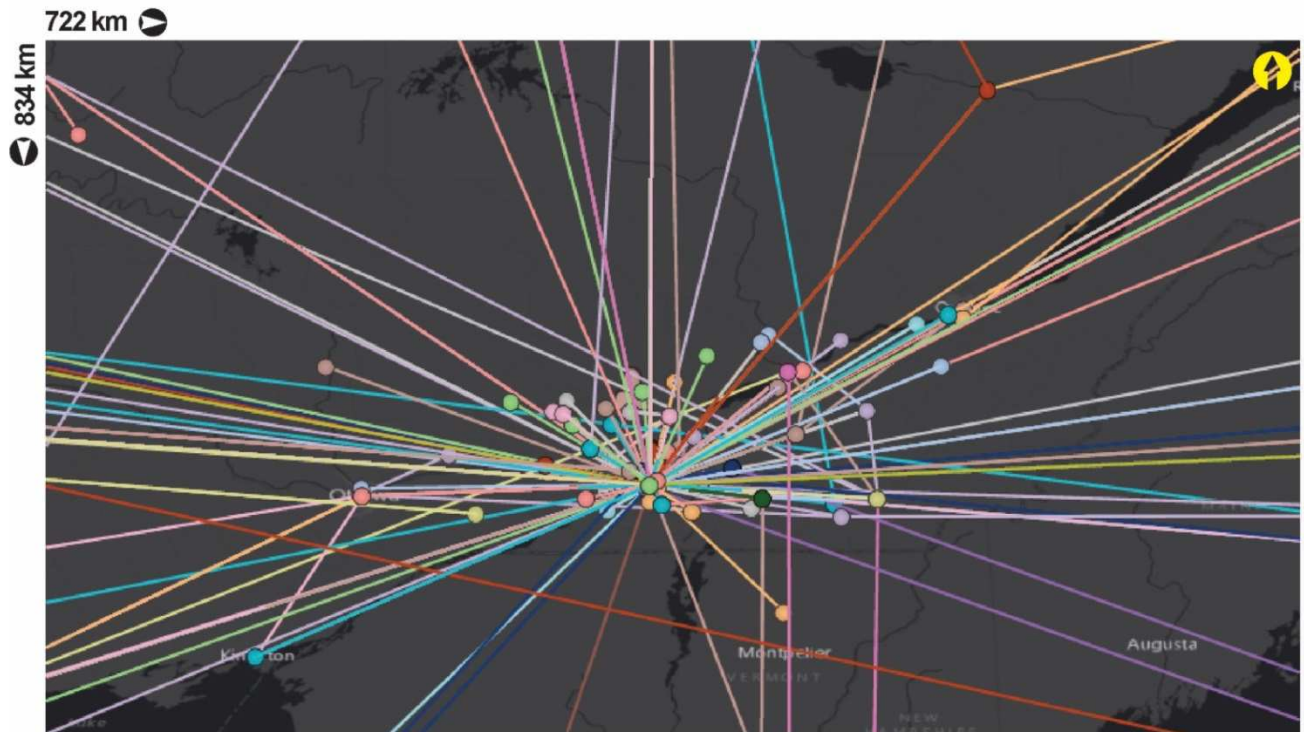
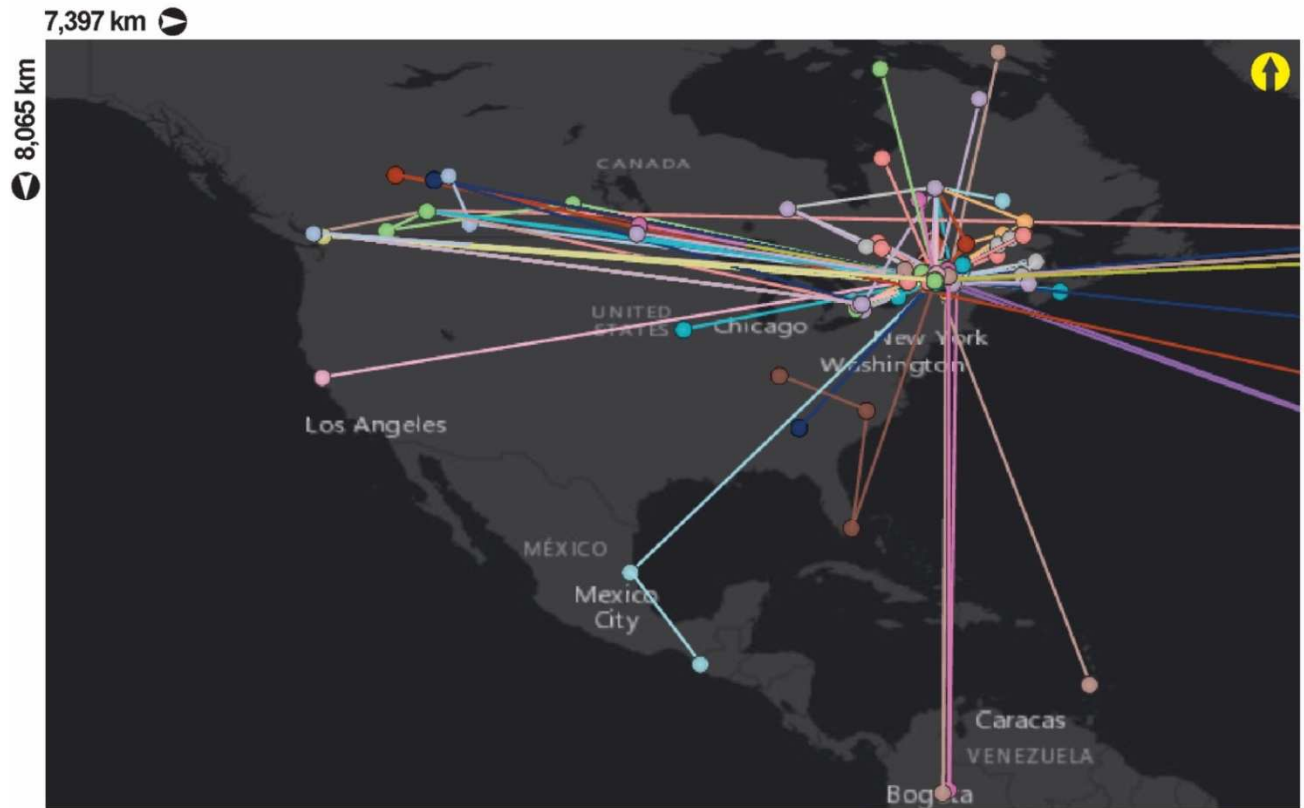
MAP 12: AT HOME MONTREAL SITE, PARTICIPANTS' MIGRATION PATTERNS, GENERAL SPACE-TIME VIEW



Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/chez Soi Demonstration Project on Mental Health and Homelessness: Mobility History.  
Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).  
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MAPS 13 AND 14: AT HOME MONTREAL SITE, PARTICIPANTS' MIGRATION PATTERNS



- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

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Table 5: AHCS Montréal, Top Migration Sites

In Province Sites	# of Moves to	Out of Province Sites	# of Moves to2
Montréal, QC, Canada	190	Toronto, ON, Canada	15
Québec City, Canada	15	Vancouver, BC, Canada	12
Joliette, QC, Canada	8	Ottawa, ON, Canada	7
Sherbrooke, QC, Canada	8	Calgary, AB, Canada	4
Granby, QC, Canada	7	Paris, France	4
Drummondville, QC, Canada	5		
Saint-Jérôme, QC, Canada	5		
Trois-Rivières, QC, Canada	5		
Laval, QC, Canada	4		
Shawinigan, QC, Canada	4		
<b>Total In Province Moves</b>	<b>334</b>	<b>Total Out of Province Moves</b>	<b>82</b>

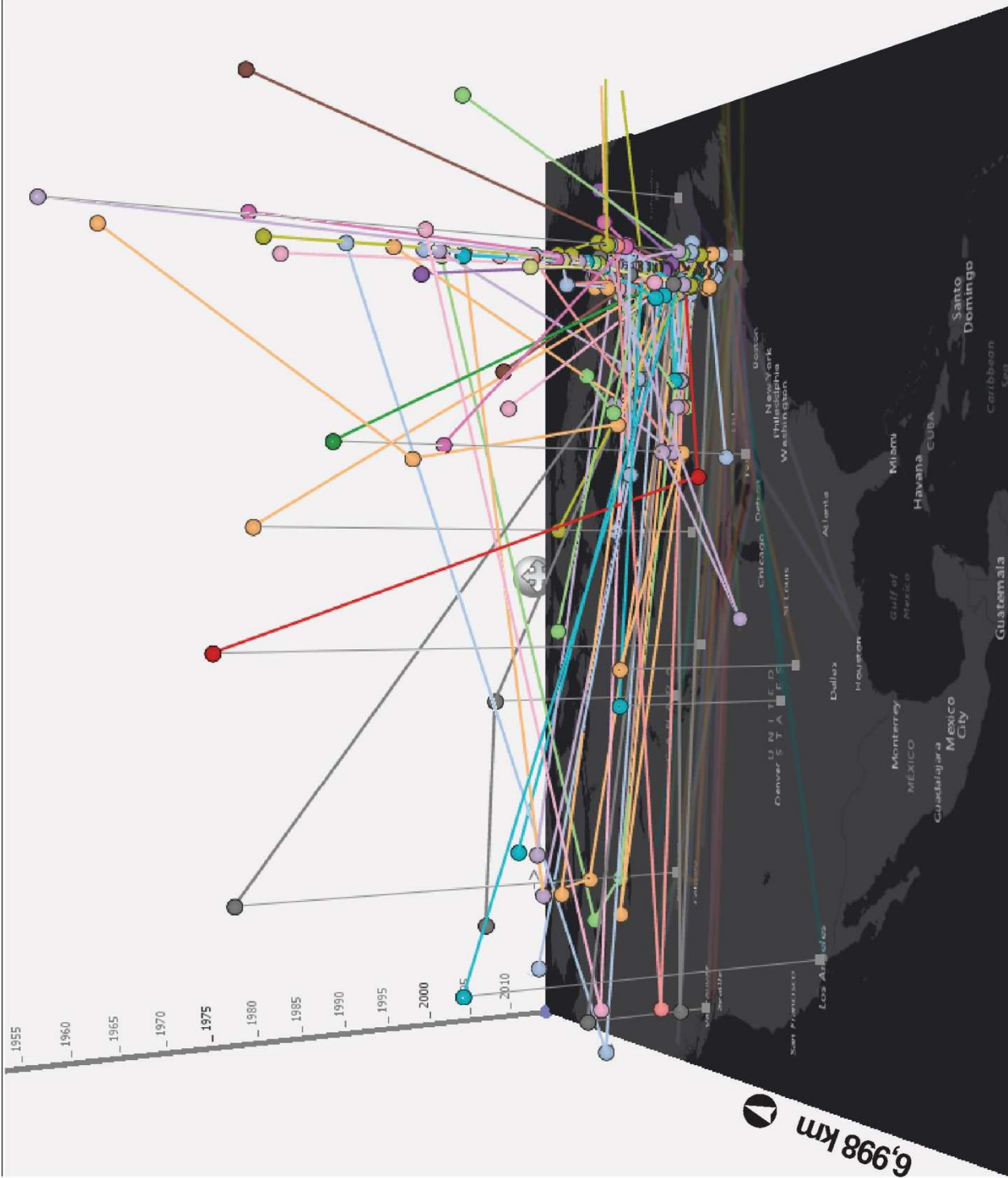
Maps, 15, 16, and 17 display migration pathways for participants enrolled in the Moncton Site. While Map 15 shows participants' space-time paths, Maps 16 and 17 consecutively show national and regional migrations pathways. In total, Moncton participants' (n=97) had 284 events (moves) constituting 16.2% of all moves in this sub-study. Participants moved through 81 different locations or about 15.9% of all migration sites (see Table 6). Top migration sites within New Brunswick include Fredericton, Saint-John, Bathurst, and Shediac. Much of this movement was along East Coast sites with fewer inland trips aside from Salisbury. Moncton participants have the highest proportion of short, interurban moves linked to people travelling through rural areas. Outside of New Brunswick, other East Coast sites like Halifax, Charlottetown, and Restigouche figured prominently. Montreal, Ottawa, and Toronto were also noticeable move destinations as well as both Edmonton and Calgary—interesting because this migration to the West was absent from the Montreal site.




Table 6: AHCS Moncton, Top Migration Sites

In Province Sites	# of Moves to	Out of Province Sites	# of Moves to
Moncton, NB, Canada	124	Halifax, NS, Canada	9
Fredericton, NB, Canada	14	Montréal, QC, Canada	7
Saint-John, NB, Canada	9	Charlottetown, PE, Canada	5
Bathurst, NB, Canada	4	Ottawa, ON, Canada	5
Shediac, NB, Canada	4	Toronto, ON, Canada	5
Miramichi, NB, Canada	3	Edmonton, AB, Canada	4
Salisbury, NB, Canada	3	Ontario, CA	4
Sussex, NB, Canada	3	Calgary, AB, Canada	3
		Nova Scotia, Canada	3
		Restigouche, QC, Canada	3
<b>Total In Province Moves</b>	<b>100</b>	<b>Total Out of Province Moves</b>	<b>185</b>

The combined moves of all Moncton site participants averaged 909.91 km (SD = 1,371.55 km). During the study period, an estimated 25% of all study participants had average moves below 128 km while 50% had average moves below 186 km speaking to a high number of short moves. At the upper threshold, 25% of the study population moved further than 941 km indicative of moves to western Canadian locations. However, there was almost a complete absence of moves to Vancouver which shows just how infrequent coast-to-coast migration is.

**MAP 15: AT HOME MONCTON SITE, PARTICIPANTS' MIGRATION PATTERNS, GENERAL SPACE-TIME VIEW**

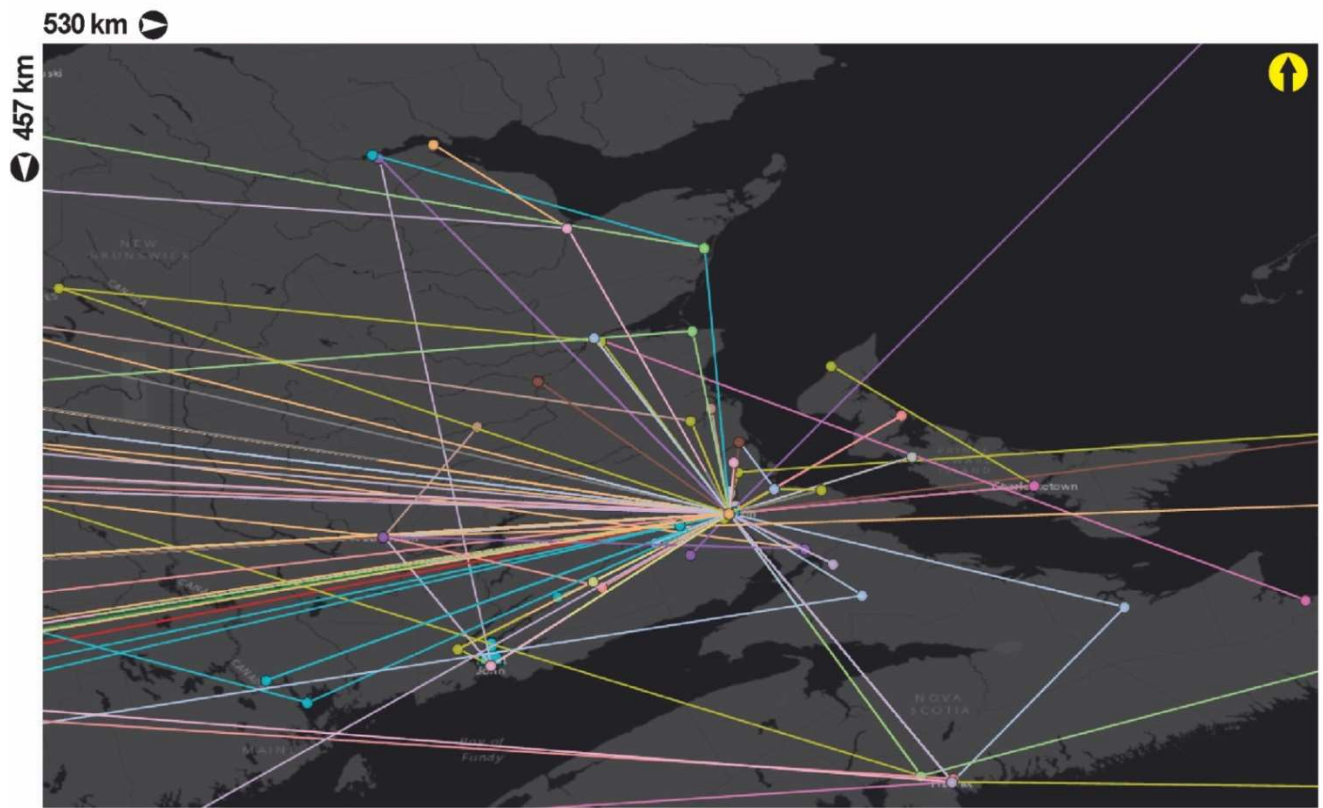
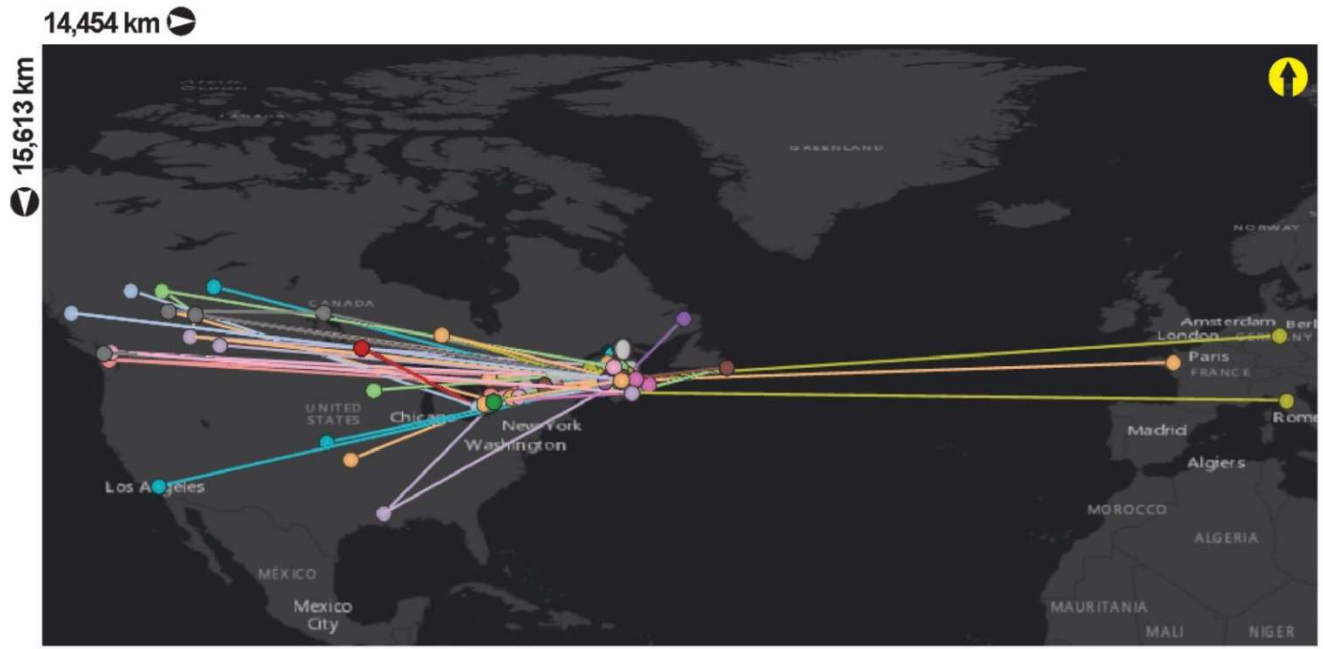


**6,998 km**   Space-Time Path  
 Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013), At Home/Chez Soi Demonstration Project on Mental Health and Homelessness: Mobility History.  
 Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).  
 Prepared By: Andrew Kaufman



MAPS 16 AND 17: AT HOME MONCTON SITE, PARTICIPANTS' MIGRATION PATTERNS



- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

Prepared By: Andrew Kaufman

### 4.3 Socio-Demographic Characteristics

Table 7, 8, and 9 display the move frequency, move distance, and duration of stays according to socio-demographic characteristics and a full suite of maps are included in Appendix G.

Table 7: Frequency of Moves by Site and Socio-Demographic Characteristics

Characteristic	Variable	Number of Cases	Mean Number of Moves	SD Number of Moves
Gender (Self Identified)	Female	182	1.81	0.80
	Male	424	1.89	0.83
	Non-Binary/Gender Queer	5	1.8	0.84
Ethnic Status	Ethnoracial (White)	480	1.9	0.84
	Ethnoracial (Non-White)	131	1.73	0.76
	Indigenous Status	122	1.84	0.84
Need*	Moderate	375	1.86	0.80
	High	236	1.86	0.85
	Top 10%*	43	1.86	0.80
Age (at enrollment)	≤ 34	257	1.83	0.83
	35-54	323	1.88	0.83
	≥ 55	51	1.78	0.76
Recruitment Site	Vancouver	137	1.82	0.88
	Winnipeg	119	1.93	0.85
	Toronto	120	1.7	0.71
	Montreal	138	2	0.79
	Moncton	97	1.92	0.81
	Total**	611	1.8	0.82

\*By service usage at baseline \*\* While 2,148 individuals were enrolled in the study, other demographic categories may not total 100% due to participants skipping questions.

There were no discernible gendered differences of movement found. While males had slightly more moves than female and non-binary counterparts did, a means comparison is needed to substantiate any differences. Maps 18 through 23 in Appendix G successively display male, female,

and non-binary participants' physical movement. There was a small sample of non-binary participants (n=9) which potentially resulted in fewer outliers skewing data than their female or male counterparts.

Table 8: Move Distance by Site And Socio--Demographic Characteristics

Characteristic	Variable	# of Cases	Mean Move Distance (km)	Move Distance SD (km)	Percentile 25 (km)	Percentile 50 (km)	Percentile 75 (km)
Gender (Self Identified)	Female	329	1,508	2,722	97	333	1,627
	Male	801	1,558	2,353	138	596	1,867
	Non-Binary/Gender Queer	9	575	1,055	72	334	368
Ethnic Status	Ethnoracial (White)	913	1,157	1,710	118	477	1,469
	Ethnoracial (Non-White)	226	3,067	3,973	241	1,195	3,690
	Indigenous Status	224	1,081	1,679	191	544	1,452
Need*	Moderate	698	1,673	2,651	135	550	1,929
	High	441	1,320	2,104	97	484	1,661
	Top 10%*	80	1,039	2,156	66	216	636
Age (at enrollment)	≤ 34	471	1,678	2,639	135	652	2,111
	35-54	609	1,449	2,346	123	505	1,676
	≥ 55	91	1,510	2,500	71	431	1,822
Recruitment Site	Vancouver	250	1,838	2,175	253	819	3,363
	Winnipeg	230	1,101	1,605	199	652	1,452
	Toronto	193	2,948	4,190	122	551	3,453
	Montreal	278	1,068	1,702	68	283	828
	Moncton	188	910	1,372	128	186	941
	Total**	1,139	1,536	2,458	128	520	1,867

Maps 24 through 27 in Appendix G successively display non-white and Indigenous participants' physical movement. Regarding ethnicity, non-white participants moved the furthest, potentially due to links with international migration as evidenced in Maps 24 and 25. Here, International moves (n=107) accounted for 6% of all moves within the study. International moves (n=107) were made by

77 participants. These can be disaggregated as follows: International to Canadian locations (n=78), Canadian to international locations (n=20); and international-to- international locations (n=9). At the same time, non-white participants had a slightly lower mean number of moves (see Table 7) while also residing longer in sites (see Table 9) than their white and Indigenous counterparts.

Table 9: Duration Spent in Location, by Site And Socio--Demographic Characteristics

Characteristic	Variable	# of Cases	Mean Time Spent (months)	Time Spent SD (months)	Percentile 25 (months)	Percentile 50 (months)	Percentile 75 (months)
Gender (Self Identified)	Female	315	95	139	12	36	120
	Male	760	95	137	12	36	120
	Non-Binary/Gender Queer	8	79	93	14	30	177
Ethnic Status	Ethnoracial (White)	863	89	133	12	29	108
	Ethnoracial (Non-White)	220	120	153	12	47	203
	Indigenous Status	208	82	130	11	24	108
Need*	Moderate	667	97	144	12	36	120
	High	416	91	126	12	35	120
	Top 10%*	76	76	102	12	36	102
Age (at enrollment)	≤ 34	453	85	106	12	29	120
	35-54	574	99	146	12	36	120
	≥ 55	87	132	212	12	36	132
Recruitment Site	Vancouver	236	94	122	12	36	144
	Winnipeg	219	131	125	10	24	108
	Toronto	187	112	156	12	48	156
	Montreal	268	101	147	12	36	120
	Moncton	173	83	133	8	24	84
	Total**	1,083	671	137	12	36	120

\*By service usage at baseline

\*\* While 2,148 individuals were enrolled in the study, other demographic categories may not total 100% due to participants skipping questions.



Of interest, Indigenous participants had virtually the same frequency of moves, move distance, and duration of stays as their white counterparts (see Table 9). Indigenous movers were primarily located in the Winnipeg site while migrating through central and western Canada (see Maps 26 and 27). This is likely due to both the presence of Indigenous peoples in Winnipeg as well as local site recruitment practices. These moves display cycles between Winnipeg, northern settlement, and reserve communities.

Need level refers to participants' service usage, physical health issues, mental health diagnosis, and time spent absolutely homeless. Maps 28 through 33 in Appendix G successively display the top 10% of services users at recruitment; and moderate need, and high-need participants' physical movement. There are little different appearances between these groups although the Top 10% of service users may make fewer long-distance moves and may not reside in locations quite as long as their moderate need and high need counterparts.

Maps 34 through 39 in Appendix G successively display participants' aged 18-34, 35-54, and older than 55, physical movements at the time of recruitment. While few distinctions can be drawn between the movements of old and young participants, a few points of comparison are apparent from looking at Table 7, Table 8, and Table 9. Participants older than 55 have resided in locations for longer than younger participants have. However, younger participants' have a higher frequency of moves and have moved further distances than older participants have.

## **5. Discussion**

Mapping and describing AHCS participants' physical mobilities allowed me to identify institutions, routes, sites, and jurisdictions as one set of actors constituting participants' migrations. Institutions

act on participants' mobilities by pulling people into specific geographic locations. This chapter finds that both correctional facilities (n=20) and psychiatric institutions (n=5) function as actors driving mobility in every study site. Prominent institutions in British Columbia include the William Head Correctional Institution on Vancouver Island, the Matsqui Correctional Institution in Abbotsford, and the Sunshine Coast Health Centre in Powell River. The Edmonton Correctional Institution for Women in Alberta also appeared. In Manitoba, Stoney Mountain Institution, a federal correctional facility, as well as the Milner Ridge and Headingley Correctional Centres, became geographic anchors. The Selkirk Mental Health Care facility also relocated a significant number of individuals. In Ontario, Kingston prominently figures as individuals are incarcerated there while Ganache and Restigouche in New Brunswick figure importantly in these carceral geographies. Like actors, these institutions relocated and concentrated AHCS participants into very specific settings. A qualitative examination would detail how these actors compose mobility or rather enforce particular mobilities through the institutional and logistical impositions of prisons.

For Cresswell (2010) mobility is channelled "along routes and conduits often provided by conduits in space" (p. 24). Routes enable mobility by physically linking urban centres acting to ease movement between sites. In both Ontario and Québec, there is a concentration of migration along transportation arteries including Highway 401 and Autoroutes 20 and 40. These physical routes also act to constrain and redirect mobilities. For example, Manitoba's highway system routes participants' movement through Thompson as they migrate between the northern and southern parts of the province. In another case, routes of international migration funnel newcomer participants into Vancouver, Toronto, and Montréal.

As specific locations, sites act spatially consolidate mobilities. Cities, metropolitan areas, regions, and provinces are sites acting at different scales. Sites act on mobilities via the built environment and their physical geographies and through their relations with people, objects, services, and ideas, among other things. To phrase this point succinctly, peoples' mobilities are impacted by the spaces in which they experience homelessness.

For example, individuals are residentially mobile through the greater metropolitan areas in Vancouver, Toronto, and Montreal—a trait not necessarily shared with an isolated city like Winnipeg. In Vancouver, this includes moves through Burnaby, Coquitlam, and Maple Ridge while in Toronto, this includes Brampton, Mississauga, Markham, and Western Lake Ontario region. In Montréal, individuals move through suburbs including Laval and Saint-Jérôme. The magnitude and proximity of places within metropolitan sites compound trans-local mobilities. Metropolitan sites enable movements longer than traditional residential mobilities but shorter than other interurban migrations.

AHCS participants' mobility patterns appear to take on broad regional appearances for each study site. Aside from major destinations like Toronto and Montreal, Vancouver site participants move through the west coast and British Columbia interior while Winnipeg site participants move within the prairies and western Canada. Toronto participants, aside from moves to Vancouver, are spatially focused in central Canada while Montréal participants, mainly, move within Québec. Finally, Moncton participants move through the Atlantic region although there is an interesting connection to Edmonton and Calgary. Movement through Northern Canada is largely absent from these maps which may speak to the regional dimensions of northern homelessness as discussed by Christensen (2012). Of note, the majority of moves for Vancouver, Winni1peg, Toronto, and

Montréal participants occurred intra-provincially. Moncton participants were more likely to move inter-provincially possibly speaking again to the way in which sites act via size.

This regionalism is reminiscent of transportation geographies finding that the volume of movement over distance declines as a function of distance (Cresswell, 2010). The further away sites are from each other; the less likely they are to interact through homeless mobilities. The regionalism of homeless movement also speaks to research that finds individuals remain within the jurisdiction where they become homeless (Parker & Dykema, 2013).

Many AHCS participants migrated across provincial and other jurisdictional boundaries. While participants from Toronto and Montréal frequently move within their provinces of Ontario and Québec, the top destinations for Winnipeg and Moncton participants were located outside of their provinces. These maps show individuals (n=77) emigrating from international locations to Canada (n=107) and migrating between international locations (n=9) before becoming homeless in Canada.

These cross-site migrations speak to how homelessness is neither a singular outcome nor sole provision of a site. The way AHCS participants' mobilities suggest a distributed route into homelessness is interesting when particular jurisdictions are framed as homeless epicentres. When looking at the total number of moves across study sites, fewer people move to Vancouver (n=194) than to Montréal (n=204), a surprising finding given the importance placed on Vancouver as a homeless destination.<sup>3</sup> That Vancouver does not jump out as a major destination is interesting in itself, given the prevailing narrative about the desirability of the city's climate, services, location, etc.

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<sup>3</sup> Winnipeg (n=180) and Toronto (n=185) were also remarkably close to having the same amount of participants' moving to them as Vancouver.

## 6. Conclusions

This chapter details the physical mobilities of AHCS participants through space and time. I describe the distance, scale, duration, and direction of movement. I detail how these qualities vary by study site and across socio-demographic characteristics. I find that there are different geographic patterns for each of the AHCS sites indicating how mobilities coordinate in different spaces. In this way, movement itself acts on participants' mobilities to create distinct mobility practices and experiences. I also find that more research is needed to unpack the relationship between social difference and mobility. My research approach did not include the means comparisons and regressions required to detail statistically significant relationships. More broadly, these findings create a basis for understanding physical movement as one actor constituting mobility. I identify institutions, routes, and sites as actors influencing homeless mobilities.

This analysis also serves a second purpose by applying recent developments in GIS GSTP approaches to mobilities research. I developed a research approach for visualizing longitudinal migration patterns from a large survey sample. By visualizing space and time together, these visualizations capture some of the complexity in AHCS participants' mobilities. This research strategy identifies actors I may have otherwise neglected with other mapping approaches. Despite this, GSTP approaches do not necessarily live up to claims put forth about being more sensitive to human's mobile lives (see Kwan, 2002): they are difficult to interpret when accessed by static rather than animated visualizations. Perhaps, this contribution comes in the way in which GSTP maps can be linked with and support other research methods. While these space-time maps describe the paths of migration, an examination of the qualitative reasons of why people move can detail these pivot points in people's lives.

# Chapter 6 - Phase II Results

## *The Actors and Relations of Homeless Mobilities*

### 1. Introduction

In this chapter, I analyze AHCS participants' reasons for moving. I describe these actors and explain how, rather than why, they influence homeless mobilities. I begin by summarizing my general findings regarding AHCS participants' mobilities. I describe the frequency of different qualitative codes while highlighting the principle migration drivers. Then, I detail thirteen of the more prominent family codes which, in turn, identify different actors and relations. When I discuss these actors and relations, I devote attention to describing responses which proportionately explain more of the sample variability. I conclude this chapter by considering three alignments of actors and relations so as to integrate participants' responses.

1,117 self-described reasons for were coded into roughly 100 different codes. These codes sort into 19 larger code families (See Figure 3). Code families include a range of actors and relations such as mental health, housing, gender and sexuality, and safety and security. The complete coding tree is displayed in Figure 4. Solid lines connote direct relationships between codes, parent codes, and family codes; dashed lines indicate a relation between different codes. Dashed lines also illustrate the connections between different codes in-line with a relational perspective of mobility.

### 2. General Findings

Five code families explain nearly 70% of the reasons that people moved (see Figure 3). People primarily moved for reasons related to social networks; places and sites; work, employment, and

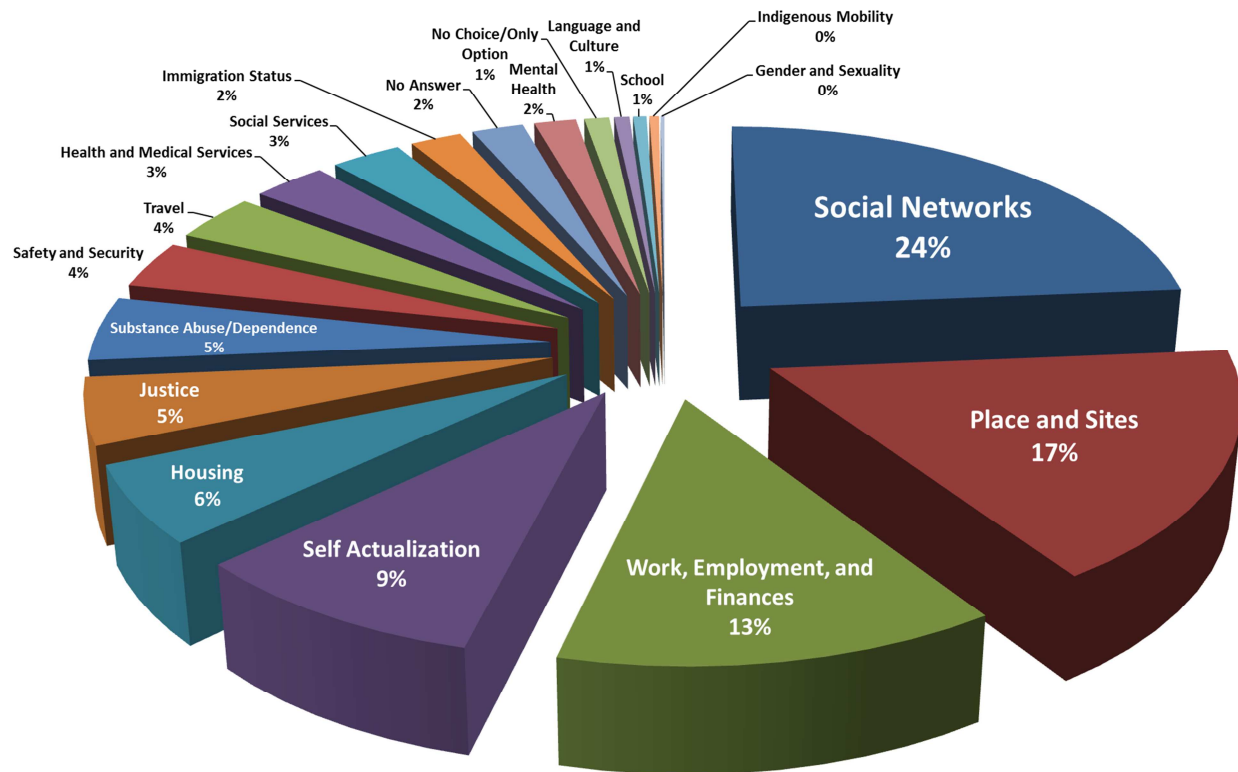


Figure 3: Reasons for Mobility, Family Code Frequencies

finance; self-actualization; and housing. I arrange the following sections by code frequency while detailing different sets of actors and relations composing mobility.

### 3. The Actors and Relations of Homeless Mobilities

#### 3.1 Social Networks and Mobility

This research finds that connections with parents, children, friends, partners, or general acquaintances were the principle driver of homeless mobilities. Approximately 24% of the AHCS population moved for reasons related to social networks (n=303). Physical movement is used to remain with, to go to, or to disengage from social networks. The reasons that people use physical movement to access or uncouple from social networks are displayed below in Figure 5. Responses are organized under three parent codes including family networks, broader social networks, and individual reasons.



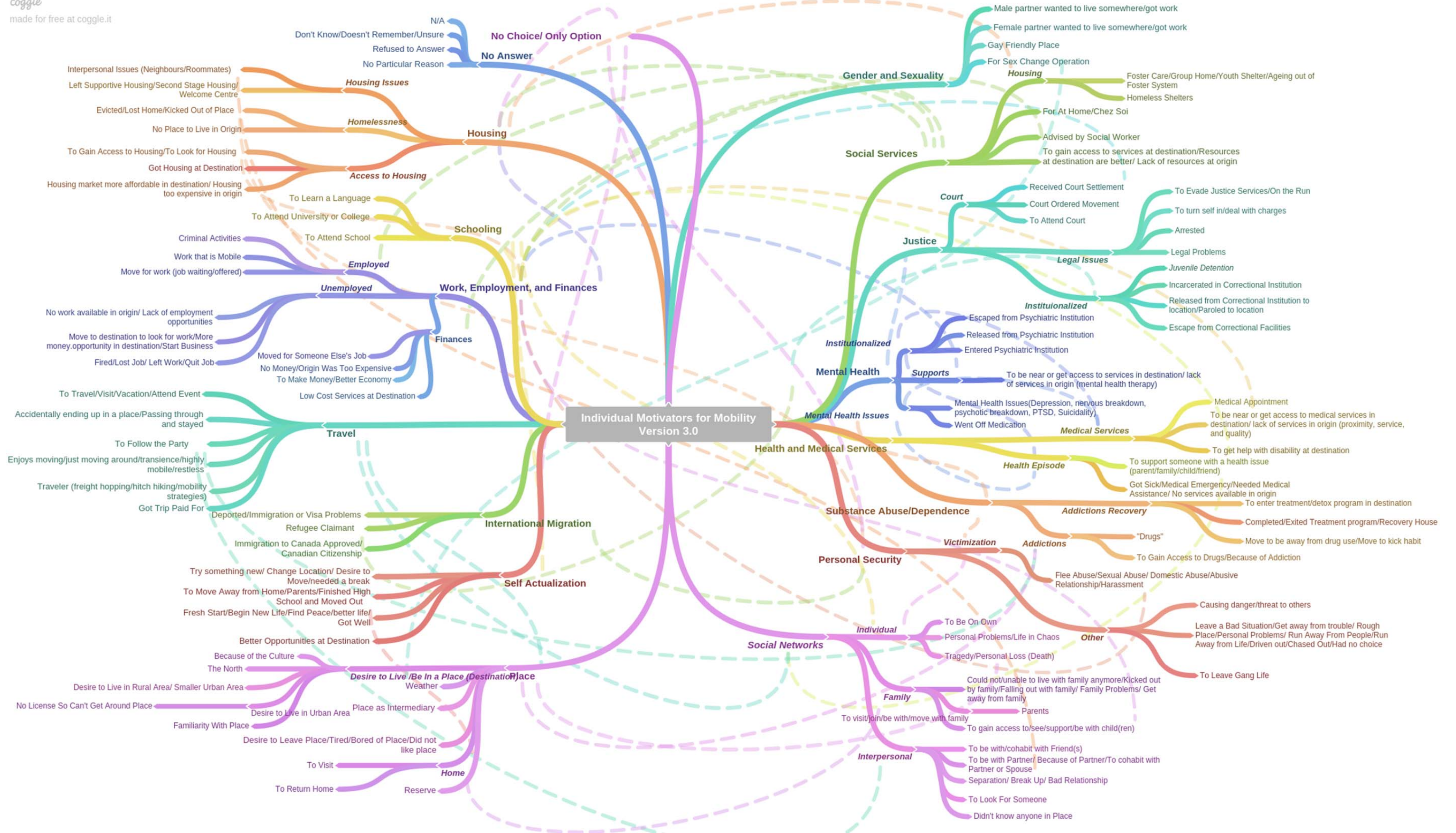


Figure 4: Qualitative Coding Tree



### 3.1.1 Familial Relations and Mobility

Families were frequently mentioned as reasons for moving (n=103). Participants move to be near their families: parents (n=29), children (n=20), siblings, or extended family. For example, one participant moved from Calgary to Fredericton because they “wanted to be closer to family.” Second, family acts to pull people as a matter of social support. One participant moved from Churchill, MB to Winnipeg “to be with family and clean up.” Third, these moves occur when families suggest a participant move in perhaps when children move-in to support ageing parents or children move for familial support when “[my] parents got housing.”

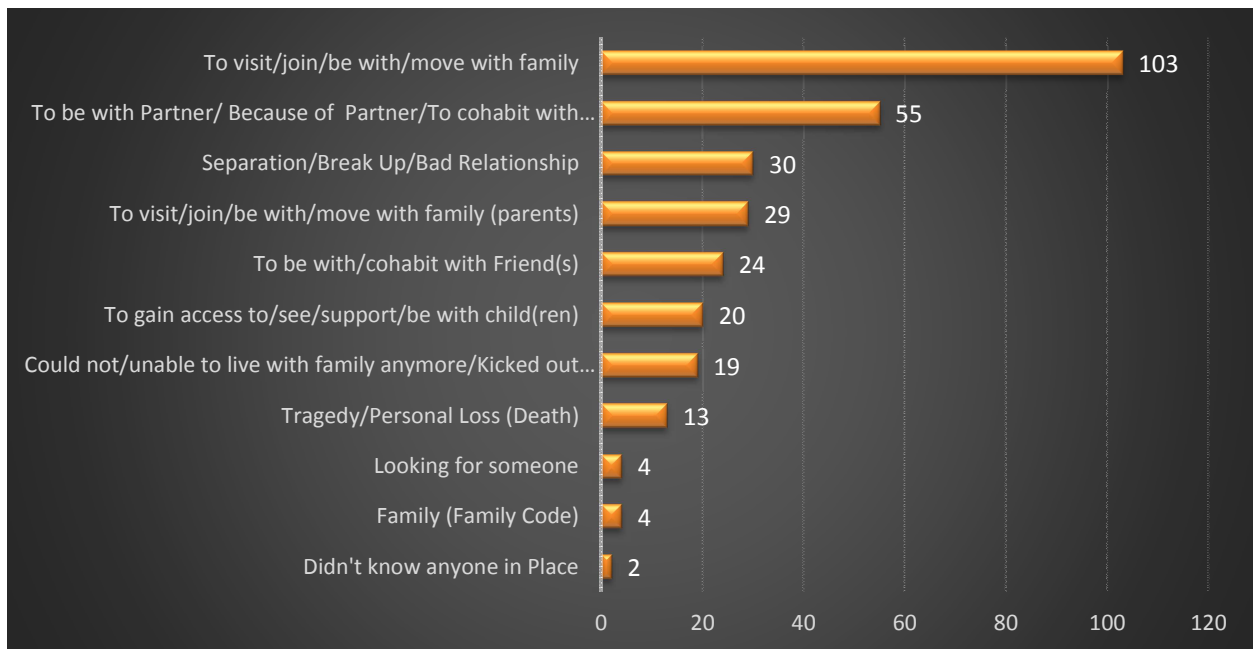


Figure 5: Code Frequencies, Social Networks, and Mobility

The relationship between mobilities, parents, and children is a common theme which speaks to a reliance on family housing. People may migrate at the behest of parents when “ses parents ont déménagé” (*his parents moved*). Other times, parents move to see, support, gain access to, or to be with their child(ren). For instance, one parent moved when they were “lonesome for kids” or another “followed my children to Winnipeg.” There are consistent examples of people migrating to

be within physical proximity to their family. Family becomes a spatialized actor pulling social networks together when they become socially or physically dispersed.

Alternatively, families push mobilities through relationship breakdowns, banishment, or simply when someone wants to get away from their family (n=19). Participants move because of interpersonal issues such as “problèmes avec frère” (*because of problems with brother*). Other times, participants’ families kick them out because of addictions or other life choices. In both these cases, mobilities occur as a form of banishment or exile. Conversely, people move to prevent family breakdowns and to preserve familial relationships when they do not want to overstay their welcome. In these cases, families are still a spatialized actor but one who pushes people through space in relation to substance abuse and mental health issues.

### **3.1.2 Interpersonal Networks and Mobility**

Social networks include more than immediate relationships with family members; friendships, romantic partners, and acquaintances all drive mobilities. AHCS participants often moved to be near or to live with their friends (n=24) whether these were moves from Oshawa to Ajax, ON because someone “wanted to live with a friend” or from Kamloops to Vancouver because their “best friend lived there.” As actors, friends can provide support, social capital, and housing through physical proximity. However, friendships are not always a one-way mechanism of support: one person moved from San Francisco to Ottawa “to take care of a friend.” Clearly, social networks act on mobility in multiple physical and social directions. Alternatively, people move when they lack a social network in their current location (n=2). Here, one moved from Penticton, BC to Vancouver because they “didn’t know anyone [*there because it was*] too small” while another moved from Portage la Prairie, MB to Vancouver because they “didn’t know anybody there.” These responses

speak to the relations between mobility, social networks, and sites of familiarity (or the desired potential for unfamiliarity).

Interpersonal networks also include the ways in which relationships with spouses and partners compose mobilities (n=55). New relationships drive people to migrate when someone “met a girl and moved with her” or when a participant moved because “voulait vivre avec copine” (*wanted to live with a girlfriend*). Longer established relationships act on mobilities as when a participant “bought a house with my husband.” The distance of these migrations ranges from short regional moves to longer trips from Ghana to Montréal. Gender did not play a determining role in whether participants moved because of their partners with equal response rates from male and female respondents. These romantic connections are not always positive. AHCS participants migrated when relationships fell apart, or they moved to save relationships from going bad (n=30). For instance, one participant moved from Maple Ridge, BC to Vancouver because their “husband kicked me out” while another moved from Nova Scotia to Toronto when their “marriage ended, and I needed a change.” In these ways, relationships act on mobility through physical proximities of attraction and distances of separation.

While past research has identified homeless individuals’ social networks as composed of friends, partners, and family members—these networks also include people’s connections to service providers and institutions. For some, case managers and front-line service workers become familiar points of contact, acquaintances, or friends—especially true for isolated individuals. Service workers constitute social networks when they advise people to move (n=1) and when people move to access services (n=2). In this way, these relationships mimic friendships or family networks from which participants can access social capital.

### **3.1.3 Individual Relations and Mobility**

Social networks act on mobilities through absences and losses. Personal losses of family, friends, partners, or acquaintances form social voids where mobility can be used as a means of grieving or coping (n=13). One participant moved “to bury [my] mother and daughter” while another’s wife died and they needed a change. What may be different for the AHCS population is the extent to which mobilities are motivated by personal tragedies when compared to a general housed population. For example, responses like “[my] cousin [was] murdered, needed out” or “my daughters got slaughtered” indicate an acute level of violence and trauma experienced by some participants. This finding echoes the general experiences of all AHCS participants when “about 62 per cent, 55 per cent, and 38 percent reported being emotionally, physically or sexually abused in childhood” and 36 percent of participants reported experiencing domestic violence (Goering et al., 2014, p. 16). In this way, the relations between social networks and mobility are mediated by tragedy and trauma.

## **3.2 Sites, Places, and Mobilities**

The second leading driver of homeless mobilities is the influence of sites and places on migration (n=200). Primarily people move because of a desire to be in or out of a place. By moving, people hoped that could address a perceived lack (see Figure 6). Often people were drawn to specific sites whether it was home, a place of familiarity, a specifically sized city, or a reserve. To a lesser degree, some places become liminal locations (Hutchins, 2013) as AHCS participants move through them as intermediary steps to relocating elsewhere.

### **3.2.1 Moving Home**

Home is a powerful location that works in tandem with family (n=59). While home may be related to family, it also has certain spatial considerations. When a place is understood as home, it indicates a connection to a site accompanied by a sense of comfort in that place. People temporarily relocate

“to see [their] hometown” or to “to see home after being released” from an institution. Clearly, there is significance to these places when people return home and explain their moves: “Winnipeg is where I was born” or “I was born and raised there.” Home is indicative of a place of familiarity, a closely related reason for which people move (n=20)—speaking of safety, connection, and supports provided by certain sites.

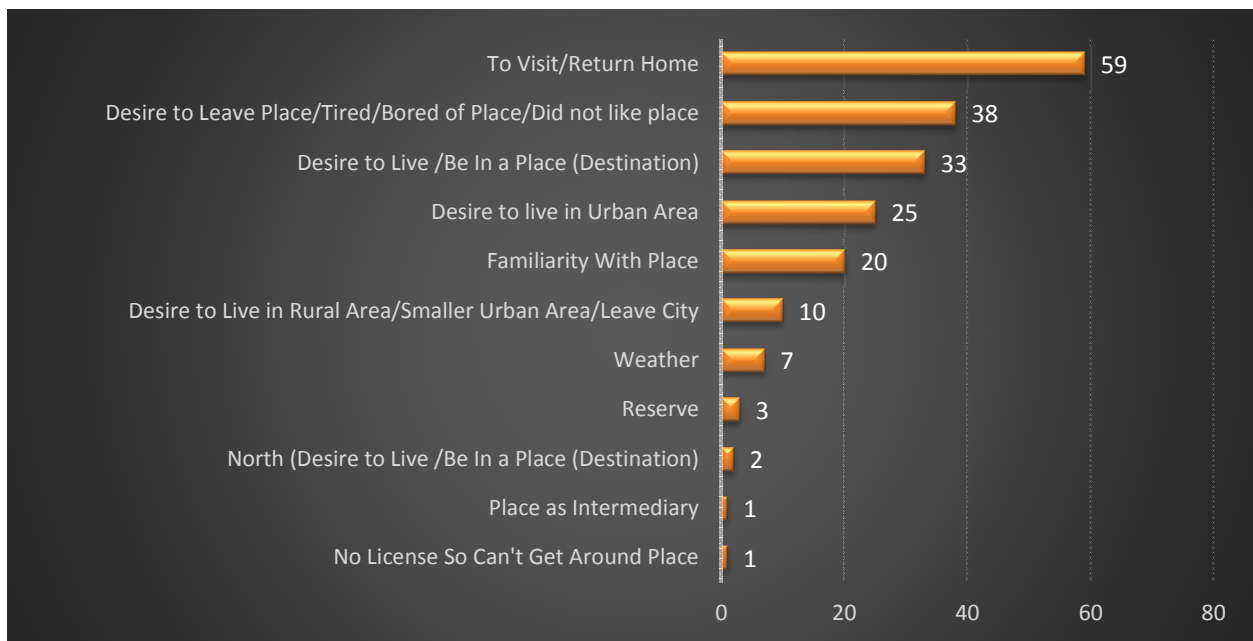


Figure 6: Code Frequencies, Mobilities, Place, and Sites

### 3.2.2 Moving to Places

People also move for change. Many participants explained that they moved out of a desire to live-in or be-in a certain place (n=38). The specific attributes of sites including proximity to nature, weather, or resources attract people. Regarding nature, one person moved from Kelowna, BC to Vancouver because they “wanted to be by the Ocean” while another simply moved for “nature, bohème.” Other times, participants moved for better weather conditions (n=7). Typically, these moves are to a “warmer place” or because the “previous place too cold” as in the case of one participant who move from Nairobi, Kenya to Saskatoon, SK, to Los Angeles, CA, before finally

settling in Vancouver. In spite of these cases, weather does not play as dominant a role in driving homeless migration as popular sentiment suggests: only 0.5% of all responses relate to weather.

Particular places draw participants in other ways such as in the case when “Toronto is a safe place for me” indicating a sense of comfort with certain places. Another participant spoke of a similar move from Victoria from Nova Scotia “in order to show [my] daughter there was more to the bad neighborhood they were in...[I] had family there.” Here places, sites, safety, family, and parenting come together in a move. Other times the relations between sites and substance availability caused people to move as in the case of a participant who “came to Vancouver for the heroin” from Toronto. Together, sites and places contain specific attributes that relate to personal desires, networks, and needs to enact particular mobilities.

This desire to live in certain places can also be disaggregated by those individuals attracted to living in urban areas (n=25) who seek out cities for a “bigger music scene”, who are “attracted to the city”, or who felt their previous location was “too small.” These movements speak to potential connections and support that larger centres offer. Other times, urban life itself is a draw as in the case of one individual who moved to be in a “ville vivante” (*vibrant city*). Conversely, some have a desire to leave the city and live in smaller urban or rural areas (n=10). Apparently, the size of cities is not always a positive attribute for those that felt “Calgary was too big” or “Victoria was too big.” Here, mobility almost becomes a form of rest seeking when people move to “get out of the city” possibly to a “small, quieter town.” Whether drawn to urban or rural settings, places act on mobilities through the opportunities that they provide.

### **3.2.3 Mobility as Ennui**

Mobility can also be a form of ennui when people leave a place because they tired of it, unhappy, or simply do not like it. Some move because they find a place “too boring” a thought shared by one Spotaweyak Cree Nation resident who said that there was “nothing to do on reserve.” Places can prompt mobility when people get tired of a site. For example, one participant got “sick of Vancouver” while another suggests that the “city of St. John’s [was] too crazy.” Sometimes, participants move because “didn’t like people in Toronto” suggesting links between social networks and places. At times, sites are associated with certain lifestyles and individuals leave places like Sagkeeng First Nation “to get out of rez life” or leave Vancouver to “stay away from the Downtown East Side.” The reserve system functions as an important site of mobility for some Indigenous participants (n=3) which confirms literature concerned with Indigenous migration (Distasio et al., 2013; Peters & Robillard, 2009; Peters & Starchenko, 2005; Skelton, 2002). Mobility as ennui speaks to a feeling of dissatisfaction with place brought on by any number of different relations; it displays how migrations can be driven by a subtle weariness and discomfort arising from certain locations.

### **3.3 Mobilities, Work, and Personal Finances**

While 93% of All AHCS Participants (N=2,148) were unemployed when they entered the study, the majority had experience working full-time in the past (Goering et al., 2014). Likewise, work, employment, and personal finances drove thirteen percent of all moves (see Figure 3). For those transitioning in and out of homelessness, work can refer to involvement in the formal labour market; or work can be expanded to included activities outside of formal labour market participation.

### 3.3.1 Mobility and Labour Market Participation

At the urban scale, mobility and homelessness relate to housing and transportation. While AHCS participants had a diverse array of income sources, for those grappling with homelessness, work often takes the form of precarious labour such as day labourer positions. The precarity of these employment positions exists in relation to the difficulties that individuals face in getting transportation to jobs and in being hired without a fixed address (Evans & Forsyth, 2004). This precarity is directly related to poverty and the wage gap that exists with social supports that are clawed back as personal incomes rise—a condition which stifles recovery. Precarious labour positions include participants moving to Kelowna, “to help with the fires,” or one individual moving to Vancouver, “to squeegee.”

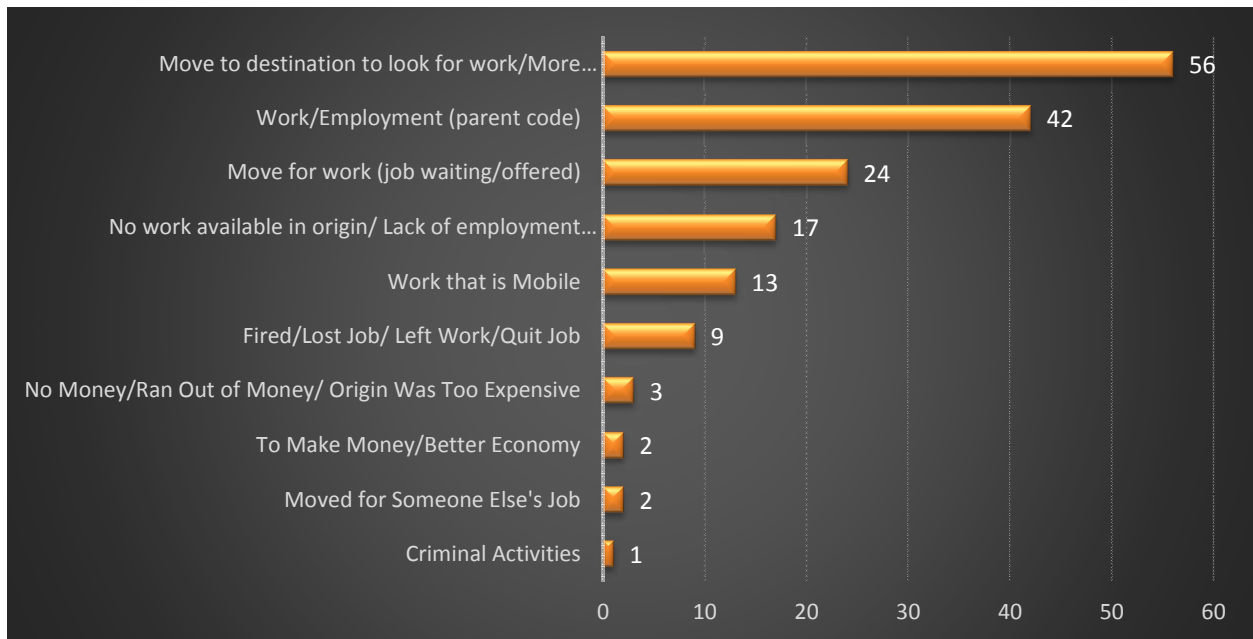


Figure 7: Code Frequencies, Mobilities, Work, and Finances

Legitimized work drives mobility when it pulls individuals to migrate between locations, when jobs are themselves mobile when individuals leave work because of health issues, or when employees



leave low paying jobs to relocate for better work prospects (Snow & Anderson, 1993). At times, people moved when a job was waiting, offered, or guaranteed (n=24) or to look for work (n=51). For example, participants moved to Pukatawagan, MB “to substitute teach,” to South Korea, “to teach English,” to Fort Knox “for U.S. Army Training,” or to Vancouver to “work for a Japanese company.” Work can also be mobile (n=13), as in the case of those who were “working as a trucker,” or “employé de danseuse” (job as a dancer), or for those working in circuses and fairs. Participants also relocated with partners who got work (n=2) such as when their “husband got work in Toronto” or their “husband got work in Waterloo.”

This migration speaks of the demand for a mobile workforce that self-regulates with different labour markets. For instance, the lack of access to work in certain places drove individuals to relocate (n=17) when there were “no jobs in Elliot Lake,” “no work in Israel,” “no jobs in Bathurst,” “pas de travail en Alberta” (no work in Alberta), when people “couldn’t find work in Halifax,” or when people “couldn’t find work in Elkhorn.” Others explain that work in regions dried up: “oilfield work ended.” As an actor, labour markets, particularly those reliant on the mobilization or extraction of resources, take on multiscale and dispersed qualities which rely on mobile bodies.

### **3.3.2 Unemployment**

The majority of AHCS participants’ incomes were derived from social assistance at the time of recruitment. Unemployment is a component of mobility which speaks to the relations between poverty, finances, jobs, and social services. For instance, some may move to “find work”, but many more speak to the complexity of losing work and its relationship with mental health issues and major life events. People report that they lost their jobs when they had a “mental health crash” or when “life was in chaos” so they “quit work.” Unemployment affects personal finances causing

people to move for “financial reasons” when individuals “ran out of \$\$” or when cities like Toronto were “too expensive.” Together, these mobilities speak to how the urban restructuring of cities impacts both affordability and migration.

### **3.3.3 Survival as Work**

Feminist theorists expand the definition of work beyond conceptions of formal labour market participation (Federici, 2012). AHCS participants’ responses extend this definition of work to include their active campaigning for health and social supports (see Figure 8). The chase for social services and housing becomes a job unto itself. Being homeless takes a lot of work, counter-intuitively requiring some degree of engagement with state institutions designed to act as the interface of social services.

Scholars have discussed daily mobility patterns as survival circuits and as a type of work when individuals actively seek resources (Jocoy & Del Casino, 2010; Wolch et al., 1993). Acknowledging that social support payments are the dominant form of income for AHCS participants (MHCC, 2012), an extended definition of work includes the active campaigning that individuals undertake to access resources and services. Participants move to qualify for social assistance payments (n=27), to gain access to medical service (n=17), to receive mental health supports (n=4), and to consult housing services. These movements take time, planning, and resources—these moves take work.

Individuals relocate based on differences in supports between jurisdictions when surviving. People (n=4) explain that they relocated to Vancouver because “disability benefits are better in BC” or because there are “better supports for homeless in Vancouver.” These responses speak to the way in which individuals work to navigate support systems while actively campaigning for themselves. Survival work has geographic patterns when people relocate from rural or northern areas to urban

centres. For example, one participant moved to Winnipeg because there are “not enough mental health supports” in Garden Hill, MB while another moved from Miramichi to Montréal to “consulter médecin spécialiste” (*consult a specialist*). People invested time and energy as they sought out the best possible circumstances.

Work includes the time and movements invested in supporting connections with family members. At times, participants support members of their social network as they deal with a health concern. One person moved, “pour prendre soin de sa mere” (*to take care of their sick mother*). Mobilities relate to the desire for family reunification as when people move to care for their children. Many participants in the AHCS project have been both in the foster system and have children involved in the foster system. Repairing these relationships involves an inordinate amount of work and the engagement with procedural hurdles that require both time and movement speaking to the relations between family, work, and services.

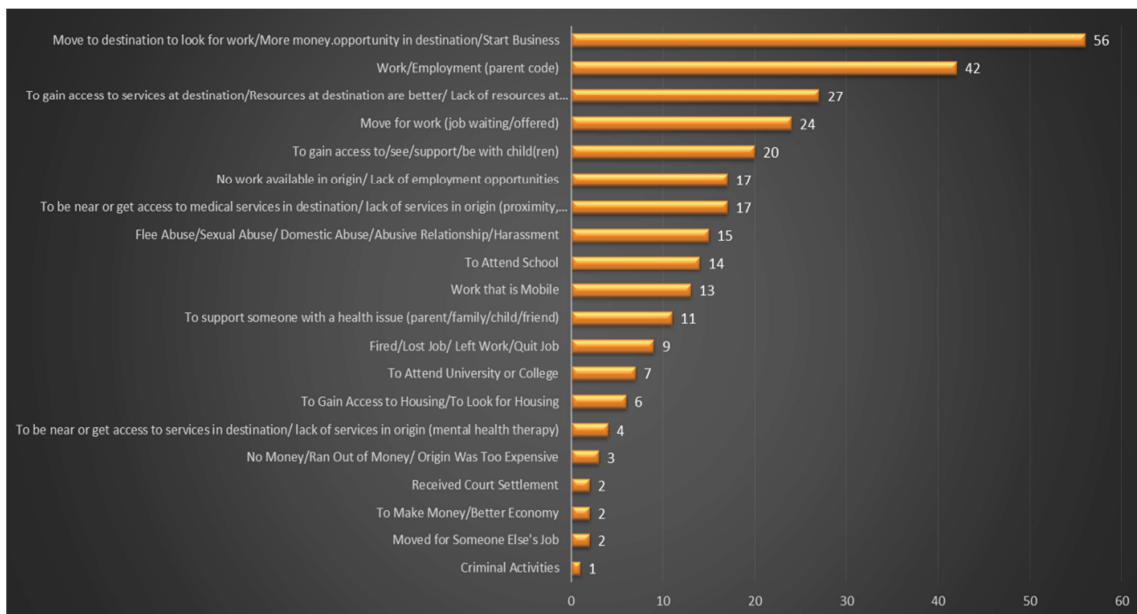


Figure 8: Code Frequencies, Expanded Definition of Work, Employment, and Finances

Work includes grey market employment such as the income derived from criminal activities. Illegal work drives migration when people relocate for transactions as in the case of a move from Prince Albert, AB to Calgary. Participants also moved to access gang-related networks, to escape from law enforcement, or to flee for personal safety when deals went wrong.

Work, non-work, and an extended understanding of work are important components of mobility. Materially, there is an interplay between provincially coordinated social service provision and participants' financial stability. There are close relations between the labour market, work type, and mobility. We see relations between housing, precarious employment, and migration. Social networks, sites, and services act together here as well. Through these moves, participants themselves show initiative and personal drive.

### **3.4 Mobilities of Self-Actualization**

While Kellerman (2006) describes a need to move for further information out of curiosity, this does not adequately explain the large number of moves (n=117) driven by a desire for personal change, growth, or due to the completion of one aspect of life. Self-actualization describes a set of responses displayed in Figure 9 and "refers to the person's desire for self-fulfillment, namely, to the tendency for [people] to become actualized in what [they are] potentially" (Maslow, 1943, pp. 382-383). Maslow's theory of self-actualization has been developed to describe an ongoing process of development driven by personal desire and motivation (Beitel et al., 2014; Leclerc, Lefrançois, Dubé, Hébert, & Gaulin, 1998; A. H. Maslow, 1955). As of yet, this literature has not been integrated with mobilities research.

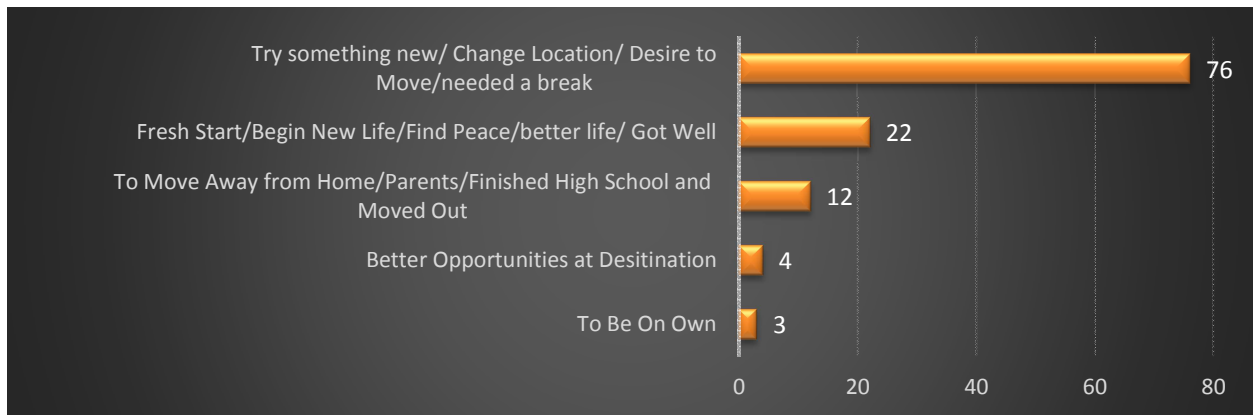


Figure 9: Code Frequencies, Mobilities of Self-Actualization

Some people moved for a desire to try something new in a different location (n=76). One person moved from Vancouver to Winnipeg because they “wanted a change [and] was bored” while many others indicated they wanted a change or a fresh start (n=22). For these moves, mobility is constructed as a tool which produces de facto change while also creating a temporal and physical break between periods in people’s lives. These breaks can be closely related to place and sites when people “need a change of scenery,” need to go “somewhere different”, or when they more directly want to leave a specific location wanting “faire changement de Montréal” (*change from Montréal*).

Mobility can constitute a fresh start for individuals seeking to rebuild their lives. People move from Sackville, NB to Moncton “to begin a new life” or from Mission, BC to Chilliwack “to find peace.” These fresh starts often start with people exiting a health or justice institution when “they got well” or when they wanted “to start anew.” Other times, these fresh starts occur for individual reasons (n=7) like participants’ desire to be on their own (n=3). For example, young adults move away from home and their parents, often after they’ve graduated from high-school (n=22). Mobilities of self-

actualization also manifest when individuals move to attend school, college, or university (n=20) in a different location.

Other times people need change to escape issues such as when one person moved from Drummondville, QC to Montréal “pour quitter la stigmatisation” (*to escape stigmatization*) or when someone moved from Toronto to Vancouver, “escaping the scene [for a] new start.” Geographical distance and mobility can people a semblance of control in changing their lives. individuals control their mobilities so as to create positive change within their lives or to escape negative circumstances. When self-actualization drives mobility, it suggests that personal agency still relates to social networks, places, and sites, and to personal resources and histories.

### **3.5 Residential Mobilities**

Perhaps more so than other populations, movement is used by AHCS participants' as a solution to housing need. This section finds that housing is an important component of migration (n=73). The responses detailed in Figure 10 show how housing acts to both push and pull AHCS participants between different locations. In this section, I describe how homelessness, housing loss, and a lack of affordable, appropriate and quality housing drive movement.

While this data does not illustrate how urban restructuring can influence housing mobilities, it does display that a lack of housing pushes people to migrate (n=43). In the most direct sense, this mobility is driven by periods of homelessness (n=16). One individual moved from Woodstock, ON to Toronto because he “was homeless so [he] came to [the] city.” This reason for migration became a common attribute of people coping with homelessness: the promise of housing in another location is a key reason to move (n=8). This notion is supported by other moves where someone is “offered

housing on reserve” when they “received housing in Toronto” or when “pour de l'hebergement gratuit” (*for free rent*). In these three examples, the promise of housing pulls individuals.

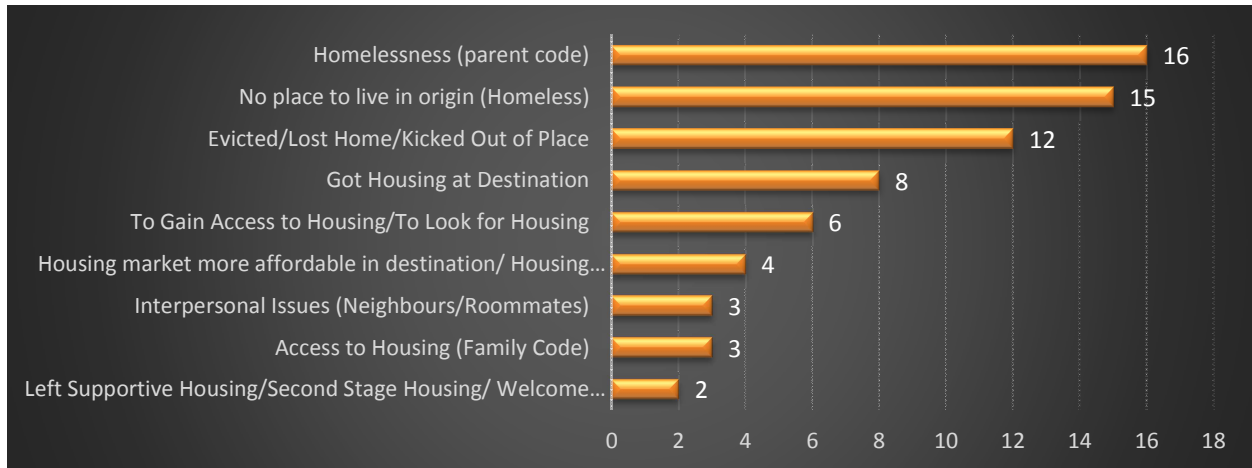


Figure 10: Code Frequencies, Mobility, and Housing

People also move when housing is lost, unavailable, or when current conditions are no longer acceptable. A number of individuals spoke about housing loss from evictions or when they were kicked out (n=12). For one man, this involves a shorter move from Markham, ON to Toronto when he “got kicked out of the house” while for another participant, it was a longer move from Fort Alexander, MB to Winnipeg when he “got kicked out of the reserve.” These two examples speak to the relations between mobility, housing loss, and conflicts within social networks. Indeed, one participants’ story reveals some of the other factors precipitating these evictions and their subsequent impacts who “durant sa jeunesse, il a habité dans un village à Sorel, mais comme il volait, sa mère l'a expulsé de chez lui et c'est comme ça qu'il a commencé à connaître les refuges pour jeun” (*In his youth, he lived in a small town in Sorel, but because he used to steal, his mother kicked him out. This is how he came to know youth shelters*). In this example, relations between home, parents, deviant behaviour, housing loss, and shelter availability shaped his encounter with mobility.

Housing loss is not always the results of interpersonal conflict; housing markets themselves precipitate mobility. One individual moved from Belleville, ON to Greater Napanee, ON when the house he “rented was sold” while another participant moved from Saint-Lambert, QC to Montréal when “bloc appart. changé en condos” (*their building was turned into condos*). Both of these responses speak to how AHCS participants are vulnerable to fluctuations in housing markets. Indeed, some participants agreed (n=4) that they moved to access more affordable housing markets—two of these participants left Vancouver while another left Abbotsford, BC.

Lastly, people moved when their housing conditions were no longer suitable. For some, this was due to interpersonal issues with other tenants (n=3) while for others these moves occurred when they exited supportive housing (n=2). This section describes how housing acts on mobilities through homelessness, the promise of housing, and the loss of housing. What remains common, through all of these responses, is how residential mobilities become a tool of survival as individuals implement geographic solutions to cope with the need for shelter.

### **3.6 Juridical Mobilities**

This section finds that the criminalization of poverty, punitive policies, carceral mobilities, as well as other justice-related phenomena, act on homeless mobilities (n=63). There are particular carceral mobilities mediated by institutions and coordinated by race. Legal geographies are also driven by policing, and the court system. The frequencies of coded responses are displayed in Figure 11.

Juridical mobilities were primarily guided by incarcerations (n=24) and releases (n=21) within and from correctional facilities. Here, inmates may be transferred between cities, regions, or provinces while they are incarcerated. For some, this correctional relocation meant long distance relocations



from Leduc, AB to Stony Mountain, MB when someone was “incarcerated for [break and enters]” or from Winnipeg, MB to Prince Albert, SK. Mobilities occur at the initial phase of incarceration, but inmates are also mobile between locations while imprisoned. Where one person was transferred from Saint John’s, NB to Springhill, NS another was transferred from Madawaska Correctional Center, NB to Miramichi, NB. These moves speak to the ways in which juridical mobilities resettle people as they are released into new geographic locations from their original sites of arrest. Though, federal corrections are required to provide released inmates transportation home, of the 21 moves upon release from correctional facilities, only two individuals moved to urban centres in other provinces which were not near where they were jailed. One participant explained that he “ended up in Winnipeg as a direct result of incarceration” before that he had lived on East Coast his whole life. The relationship between physical and social mobility surfaces here when many struggle to find stable housing upon exiting correctional institutions.

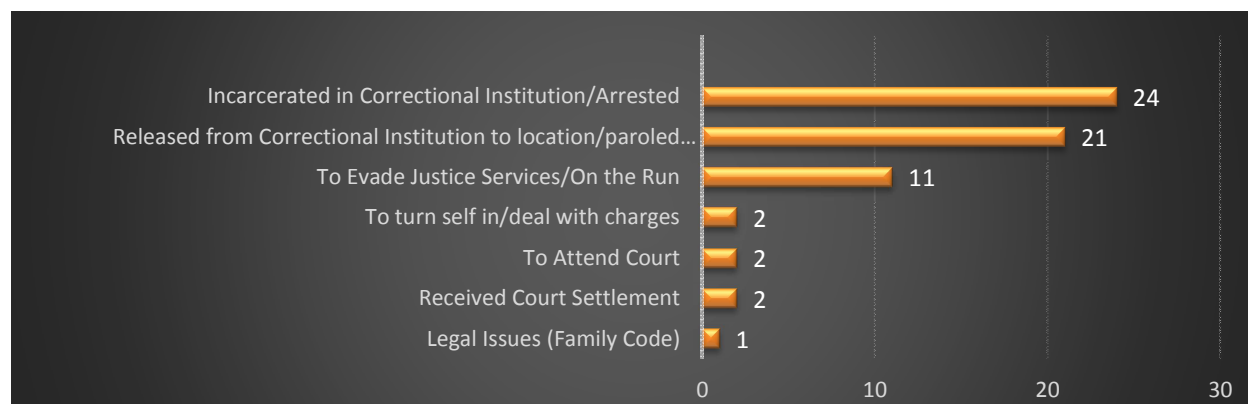


Figure 11: Code Frequencies, Juridical Mobilities

Of the 34 participants moving through correctional facilities, seven involved Indigenous participants while five involved non-white participants: 35% of these carceral mobilities were experienced by

non-white participants. Gender breakdowns of incarceration were not mimicked when seven involved female participants while 27 of these moves involved male participants.

This survey data shows that justice services guide mobilities of escape when people attempt to flee criminal charges (n=11). Seven of these eleven cases involved individuals crossing provincial boundaries while one individual fled from the United States to Canada. Yet for some (n=2), fleeing was not considered, and they chose to relocate in order to turn themselves into police or to deal with charges. Through all of these juridical mobilities, justice services drive homeless movements through both material policies of containment and immaterial atmospheres of incarceration

Situated within larger urban centres, justice services and courts also work as an actor driving mobility when people move to attend court (n=2) or to deal with legal issues (n=2). Yet, courts can also enable mobility when individuals receive settlements (n=2) such as in the case of one man who moved from Winnipeg to Regina after he “received residential school money” or a woman who moved from Vancouver to Edmonton when she “got settlement [and was] offered [an] apartment.”

### **3.7 Mobilities and Substance Abuse/Dependence**

Substance and alcohol abuse and dependence can influence mobilities when people move to access substances or treatment (n=3). A number of different addictions related mobilities were reported. The substance-related mobilities (n=60) displayed in Figure 12 uncover a picture where personal agency, treatment programs, places, as well as substances, compose homeless mobilities.

AHCS participants relocated to escape influences associated with addiction (n=29). They may seek out locations that prevent access to triggers or prevent access to the substances themselves. One woman moved from Sainte-Anne-de-la-Pérade, QC to Montréal to “changer mode de vie,

consommati toxicom" (*Change of lifestyle, drug use*). Similarly, a man left Prince George for Vancouver because "there were too many drugs and guns."



Figure 12: Code Frequencies, Mobilities of Substance Abuse/Dependence

Some participants explain that they move "to get away from drugs and friends." This is a frequent element of these mobilities when people move "to get clean", to "get away from drugs", or because they were "tired of the drug scene." For some participants, these moves also entailed entering detox programs or substance treatment centres (n=14) while other moved when they had successfully recovered and left a treatment program (n=7). These cases again speak to the use of mobility as a geographic solution to personal issues and as a physical path to recovery.

### 3.8 Mobilities of Personal Security

Many participants moved for reasons related to personal security (n=45). Figure 13 displays the frequencies of coded responses related to personal safety. Here, people (n=27) moved to leave bad situations, to get away from trouble, or to leave rough places. One participant moved from Québec City to Montréal because of "problème avec un shylock" (*a problem with a debt collector*) while another moved "to get away from crime in Winnipeg". For some (n=2), mobility is a way to exit ties with gangs and start anew.

Mobilities of survival specifically surface when participants move to escape abuse (n=15). Participants move to “quitter violence conjugale” (*leave domestic violence*), or because they “couldn’t live with molestation”, or because they had, “problèmes en ville harcèlement” (*problems with harassment in the city*).

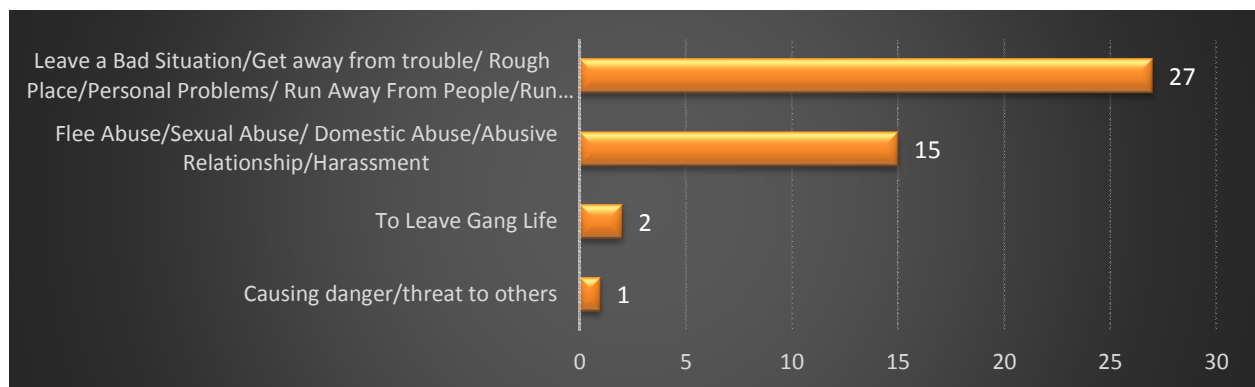


Figure 13: Code Frequencies, Mobilities of Safety, and Personal Security

These mobilities are channeled through routes of escape that can sever individuals’ connections to social networks, places of familiarity, and health, justice, and social services. Where one participant explained that “I was physically abused and moved to Winnipeg to leave an unsafe situation” another “Lived in Northwest Angle for 12 months in 2003 to be with [my] daughter’s father [but] domestic issues made [me] move back to Shoal Lake.” Women and racialized peoples were disproportionately represented in these mobilities of personal security. These gendered mobilities occur not only because of the violent actions of partners but also because of inadequate supplies of victim services, judicial supports, and other pathways of survival. Here, one female participant “committed bank robbery intentionally in order to be able to escape from ex-spouse.”

Of these moves, ten occurred from participants leaving abusive partners. Furthermore, of the 13 unique participants who fled domestic and sexual abuse, 64% were female (64%), and 54% were non-white (Indigenous=5 and non-white=2). That women specifically must flee violence indicates

that patriarchal alignments coordinate these mobilities and when the expulsions detailed above were all experienced by Indigenous women, it speaks to the simultaneous coordinating influences of systemic racism and settler colonialism. Together, these responses detail the peripheral conditions many AHCS participants experience when they have leave areas that become unsafe as a matter of survival.

### 3.9 Mobilities of Travel

Participant responses (n=45) displayed in Figure 14 complicate the binary between migration and travel. People travelled (n=19) to sightsee, visit, or for specific events. Travel also relocates individuals. Several participants (n=8) ended up staying in a location while they were passing through it. People get stuck in places when they run out of money, when they connect with a partner, or when medical circumstances prevent them from moving on. Subsequent issues in these places can exacerbate instability and push people into homelessness.



Figure 14: Code Frequencies, Mobilities, and Travel

There were also some individuals who fell under the traditional bracket of nomadism. Some suggest they enjoy being on the move or that they get restless staying in one place for too long

(n=11). While some move to follow the party (n=2), others consider themselves travellers utilizing freight hopping and nomadism as a lifestyle (n=4). All told, travel serves both as a tool for journeys but also as a mobile life pattern developed from unique circumstances.

### 3.10 Mobilities of Health and Health Care

Health-related mobilities act as individuals move to access health services. This section engages with AHCS Participants' mobilities of health and healthcare (n=39) finding three larger themes guiding these moves as displayed in Figure 15.

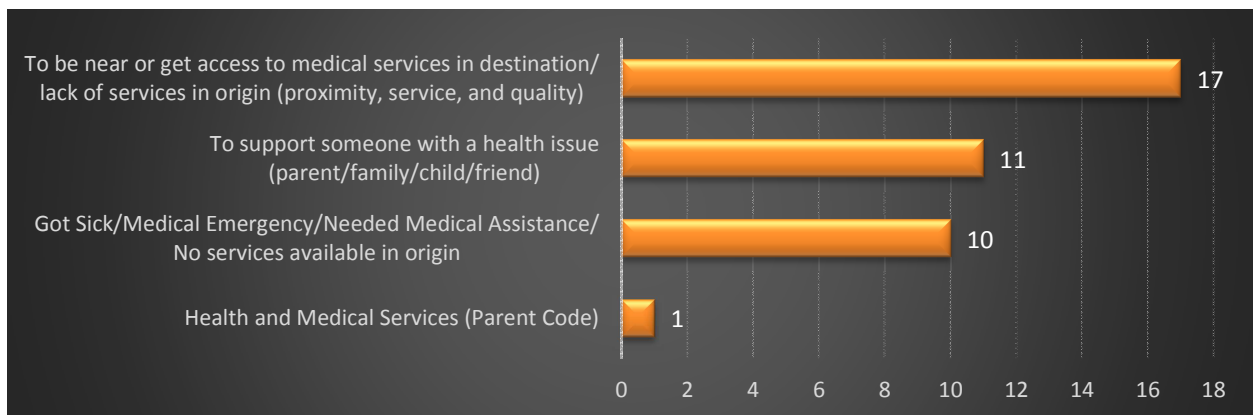


Figure 15: Code Frequencies, Mobilities, and Health

Health-related mobilities have typically focused on institutional relocation. This finding is supported by these results when individuals (n=17) relocate to be near medical services. This can occur for several different reasons; there can be a total lack of health services where people reside, currently accessible services may be lacking quality, or specific treatments or procedures may not be locally available. For example, one participant moved from Cap-Pele, NB to Moncton to live closer to a hospital while another was drawn by Canada's public healthcare system from Vermont, USA to Montreal because of "the cost of health care." In another, one participant grew up in Montreal but

only “goes back when an issue arises with his family... but returns to Van for the health care” where HIV services are superior.

Participants also relocated for specific medical services that were neither available nor accessible where they lived. Here, one participant moved from Saguenay, QC to Montreal for a gender reassignment surgery while another moved from Calgary to Halifax for HIV treatment. The geographic centralization of health services and institutions in urban centres can be considered an actor which continually attracts people. Individuals did not always identify the presence of health services as the reason they moved. Others focused instead on their health issues driving mobility (n=10). For some these mobilities are a temporary relocation when they require immediate care following a medical emergency. For others, these health issue induced mobilities require long-term relocation for ongoing treatments. Here, one person moved from The Pas, MB to Winnipeg to undergo “rehab for [a] head injury.” In these cases, it was individuals’ health issues and medical events that worked as actors driving mobility.

A third finding, absent from the literature, was how other people’s health issues could drive people to relocate. Participants moved to support other people who had health issues (n=11). They may move to spend more time with a loved one who is receiving treatment, or they may move to support recovery. This finding speaks to the relations between social networks, medical services, and institutional sites which constitute physical movements for some.

Lastly, these health-related mobilities can be considered alongside the distances which people travel. The combined moves of all participants to gain access to health services averaged 1,170 km (SD = 1,941 km). 75% of these health moves travelled further than 100 km. This finding speaks to

the fact that a large number of individuals migrate significant distances to access medical services and in turn extends the idea of institutional relocation.

### **3.11 Mobilities of Social Services**

Similar to health institutions, social services work as actors pushing and pulling people between locations (n=37). Figure 16 displays the ways in which AHCS participants describe their mobilities as related to social services. These responses sorts into two principle themes: first the way in which people relocate to access services (n=27) and second, the way in which services physically relocate people (n= 8).

Firstly, social services drive mobility when people move to access more supportive or more extensive social supports. For example, one participant moved from Regina to Winnipeg to access “resources and supports in Winnipeg” while another moved to Ottawa because there were “no supports in Edmonton.” As the preface to this thesis made clear, this lack of supports can directly push people to relocate. Two participants were advised to move from Regina and Saskatoon to Winnipeg by their social workers. These findings speak to the jurisdictional distribution of services as in the case of two participants spoke about “better support for homeless in Vancouver” or that “disability benefits are better in BC.” Even so, there was a fairly equal response from participants migrating for better services between each study site—Vancouver was not the draw it has been constituted as. Altogether, these migrations of social services speak to the work people invest in finding better benefits as a matter of survival.





Figure 16: Code Frequencies, Mobility, and Social Services

Secondly, the foster care system influences mobilities in a similar fashion to the correctional system. Several (n=7) participants cited moving because of foster homes, group homes, or because they were ageing out of foster systems. Group homes and foster homes resettle youth from one location to another creating instability. Often, when participants aged out of the foster system they struggle to find housing on their own.

These mobilities were principally experienced by Indigenous participants recruited in Winnipeg speaking to racialized experiences patterned within ongoing histories of settler colonialism. One arrangement between Indigenous families, child and family services, religious institutions, and the federal government pulled children from their homes into entirely different physical and social spaces. While these moves occurred more than ten years before the At Home study, their influenced reverberated through participants' lives when they "moved around a lot as a child due to involvement with Child and Family Services...before Winnipeg (went to college there)lived in Brandon for four years, before that Thompson, MB at Residential School." These forced mobilities broke family, cultural, and spatial ties while people were uprooted within the colonial system. A similar arrangement occurred for Indigenous participants involved in later colonial expulsions. One

participant was moved from Manitoba to Sioux City, Iowa because of the “60's 70's Scoop [and I was] adopted” while another was “adopted out to Pennsylvania with the 60's scoop. Left when [I] was 19 to go to Regina.” Participants were uprooted and their later mobilities reflect a need to go home. Today, these forced expulsions continue with interventions by social service agencies. One Vancouver participant who, “is from North Battleford, SK; placed in foster care [and] was forced or told to move on” once they aged out of care.

One last aspect of these social services mobilities is the reflexive way in which the AHCS project influenced mobility. Two participants relocated for the AHCS Program in Moncton: one from Grand Bay-Westfield, NB and the other from Fredericton, NB. The potential of housing supports, case management, or of interview honorariums demonstrates how resource availability guides movement.

### **3.12 Newcomer Mobilities**

While immigration is the most typically discussed form of migration, it only accounted for two percent of all the reasons AHCS participants moved (n=27). These newcomer mobilities, displayed in Figure 17, sort into reasons related to refuge, immigration, and deportation. Of particular interest, is the proportionately high number of refugee claimants (n=11). These participants moved to “escape racism from my country [Djibouti]”, “to escape the war” in Somalia, or to flee “political oppression in Mexico.” Their stories speak to mobilities of escape but also to the presence of the healthy immigrant effect when refugees may face a distinct number of challenges from people that enter Canada through other immigration pathways. Indeed, those immigrating to Canada explain more than one example such as that their “parents told me to go to Canada”, or they speak about the procedural elements of coming to Canada such as “reçu sa citoyennité Canadienne” (*receiving*

*Canadian citizenship*). The importance of process in guiding mobility is again displayed for the four participants that faced deportation or immigration issues abroad. In this way, both Canadian and other immigration systems serve as actors who compose mobility alongside international political events and familial, social networks.

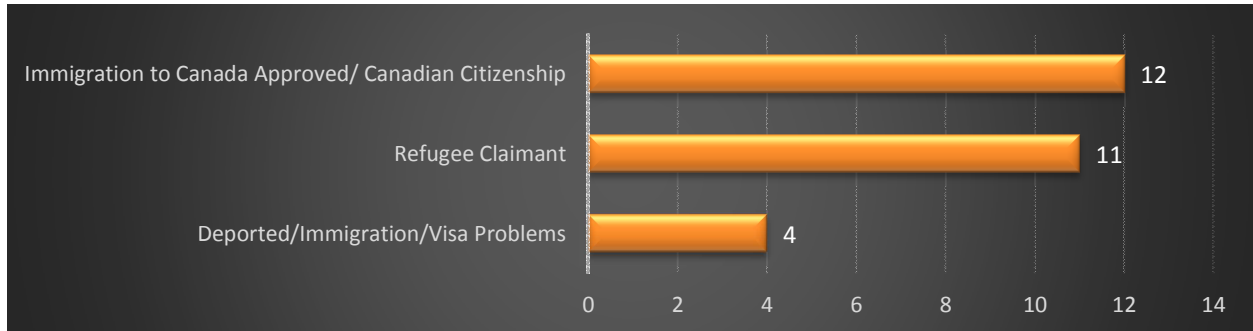


Figure 17: Code Frequencies, Mobility, and Immigration

### 3.13 Mental Health Mobilities

Among a cohort of homeless individuals coping with mental health issues, mental health only accounted for two percent of all reasons participants' moved (n=22). At the same time, there were a diversity of responses for these mental health mobilities including the role of institutions, service availability, and mental health issues themselves (see Figure 18).

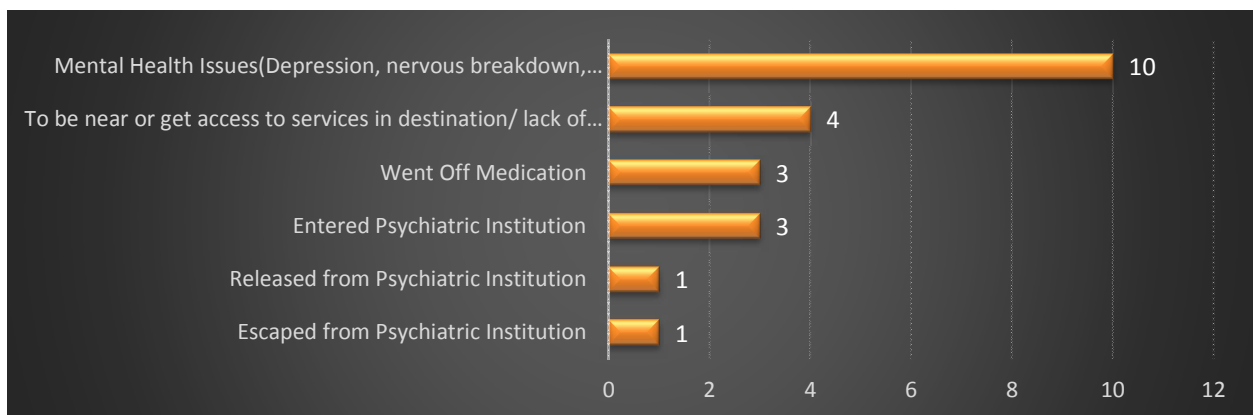


Figure 18: Code Frequencies, Mobility, and Mental Health

Just as correctional services are driven by mobilities within institutions, mental health mobilities are driven by participants entering, escaping, or being released from mental health centres (n=5). One participant was relocated from Moncton to Restigouche, NB when he “was sentenced to [a] forensic unit” while another moved from Burnaby, BC to Vancouver after being “admitted into Riverview.” While one participant was released from a psychiatric ward into a different community under jurisdictional guidelines (n=1), another participant fled from Brandon, MB to Vancouver after they “escaped from psych ward.”

Institutional mobilities are extended when people relocate to access mental health services as in the case of one participant moving from Saint-Gabriel-de-Brandon, QC to Montréal because there were “plus de services santé mentale” (*more mental health services*). Psychiatric institutions become an actor driving particular mobilities of mental health which relate to both sites and resource availability.

Other participants (n=3) linked mobility to medication, which induced evictions, moves, and shelter stays. One participant lost their job because of a “mental health crash in 2001. [Then] ran away to Vancouver in 2001. Then moved back to Calgary to live with parents because [I] was broke.” The impact of medical events is exacerbated in relation to the absence of supportive services and poverty. In the same way, a lack of service availability pushes individuals from some sites into other places. One participant moved from Sainte-Béatrix, QC to Montréal because “la maison de thérapie à fermer, elle a du quitter a ce moment la” (*The treatment centre closed, she had to leave then*). This closure co-occurred as the Province of Québec continued to scale back the funding for addictions treatment centres from \$747 to \$ 200 per month (Blais, 2015). Policies of service retrenchment can push people to move, not just within cities, but between places.

Mental health issues, like physical health issues, also act on mobility. Participants moved when they “had a nervous breakdown,” when they were depressed, or when they had a psychotic episode (n=10). When people are manic or are dealing with significant mental health issues, their mobilities may become disembodied and frenzied. Mental health issues act to confound or complicate personal agency. One participant said about moving from London, UK to Vancouver, “[I] went nuts, they sent me home,” while another person “was psychotic and took a plane” from Toronto to Nova Scotia. These episodes speak to new mental health geographies where manic episodes meld the boundaries between mind, body, and space as people are simultaneously mobile through both real and delusional worlds (Chouinard, 2012; Hornbacher, 2008). The debate as to whether mental health is an outcome rather a contributor to homelessness is dwarfed by an assortment of other mental health mobilities which structure the movements of AHCS participants.

## 4. Discussion

What are some of broader thematic implications of these actors and their relations? I now describe three alignments of actors and relations—cross-cutting themes of mobility that synthesize three narratives for AHCS participants. First, I explain the role of institutional mobilities as a process that systematically administers and redistributes bodies. Second, I discuss mobility as a geographical vehicle of escape and survival from addictions, places, institutions, threats, or violence. Third, I argue that mobility is used as a mechanism to ensure connection between people and place. These are useful frameworks for reviewing some of the common stories about AHCS participants' mobilities.

## 4.1 Institutionalized Mobilities

The formalized social, health, justice services identified by AHCS participants administer and facilitate the movement of homeless individuals through space and time. As actors, institutions and services relate to individuals' histories, differences, and needs to constitute mobility. I highlight migration survival circuits and mobilities of containment as two alignments of actors and relations.

Wolch et al. (1993) describe survival circuits as the daily routine of homeless individuals journeying through cities as they cycle between different soup kitchens and social services. In their current form, survival circuits are understood as temporally limited, intra-city phenomena. AHCS participants' responses can expand this notion of survival circuits when you consider the relations between work, social services, health services, and mental health services. Particular relational alignments result in the metropolitan, regional, and inter-urban migration of homeless individuals. At Home participants' move between different jurisdictions in an attempt to access needed resources. These resources include work, social supports, case management, or housing. While much of this movement is driven by the geographic centralization of services, the jurisdictional availability of policies also pushes and pulls people between regions. Complicating this is AHCS participants' perception of differences between jurisdictions: sometimes there is a sense that services are better elsewhere which may not be reflected in material practices. Be that as it may, health and social service institutions have different spatial configurations in different places. Across Canadian cities and provinces, institutions provide different levels of support while also placing different requirements on individuals attempting to access services. In turn, participants migrate between jurisdictions in order to gain access to resources they need to survive. The notion of survival circuits (Wolch et al., 1993) is expanded spatially and temporally when AHCS participants

migrate to access resources for survival. Consider the experiences of two men moving from Saskatchewan to Vancouver described at the outset of the thesis. When they could not access a shelter allowance, when provincial social supports had been cut, and when there was a perceived promise of better institutional services and weather elsewhere—they moved.

This expanded definition of survival cycles is closely related to another way in which institutions draw people through space and time. At first glance people are immobile within institutions—this is one of the core notions of these spaces that limit personal movement. Participants' pathways through jails, psychiatric institutions, hospitals, and foster homes speak to a mobility of containment where people are simultaneously mobile and immobile. People are relocated from particular places into these institutions, they are moved and transferred within institutional networks, and may be eventually released into different spaces and places. While Correctional Services Canada are required to provide paid transportation home, that 86% of individuals incarcerated (n=21) relocated near where they were released, is indicative of this phenomena. And while part of this resettlement comes from personal choices, when homeless individuals demonstrate unusually high rates of institutional involvement, these mobilities of containment become a particularly strong relational alignment. The result of this institutional resettlement suggests that punitive policies drive mobilities beyond the urban-scale creating room for dialogue with critical urban perspectives.

## **4.2 Mobility as Escape and Survival**

The second alignment of actors and relations is the way AHCS participants survive through mobilities of escape. People move to escape addictions, places, institutions, people, and violence. Mobilities of escape reflect a need to flee, cope, endure, and potentially recover elsewhere. People

use mobility to escape from substance-related triggers when they move to “get away from drugs and friends” or when they are “trying to escape the scene.” Addictions are not always substance-related though, people also move “to escape my gambling problems” or simply move “to escape my problems.” When mobilities are used to escape addictions, it speaks to how movement is used as a geographic mechanism to remove oneself from social networks that enable access, to escape triggers, and to potentially induce recovery with a “fresh start.”

Participants also move to escape places that are seen as unhealthy. Sites themselves can be seen as a barrier to recovery because of the networks, systems, lack of opportunities, and histories that constitute them. When a participant explains that they moved “to get away from rez life” they reference social networks, service structures, finances, and relations mediated by settler colonialism and structural racism. These escapes from sites can be more benign though when people move to escape rural or urban areas as they seek peace or connection.

Mobilities of escape can also be quite literal. For some participants, survival was synonymous with the ability to remain free from institutions. Participants used mobility to “escape from the psych ward” to “escape from prison” or to escape from the law when there were “warrants for my arrest.” People use geography as a means to escape the familiarity that comes with residing in a place where social networks know who you are. In this way, juridical policies act on mobility when people attempt to flee criminal charges (n=11). Moreover, there are particular geographic consequences of these mobilities: seven of these eleven cases involved individuals crossing provincial boundaries while one individual fled from the United States to Canada. These literal mobilities of escape are particularly tied to legal jurisdictions and the ability of justice services to pursue people that are on-the-run.



While escaping from authorities invokes an extended understanding of survival, mobility is also used to escape and ensure a very real survival from people, threats, and violence. AHCS participants moved because they were trying to “escape the gang” indicating the way in which physical mobility is used to get away from problematic social networks and start anew. Other times, these mobilities of escape refer to participant’s immediate need to get away from harm when they “fled spousal abuse” or because their “ex was stalking me.” In this case, mobilities of escape are particularly experienced by female participants victimized by domestic violence.

Need to escape violence was also experienced by homeless newcomers who used mobility “to escape racism from my country” or to “escape war and famine.” In these instances, migration was used to escape political events extending the geographic scale of actors and relations which constitute homeless mobilities in Canada. Moreover, as these mobilities are experienced by non-white participants in the AHCS Project, they demonstrate how racial and historical processes coordinate these movements.

Altogether, mobilities of escape speak to particular relational alignments between addictions, the geographic concentration of triggers, substances, places, people, violence, institutions, services, and events. The relations between these actors are mediated by personal histories, gender, race, and class. And because of these orders of power disadvantage homeless individuals, while these mobilities of escape may ensure personal survival, the end results are that people are uprooted and relocated.

### 4.3 Mobility as Connection

The two thematic alignments discussed above engage with mobility rather critically. In a more supportive sense, mobility is used as physical means of connecting. Kellerman (2006) describes how mobility reflects the desire to be in proximity to others or as an attachment to place. Here, AHCS participants relocate to be near others or to move to places of familiarity. The attributes of places and sites relate to social networks attracting people from one location to another. Participants describe moving because their “family and friends are here” speaking again to how home remains a spatial node of this connection periodically drawing people together through space and time. Connection with a place builds a sense of comfort as for one participant that “came out [and moved to] Vancouver [because it was a] more gay-friendly place.”

But connections are not always present. Mobilities of connection transform into mobilities of looking when people physically search for people, places, and resources. For instance, people move to “look for [my] son”, when they’re “looking for [my] sister”, or when “they’re looking for a girl.” AHCS participants also moved to look for resources and opportunities. People moved to “look for work” or to “look for housing.” These mobilities of looking show how movements are used as a physical device of searching and connection. In sum, mobilities of connection and looking speak to particular alignments between partners, friends, families, places, resources, and services. It expresses to the way in which mobility is used as a geographic mechanism to be proximate to social networks and connected to resources. Lastly, these mobilities of connection ensure inclusion while preventing exclusion.

## 5. Conclusion

When I conducted the literature review for this thesis, I identified nine themes that received substantial attention for describing the reasons why AHCS participants moved: social networks, addictions, mental health, social and health services, juridical mobilities, urban restructuring, housing, places, and work. This chapter both refined and developed these themes. I found that the importance of social networks, sites and places, work and finances have not received enough attention for understanding homeless mobilities. Indeed, there has been an overwhelming focus on mental health, addictions, and social services which only cumulatively accounted for 13% of participants' reasons for moving. Moreover, the idea of self-actualization as driving mobility was absent from any of the literature on homeless mobilities. I provided a mechanism for narrowing the relational scope of the study, by examining how frequently certain actors, relations, and thematic alignment appear. Certainly, all actors and relations do not have equal weights, and this ranking focused my research on the most pertinent agents. As well, the response frequencies provide guidance for future researchers to focus on those areas of homeless mobilities which have received limited attention to date.

While this chapter does count, classify, and categorize—I attempted to show just how interrelated all of the actors identified above are. In one event social networks related to place, health, work, finances, and residential mobilities. In another event work and finances related to housing, health and social services, mental health, physical health, and institutional stays. Place and sites became a territorializing force for the relations between many actors while social differences coordinated these connections. Race was particularly important for coordinating carceral, residential, and foster service mobilities which disproportionately impacted Indigenous and non-white participants. In

other occurrences, familial networks and personal security were coordinated by gender and race specifically in cases related to childcare and victimization. Mental health coordinated juridical mobilities for and homeless for others. The list of these interactions goes on and on. The multiplicity and simultaneity of the connections between these actors are indicative of complexity. By describing this system, I perform a necessary step in a search for just what emergent properties come out of a relational understanding of mobility. It is this task I turn to for the final concluding chapter of this thesis.

# Chapter 7 - Conclusions

## 1. Preface

It was the summer of 2013, and a group was camped out in a park across from the Salvation Army in Abbotsford, British Columbia—just as people had camped there for summers before. They had set up tents in a wooded area and formed a small outdoor community in a town that had 25 shelter beds for 151 people dealing with homelessness (Burgmann, 2015). This camp was far from perfect: there were problems with both drugs and sanitation. Still, it became a home, and a safe space affectionately called the “Happy Tree.”

By their very nature, homeless encampments do not last. From Vancouver’s hobohemia (McCallum, 2014) to Toronto’s Tent City (Bishop-Stall, 2010) these areas become associated with vice and as places requiring intervention—Abbotsford’s camp was no different. After repeated attempts by the city to get people to move had failed, Abbotsford’s City manager George Murray ordered municipal workers to dump chicken manure over the park. The place people had been sleeping, the place described as a health hazard because of human feces, was now covered in chicken shit. Within hours, nearby residents were complaining about the smell. Backtracking, the city cleaned up the park and some Happy Tree residents moved back.

But the intimidation tactics were far from over. Days later the police pepper sprayed people’s tents and belongings to make them pack up and leave. After people had vacated, police arranged logs throughout the park to prevent people from returning to sleep.

David Wotherspoon, a lawyer contesting these methods argues that “Abbotsford’s goal has really been...to move people out of Abbotsford” (Burgmann, 2015). And while formal apologies from

officials coincided with the launch of lawsuits, they do not change the fact that elected municipal leaders in Abbotsford used these punitive methods physically to evict a number of individuals from the city. In fact, what might be described as chicken shit policies were so successful at expelling homeless individuals from Abbotsford, that both Surrey and Port Coquitlam emulated this tactic later that summer (Black, 2013; Larkin, 2013).

This event paints a picture of homeless individuals driven to move because of the webbed relationships between the location of the park situated next to the Salvation Army and its associated services, acute housing shortages, perceptions of substance abuse, and the actions of the Abbotsford Police Department, municipal bureaucrats, and front-line employees. Abbotsford's eviction sharply captures the central argument I make in this thesis: the drivers of homeless individuals are complex, related, and multiple.

## **2. Summary**

This thesis applies insights from relational theories to literature from the mobilities turn by talking about homelessness and migration in Canada. I utilize survey responses from the At Home/Chez Soi Research Demonstration Project on Mental Health and Homelessness (AHCS). AHCS examined a housing first (HF) approach to transitioning people from streets to homes. My theoretical propositions, research approaches, and interpretation of results are informed by my involvement with AHCS. I worked on the AHCS Research Team interviewing Winnipeg site participants' for three-and-a-half years and conducted more than 800 interviews. Through this practice, I became familiar with both participants' lives and the research process while being granted access to result databases. One study tool was a Mobility History survey administered after participants had been enrolled in the study for 21 months. Participants were asked about their interurban moves detailing

where, when, and why they moved. As people were only recruited if they were homeless and because the Mobility History surveyed participants over a ten-year period, it means that people were moving in and out of homelessness as they migrated through different spaces and places.

People are simultaneously socially and physically mobile. This is the starting point, and it is reinforced by my finding that the reasons people become and remain homeless coincide with the reasons that people experiencing homelessness move (see Chapter Two). With this parallel, participants' mobility histories surveys can be treated as life courses: physical movement provides a path through space and time while people's reasons for movement detail the pivot points in people's lives. Therefore, homelessness can be understood as a mobile social process. When people experience homelessness, they move through periods of being housed and houseless all while remaining physically mobile.

Unfortunately, the AHCS Mobility History tool had a conceptual limitation in its design. The survey conceptualized mobility only as physical movement; a potentially reductionist understanding that did not take into account most recent analytical contributions from "the mobilities turn" (Cresswell, 2006; Sheller & Urry, 2006; Urry, 2000). This limitation, coupled with restricted room for participants' responses, had the potential to constrain my thesis findings. However, when I was conducting interviews, participants would expand on their stories, captured by the Mobility History survey, by explaining the complexity of each move. Perhaps they were having "problem with the government [and were] looking for work" or maybe they were fleeing an "abusive relationship [and] drugs." What these conversations taught me was that the reasons people moved were messy, entangled, and seldom singular. As a consequence of this complexity, I propose that relational

literature can be applied to mobilities research to offer an alternative route for understanding homeless mobilities (see Chapter Three).

Nonetheless, these ideas may read as distant from AHCS Participants' lives. To address this gap, I outline the methodologies and research strategies necessary to apply a relational perspective to AHCS participants' mobilities (see Chapter Four). I use a mixed methods approach to identify the actors and relations constituting participants' mobilities. A quantitative exploration of spatial mobilities found in Chapter Five maps and describes these mobilities. An examination of qualitative responses explores the reasons why participants moved in Chapter Six. With this mixed methods approach, I triangulate results while examining how actors and relations constitute the physical and social dimensions of participants' mobilities.

And yet there is a dilemma between disaggregating and compartmentalizing experiences while understanding mobility relationally. Thus, I take comfort from feminist scholars who have developed empirical, intersectional research (Anthias & Yuval-Davis, 1983; Valentine, 2007). When oppression occurs through simultaneous relations, feminist theorists have methodological trouble breaking apart experiences. To this Bowleg (2008) responds that this it is necessary to unpack experiences in order to reassemble them. Therefore, relational perspectives may be more of a heuristic for interpreting empirical results than a methodological application.

In Chapter Five, I capture the complexity of mobilities by illustrating the varied geographic distributions of AHCS participants' over a ten-year period (see Chapter Five). First, I describe how participants' physical mobility patterns varied between cities by analyzing 17 maps of AHCS sites (six GSTP maps and 11 2D migration maps). Second, I include 22 maps of different socio-demographic



characteristics (11 GSTP maps and 11 2D migration maps). I describe how participants' physical mobility patterns varied across socio-demographic differences (gender, ethnicity, need-level, and age) by distance, scale, and direction. In total, 28.5% of all AHCS study participants (N=2,149) moved between sites. Together, these empirical findings identify physical movement, routes, sites, and institutions as actors composing participants' mobilities.

But mobility is more than physical movement. In Chapter Six, I describe the self-identified reasons that AHCS participants migrate. I identify a number of public, private, and state actors and discuss how their relations constitute mobilities. By listing the frequency of participants' responses for moving, I show how particular actors and relations account for different instances of mobility. I find that actors associated with social networks; places and sites; work, employment, and finances; self-actualization; housing; and justice account for nearly three-quarters of participants' reasons for moving. Chapter Six concludes by highlighting three particular alignments. I use institutional mobilities, mobilities of escape and survival, and mobilities of connection to illustrate the relations between specific actors.

### **3. Contributions and Future Research**

I study homelessness and mobility in a policy sphere fraught with tension but with a scarcity of research on migration patterns in Canada. Amidst neoliberal urban spaces where behaviour is strictly normalized, homeless mobilities are described as transient and deviant (DeVerteuil et al., 2007). Pejorative associations with homeless mobility are echoed in popular culture, where movement elicits visions of hobos with bindles. Indeed, Cresswell (2001) describes this movement, outlawed as immoral, as the embodiment of marginality. While the journeys of individuals between urban areas changed drastically since the early 20<sup>th</sup> century, quixotic notions of homeless mobilities

remain: when I mention my research in passing the first responses almost always relate to people “riding the rails” or to people “moving to Vancouver to escape the cold.” It is here that this thesis makes an important contribution in describing AHCS participants’ mobilities. I find that while participants move for many of the same broad reasons as housed individuals (see Kellerman, 2006a), these mobilities coordinate amidst social differences, histories, and orders of power which articulate and entrench marginalization. Moreover, in this thesis, I make significant theoretical, methodological, and empirical contributions to understanding AHCS Participants’ complex and entangled mobilities. I highlight each of these contributions below before identifying future research opportunities.

Theoretically, this thesis applies relational perspectives to mobility. Scholars identify many components constituting mobility but rarely explain how these elements relate to one another. Articulating mobility relationally advances a theoretical framework for researching the drivers of mobility as complex, related, and multiple.

Methodologically, I show how relational methods can engage with the quantitative analysis of survey results. Moreover, I contend that relational perspectives are less of a methodology than a heuristic for interpreting empirical results. I demonstrate how a GIS General Space-Time Path research strategy can analyze the mobility patterns of a large, longitudinal sample while questioning whether this method lives up to claims about enlivening mobility patterns (See Kwan, 2002).

My empirical results show that homeless mobilities are not uniform. AHCS participants’ mobilities vary by sites and across socio-demographic categories. Subsequently, I find that the actors and relations constituting these mobilities are physically distributed; actors in one place relate to the

mobilities of people in other sites. This networked-view manifests in the way that social services, institutions, and policies in one jurisdiction can have substantial effects on other places and peoples. Here, I contribute to critical work on neoliberal social service arrangements. Service retrenchments push people to move, not just within cities, but between places to survive. I echo this contribution by extending the ways in which punitive policies that disproportionately impact homeless individuals create mobilities not just within cities, but between cities. Moreover, I also find that urban restructuring and housing markets motivate residential mobilities beyond the urban scale; people use migration as coping mechanism for dealing with homelessness. And while I do not devote significant attention to mental health in this analysis, I find that recent work on mobility and manic episodes can be extended from movements through a city to large interurban movements.

I also find that social networks, sites and places, and work have not received enough attention for understanding homeless mobilities. Future research on homeless mobilities would do well to focus on these actors rather than on mental health and addictions. This future research could also develop the role of personal agency in the mobilities of self-actualization.

While this thesis provides an extensive account of homeless mobilities among AHCS participants', the extent of data availability presents opportunities for further research. First, while geographic direction was determined the number of scholars has established that it is important to understand that homelessness is not strictly an urban phenomenon. As such, locations in this dataset can be coded by size and place type to refine an understanding of migration directions. Second, the extent and influence of specific actors and socio-demographic characteristics can be

specified with means analysis and regression models. Lastly, a holistic, relational account of homeless mobilities needs to account for the way in which representations function as an actor.

## 4. A Relational View of Homeless Mobilities in Canada

To conclude this thesis, I need to describe what relational mobilities looks like for AHCS participants. Again, this view theorizes mobilities as a processual outcome of the contingent relations between both human and non-human actors. In Chapters Five and Six, I identify a number of actors associated with movement, routes, sites and places, institutions, social networks, labour markets, health justice and social services, mental health issues, addictions and substances, events occurring in other places, policies, and AHCS participants themselves. The relations between these actors are non-linear, simultaneous, and in a process of becoming: mobilities are constituted by various alignments between actors in different spaces at different times. This concluding section details these actors and the relations therein.

Physical movement comprises mobility through travel distance and duration. This movement acts as a de facto mechanism to create change when people have a desire to move or when they move to start anew. Physical mobilities are channeled through routes which funnel movement between sites and actors. Different routes iteratively expose participants to various influences, experiences, events, and sites.

Places and sites work as actors at varying scales (e.g. towns, cities, metropolitan areas, provinces, and other jurisdictional entities). Some locations have particular relations between each other (e.g. Montréal's connection to northern centres) while others nest within one another (e.g. the influence of metropolitan regions). People act on places, drawn to them through desires, familiarity, and the

physical presence of their social networks. At the same time, places act to draw people because of physical attributes (e.g. size, location, and climate) and their spatializing of their relations to service availability, policy environments, and the labour market.

Labour markets act to mobilize AHCS participants, via mobile jobs, the promise of work elsewhere (i.e. labour migration), and the absence of work (i.e. unemployment). These moves are compounded by increasing unaffordability within cities manifesting in residential mobilities. Participants moved when they were homeless, when housing is available elsewhere, to look for housing, or to gain access to housing in more affordable markets. Participants act on housing through interpersonal relationships with friends, families, partners, and owners.

Residential mobilities correspond with participants' quest for quality resources. Health and social services act to mobilize people by their presence or lack thereof. People move to access health and social services when they: are not proximately available, vanish, are inferior, inappropriate, or when they are better elsewhere. Service availability corresponds with policy climates and physically relocate people. Together, the physical search for housing, work, and services, represents another form of work for those typically considered unemployed essentially becoming large-scale migration survival circuits.

Institutions, similar to services, act by concentrating and relocating AHCS participants into specific geographic locations. The institutional push and pull of correctional facilities, hospital, and psychiatric institutions are especially strong for AHCS participants who were transported across Canada and deposited into a handful of locations. For instance, prisons ingest, transfer, and resettle inmates from one location into another. Upon release, institutional stays act in relation to

housing markets, new sites, and personal finances to exponentially increase possibilities of homelessness with limited housing opportunities.

While the above mobilities coordinate under regimes of austerity and social service retrenchment, people themselves display determination and desire resulting in migration. I label these as mobilities of self-actualization, when people moved for personal change, growth, or due to the completion of a significant life event (e.g. high school graduation). Mobilities of self-actualization incorporate individuals, families, and institutions as actors. Schools become institutional actors in these instances pushing people away once they graduate or pulling them to new locations of enrollment. Understanding self-actualization is one way to build personal agency into a relational perspective of mobility that typically would hold agency as networked.

But personal agency exists in relation to other things and people. Here, I find that social networks composed of families, partners, friends, and acquaintances act in relation to sites and social services to draw people through space and time. The relation between social networks and sites solidifies in participants drawn to visit or return home. Social networks drive mobilities in both positive and negative fashions. While many people move to maintain connections and support those they care about; interpersonal conflicts drive mobilities as well. People move when they lose housing because of conflicts when they are no longer welcome, or when their safety is threatened. At times, these moves of survival are precipitated by other key events be they individualized or collectivized trauma (e.g. sexual assault or famine).

In conclusion, to see mobility relationally is to say a variety of actors and relations drove AHCS participants' migrations. These actors and their relations identified above contingently align in

different fashions; there is not one standard narrative of homeless mobility. Yet, this view bypasses questions of power and unjust orders. In accordance with post-ANT, I suggest the relations between these actors solidify through a process of coordination amidst orders of power, histories, and social differences (J. Law, 1993; Mol, 2002). Indeed, the above mobilities are coordinate under regimes of austerity, social service retrenchment, settler colonialism, and patriarchies. In Chapters Five and Six, I illustrate specific ways in which mobilities align amidst differences in race, ethnicity, gender, sexuality, class, and age and ability. I find that Indigenous and non-white participants and women faced particularly vicious alignments of mobility.

And yet, one of my fundamental propositions from applying relational theories to literature from the mobilities turn, which can illuminate power, remains absent. Drawing from assemblage and complexity theories, I argue that mobilities become more than the sum of their parts; that the hybrid relations between actors self-structure and coordinate in a way that takes on properties unique to the whole.

The introduction to this Chapter illustrates one vicious alignment between actors in Abbotsford, BC. The result was that an already marginalized group were expelled from a particular city. And this example was not unique. Similar instances of expulsion emerged throughout my research. In one case an AHCS participant was forced out of Coquitlam because they were “homeless [and there was] no shelter” while on another occasion, someone’s “cousin [was] murdered, [and I] needed out.” Actors and relations frequently align to push people forcefully from one place to another.

I contend that a necessary continuation of this thesis is to examine expulsions as an emergent property of homeless mobilities. This research would not be without merit. Sassen (2014) discusses

expulsion as an emergent outcome of systemic complexity, current orderings of power, and the extent of global inequality. Sassen (2014) describes the expulsions of the marginalized individuals from lands and homes, of displaced peoples warehoused into institutions and substandard housing, and of low-income groups expelled from social and health services. In this way, expulsions come from very material policies, institutions, techniques, and orders (Sassen, 2014). These expulsions are echoed in the lives of AHCS participants who were forced from some locations by related to social differences, resource deficits, and institutions. If relational perspectives on mobility are to contest unjust orders, they will do well to identify those actors and relations which actively expel people from particular spaces and places. And it is in describing the vicious ways in which homeless mobilities become more than the sum of their parts that relational approaches can identify and contest unjust orders.



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## Appendix A: Ethics Materials

- i. University of Manitoba, Research Ethics Board Submission Form
- ii. University of Manitoba, Ethics Protocol Application
- iii. At Home / Chez Soi, Author Initiated Abstract
- iv. At Home / Chez Soi, Request Form for Datasets (for Cross-site Core and Investigator-initiated Analyses)
- v. At Home / Chez Soi, Research Participant Information, and Consent Form
- vi. TCPS 2: Core, Certificate of Completion
- vii. The University of Manitoba, Final Project Report for Research Ethics Board

# RESEARCH ETHICS BOARD SUBMISSION FORM

CTC Building  
208 - 194 Dafoe Road  
Winnipeg, MB R3T 2N2  
Phone: (204) 474-7122  
Fax: (204) 269-7173

Psychology/Sociology REB       Education/Nursing REB       Joint-Faculty REB

Check the appropriate REB for the Faculty or Department of the Principal Researcher. This form, attached research protocol, and all supporting documents, must be sent to the Human Ethics Coordinator, Margaret.Bowman@ad.umanitoba.ca, CTC Building, 208 - 194 Dafoe Road, 474-7122.

Protocol #  
(For HES Admin.)

CORE/CHRPP  
(For HES Admin.)

Andrew Kaufman  
Principal Investigator

Status of Principal Investigator(s): please check:

Faculty       Student Graduate       WRHA Affiliate      Co-investigator(s): Specify affiliation (Separate with semi colon)  
 Post-Doc       Undergraduate       Other      Specify \_\_\_\_\_



**Type of research (Please select):**

Faculty Research

Self-funded

Sponsored

Agency \_\_\_\_\_

UM Project # \_\_\_\_\_

Find your UM Project # [funded only] visit:  
<http://umanitoba.ca/research/ors/mrt-faq.htm>

Administrative Research

Central

Unit-based

Student Research

Honour's Thesis

Master's Thesis

Doctoral Thesis

Class Project

Course Number \_\_\_\_\_

**Is this submission a follow-up to an existing RPA (Request for Preliminary Access to Grant Funding) form?**

No  Yes  If yes, please identify protocol # \_\_\_\_\_

**A. Signature of Principal Investigator** \_\_\_\_\_

For student research: If thesis, this proposal is \_\_\_\_\_ . By signing, the Thesis Supervisor/Course Instructor indicates that they have reviewed and approved this application.

**B. Name of Thesis Advisor** (Required if thesis research) Drs. Jino Distasio and Jonathan Peyton \_\_\_\_\_

**C. Signature** \_\_\_\_\_

**D. Course Instructor** (Required if class project) \_\_\_\_\_

**E. Signature** \_\_\_\_\_

Persons signing assure responsibility that all procedures performed under the protocol will be conducted by individuals responsibly entitled to do so, and that any deviation from the protocol will be submitted to the REB for its approval prior to implementation. Signature of the thesis advisor/course instructor indicates that student researchers have been

# Ethics Protocol Submission Form

## (Basic Questions about the Project)

The questions on this form are of a general nature, designed to collect pertinent information about potential problems of an ethical nature that could arise with the proposed research project. In addition to answering the questions below, the researcher is expected to append pages (and any other necessary documents) to a submission detailing the required information about the research protocol (see page 4).

1. Will the participants in your study be **UNAWARE** that they are participants?  Yes  No
2. Will information about the participants be obtained from sources other than the participants themselves?  Yes  No
3. Are you and/or members of your research team in a position of power vis-a-vis the participants? If yes, clarify the position of power and how it will be addressed.  Yes  No
4. Is any inducement or coercion used to obtain the participant's participation?  Yes  No
5. Do participants identify themselves by name directly, or by other means that allows you or anyone else to identify data with specific participants? If yes, indicate how confidentiality will be maintained. What precautions are to be undertaken in storing data and in its eventual destruction/disposition.  Yes  No
6. If participants are identifiable by name, do you intend to recruit them for future studies? If yes, indicate why this is necessary and how you plan to recruit these participants for future studies.  Yes  No
7. Could dissemination of findings compromise confidentiality?  Yes  No
8. Does the study involve physical or emotional stress, or the participant's expectation thereof, such as might result from conditions in the study design?  Yes  No
9. Is there any threat to the personal safety of participants?  Yes  No
10. Does the study involve participants who are not legally or practically able to give their valid consent to participate (e.g., children, or persons with mental health problems and/or cognitive impairment)? If yes, indicate how informed consent will be obtained from participants and those authorized to speak for participants.  Yes  No
11. Is deception involved (i.e., will participants be intentionally misled about the purpose of the study, their own performance, or other features of the study)?  Yes  No
12. Is there a possibility that abuse of children or persons in care might be discovered in the course of the study? If yes, current laws require that certain offenses against children and persons in care be reported to legal authorities. Indicate the provisions that have been made for complying with the law.  Yes  No
13. (a) Does the study include the use of personal health information? The Manitoba Personal Health Information Act (PHIA) outlines responsibilities of researchers to ensure safeguards that will protect personal health information. If yes, indicate provisions that will be made to comply with this Act (see document for guidance: <http://www.gov.mb.ca/health/phia/>).  Yes  No
13. (b) PHIA requires that all employees, students, or agents who handle or are exposed to personal health information take PHIA Orientation and sign a pledge of confidentiality that acknowledges that they are bound by written policy and procedures.  Yes  No

Has PHIA Orientation and pledge-signing been completed by all employees, students, and agents?

If "No," the Principal Investigator should contact UM Access & Privacy Coordinator's Office to make arrangements, [fippa@umanitoba.ca](mailto:fippa@umanitoba.ca)

Where individuals have not completed PHIA Orientation and signed a pledge, and for the purpose of ensuring that they do, Principal Investigator's contact information will be provided to the University Access & Privacy Coordinator's Office.

**Provide additional details pertaining to any of the questions above for which you responded "yes", excluding question 13 (b). Attach additional pages, if necessary.**



# Ethics Protocol Submission Form

## (Required Information about the Research Protocol)

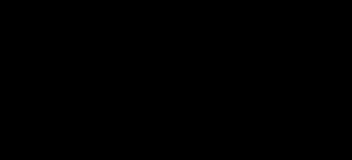
Applications for ethics approval should include the following information and be **presented in the following order**, using the headings indicated. Each page should be numbered, by hand if necessary. To ensure the most rapid approval possible, please refer to the detailed application guidelines posted on the HES website.

1. **Summary of Project:** Attach a detailed but concise (one typed page) outline of the purpose and methodology of the study, describing **precisely** the procedures and tasks in which participants will be asked to engage.
2. **Research Instruments:** Include next a concise summary of the research instruments, especially any risks they may pose to participants. In a separate appendix, provide copies of **all** materials (e.g., questionnaires, tests, interview schedules, instructions, etc.) to be given to participants and/or third parties.
3. **Participants:** Provide a detailed description of the participants, their numbers, and how they will be recruited. Include copies of all written recruitment communications and **scripts** of all oral recruitment communications. Are there any characteristics of the participants that make them especially vulnerable or require extra precautions?
4. **Informed Consent:** Normally, consent **in writing** is required. Attach a copy of the consent form(s) on department/faculty letterhead (see detailed guidelines regarding consent forms). Different consent forms for different groups of participants in the same study are frequently required. If written consent is not to be obtained, indicate why and the manner by which participants' consent (verbally) or assent to participate in the study will be obtained. How will the nature of the study, the questions they will be asked, the tasks in which they will engage, and the risks to which they will be exposed be explained to participants **before** they give informed consent? How will consent be obtained from parents or legal guardians of participants unable to give legal consent on their own? If confidential records will be consulted, indicate the nature of the records, and how participants' consent for accessing such records will be obtained. If it is essential to the research, indicate why participants will not be made aware that their records are being consulted.
5. **Deception:** Deception refers to the deliberate withholding of essential information or the provision of deliberately misleading information about the research or its purposes. If the research involves deception, the researcher must provide detailed information on the extent and nature of deception and why the research could not be conducted without it. This description must be sufficient to justify a waiver of informed consent.
6. **Feedback/Debriefing:** Normally, feedback should be given to participants about the research immediately after data collection, so as to make their experience as educational as possible. How will the feedback be provided and by whom? If feedback will not be given, please explain why feedback is not planned. In addition, steps should be taken to provide participants with a brief, non-technical summary of study results as soon as possible after the data collection phase of the study is completed (normally a few weeks or months). Participants should be given a choice of how they wish to receive a summary and should be told approximately when (MMYY) to expect it.
7. **Risks and Benefits:** Are there any risks (physical, psychological, and/or emotional) to participants, or to a third party? If yes, provide a description of the risks, the steps that will be taken to mitigate them, and the steps that will be taken to ameliorate any actual harm to participants, including (if appropriate) providing a list of helpful resources. The researcher should also describe any direct, counter-balancing benefits for participants of the proposed study.
8. **Anonymity or Confidentiality:** Describe the nature of the data that will be collected, how it will be stored, and who will have access to it. Anonymous data contains no personal identifiers and, thus, poses no risk of identification to participants. Confidential data contains personal identifiers and carries with it an inherent risk of identification. Therefore, in the latter case steps must be taken to prevent unauthorized persons from linking data to individual participants, up to and including dissemination of findings. Confidential data should be destroyed or rendered anonymous as soon as it is no longer necessary scientifically to link data with individual participants. Anonymous data may be kept indefinitely. Please describe your plans in this regard, including an approximate date (MMYY) by which any confidential data will be destroyed.
9. **Compensation:** Will participants be compensated for their participation? Reasonable compensation may be provided to defray actual costs associated with study participation and/or as an honorarium for the time and effort of participants. However, it may not be sufficient to act as a significant inducement to participation.
10. **Dissemination:** How will study results be disseminated, to whom, and for what intended purposes? Dissemination plans must be agreed to in general by participants and must not jeopardize their right to confidentiality unless they have explicitly waived this right.

**Review your submission according to this:****Checklist**

**Please note that your application will be returned to you for completion if ANY of the components below are not completed.** In preparing their submission, applicants are strongly encouraged to first review the detailed application Guidelines available on the Human Ethics website.

- All information requested on the first page completed in legible format (typed or printed).
- If student research, signatures of the Faculty Research Supervisor or email confirmation of approval from the Research Supervisor.
- Responses to all 13 questions on pages 2-3 of Ethics Protocol Submission form, INCLUDING SEPARATE, DETAILED ANSWERS TO ANY QUESTIONS FOR WHICH YOUR RESPONSE WAS "YES"
- Detailed information requested on page 4 of the Ethics Protocol Submission Form in the numbered order and with the headings indicated, using no smaller than 11 font **AND WITH ALL PAGES NUMBERED (HANDWRITTEN NUMBERS ARE ACCEPTABLE).**
- Copies of all written communications to participants (including recruitment materials) on Department/Faculty letterhead and/or scripts of all oral communications.
- Research instruments: Appended copies of all instruments and other supplementary material to be given to participants.
- Evidence of completion of CORE or CHRPP tutorial or acknowledgment that approval will not be granted until tutorial is completed.
- Copy of this checklist.

Candidate:	<b>Andrew Kaufman</b>	
Title:	<b>Mobilities of Madness: Interurban movement among a cohort of homeless individuals with co-occurring mental health issues</b>	

## 1. Summary of Project

This Masters of Arts research project examines interurban spatial (between city) mobility patterns among a cohort of homeless individuals with mental health issues. Conducted via the Department of Environment and Geography at the University of Manitoba and the Institute of Urban Studies at the University of Winnipeg, secondary data is sourced from the *At Home/Chez Soi Research Demonstration project on mental health and homelessness*. This research presents an opportunity to critically explore mobility patterns among a marginalized population. Here, mobility is understood to be more than point a to b travel and is instead composed of the interrelationships between movement, meaning, and practice which together form constellations of mobility (Cresswell, 2014). Indeed, mobility patterns of homeless individuals have been pathologized as transient and deviant (Cresswell, 1999, 2001; DeVerteuil et al., 2007; Wolch & Philo, 2000). This research will problematize this reductionist view of homelessness, mental health, and mobility where very little is known about the actual constellations of mobility surrounding the study cohort. Understanding these mobility patterns is essential for equitable service distribution. Current research gaps manifest in a service delivery sphere hostile to a highly mobile population. This research will be examined through the critical lenses of mobility studies, mental health geographies, and the post-structural approaches of mad studies and post-colonialism.

As a Research Associate with the Institute of Urban Studies, I conducted structured interviews with *At Home/Chez Soi* participants from September 2010 through July 2013. Twenty-five research tools were administered over a two-year follow-up period for each study participant. This research will specifically utilise a *Mobility History* tool from the study, which surveyed 2,149 individuals in five Canadian cities. As an internal site investigator with *At Home/Chez Soi*, **I have access to secondary, cross-site data without a requirement for an additional ethics review from the project lead team. No new data will be collected from the study cohort for this research project.** The research protocol number for the *At Home/Chez Soi* main study is H2009:251

The proposed research explores interurban movement patterns among a cohort of homeless individuals with co-occurring mental health in three sequential phases: I) mapping Canadian homeless migration patterns; II) creating mobility typologies using socio-demographic information, movement histories, and qualitative rationale for movement; and III) coding qualitative motivations for interurban movement.

### 1.1 Methods

Phase I of this research will map *At Home* participants' interurban migration patterns using a GIS generalised space-time path (GTSP) approach. Four variables from the *Month 21 Mobility History* tool will be utilised in this analysis including: date of move (month/year); move origin (verbatim response); move destination (verbatim response); and duration of time spent in move destination (months). Findings from this first phase will be used to create a typology of interurban movers in Phases II and III. Movement data will be anonymous as each trip will be geocoded to the centre XY coordinate of each move origin and destination. A research assistant proficient in writing geocode

script will be engaged at this stage but will not have access to any personally identifiable information of At Home/Chez Soi participants. This research assistant will work on a password-protected workstation on a secure network located at the Institute of Urban Studies at the University of Winnipeg.

Phase II of this research will use a joint analysis (principle component and cluster analysis) to create a typology of movers by examining participants spatial movement patterns linked with socio-demographic information. Sixteen variables from At Home Socio-Demographic surveys will be joined with five variables generated from the GTSP analysis for each participant case. The following measures will be used to create a typology of inter-city movers: ethnicity, country of origin, Aboriginal status, gender, age, marital status, mental health diagnosis, suicidality, chronic health problems, highest level of education obtained, childhood trauma, years in care (Residential school attendance and Foster Care), total time homeless in lifetime, alcohol and substance Use, cognitive impairment, victimization, years institutionalized (hospitals and incarceration), frequency of interurban moves, time spent in each interurban move destination, mean move distance, seasonality of movement, and principal destinations of interurban movement. This data will be sourced from an assortment of research instruments included in Appendix A. The typologies generated in Phase II will be anonymous, as participants are referred to by case number, while final results will amalgamate participant's personal information anonymizing data.

Phase III of this research is a qualitative examination of At Home participants' reasons for movement. Reasons for movement will be sourced from Question 2.d. located in the *Month 21 Mobility History*, which asked participants: "Why did you make that move?" and recorded responses verbatim. Responses will be grouped into thematic, parent, and sub-category codes, anonymizing data. Direct quotes may be used in research findings to articulate key motivations for movement. Due to the large number of participants included in study, the inclusion of these passages presents minimal risk to directly identify project participants.

## 2. Research Instruments

No new risks to participants or interviewers are associated with the *Mobility History* questionnaire tool administered to *At Home/Chez Soi* participants (see Appendix A: At Home Research Instruments). For each project participant, a participant code number will link demographic information with mobility patterns. No personally identifiable contact information exists within either dataset. Three other research questionnaires that do not include personally identifiable information will be mined for data including the Mini International Neuropsychiatric Interview (which cannot due to copyright restrictions), the Adverse Childhood Experiences tool, and an examination of Comorbid Conditions (see Appendix A: At Home Research Instruments).

Original research instruments collected from participants, are securely stored by each At Home/Chez Soi site team. Disposal of these original instruments falls under the purview of REB # H2009:251. Data for this research project will be accessed from a secure database stored at the Centre for Research on Inner City Health at St. Michael's Hospital in Toronto, Ontario, Canada. To gain access to data, an *Author Initiated Abstract* and *Request for Datasets* (see Appendix B: At Home Data Request Forms) must be submitted to the Mental Health Commission of Canada.

## 3. Participants

2,149 participants were enrolled in the *At Home/Chez Soi* study via service provider referrals and split into two study groups. In the *Housing Intervention* experimental group 1,254 participants

received Housing First services with rent subsidies and mental health supports. A *Housing First* (HF) approach aims to stably house individuals who deal with co-occurring issues using compassionate case management services, harm reduction, and a right to housing framework (Hombs, 2011, pp. 170–171; Tsemberis, 2004, pp. 277–278). 980 participants were randomized into the *Treatment As Usual* control group, eligible for currently existing supports.

To be eligible to enter the study, participants had to meet inclusion criteria of being absolutely homeless (no fixed address for the past seven nights and little likelihood of getting shelter, or is being discharged from an institution with no fixed address to go to) or precariously housed (unstable current residence and two or more absolute episodes of homelessness in last year)(At Home/Chez Soi, 2009). To be included in the study, participants also had to demonstrate the presence of a serious Mental Illness with or without a diagnosis. Mental illness was defined as, “at least one indication of functional impairment” according to a set criteria list, “at least two indicators of psychotic behaviour observed in past month,” “documentation of a diagnosed mental health condition or inpatient admission 2 or more times in any one year of the past 5 years”, or one of the eligible diagnosis identified from the Mini International Neuropsychiatric Interview (M.I.N.I.) including: Current Major Depressive Episode, Current Manic Episode or Hypomanic Episode, Current PTSD, Current Panic Disorder, Current Mood Disorder with Psychotic Features, and/or Current Psychotic Disorder (At Home/Chez Soi, 2009). While the M.I.N.I diagnoses suicidality and alcohol/substance abuse/dependence, these diagnoses themselves were not enough to be enrolled as a participant (At Home/Chez Soi, 2009).

For the present analysis, a population subsample from At Home participant will be generated from the *Month 21 Mobility History* tool (see Appendix A: At Home Research Instruments). Data from this Mobility History Tool will only be sourced for those At Home participants who engaged in inter-urban travel. More precisely, only data from participants who answered “No” to question 1, found below, will be eligible for this analysis:

*“When you were recruited to the At Home project, you were living in (city of recruitment). Have you lived in (city of recruitment) for the past 10 years?”*

A preliminary exploration of Winnipeg respondents (N=513) found that n=131 participants responded to the Mobility History tool. If all five-study sites have similar response rates, the sample size may shrink by 75% to 403 participants.

#### 4. Informed consent

Informed consent has already been obtained from *At Home/Chez Soi* participants in accordance with REB #H2009:251. Informed consent has been obtained at three separate time points from participants: at the time of the first interview, at the conclusion of the initial, and again through a follow-up interview period beginning in June of 2014 (see Appendix B: At Home Consent Forms).

#### 5. Deception

Not Applicable.

## 6. Feedback/Debriefing

The *At Home/Chez Soi* project has attempted to share findings with project participants and the public at every opportunity. Several research releases have been held in Winnipeg at Thunderbird House while the National Film Board has produced an interactive webdocumentary (<http://athome.nfb.ca/>). New research results will be released in August 2015 with a research brief presented to the *At Home/Chez Soi Lived Experience Circle*. The Lived Experience Circle is a guiding project panel composed of study participants, and persons with acute experiences of homelessness and/or severe mental health episodes. This researcher has an ongoing relationship with the Lived Experience Circle and is familiar with suitable presentation styles for said group. As only secondary data is being utilized in this research, direct feedback to original project participants is not possible, although attempts may be made to include some findings in the National Film Boards interactive documentary.

## 7. Risks and Benefits

Before data collection, participants were informed in the consent process about issues associated with the potential triggering of past traumatic memories. Specifically risks and benefits were outlined as:

“All participants will get a cash honorarium or \$10 to \$30 for each interview depending on the length of interview. If you decide to stop before finishing the survey, or the interviewer decides to stop the interview, the amount of money you receive will be based on how far you have gotten through the surveys. Some participants will receive housing and support until March 2013 and possibly beyond (if continued funding is available). If you do not get supported housing through this study, we will let you know about housing and/or support through other sources. A risk of participating is that some of the questions are personal and could make you feel uncomfortable, stressed, angry or upset. We will try to make the interview as comfortable as possible for you. You can refuse to answer any questions or end the interview at any time” (See Research Participant Information and Consent Form – Appendix C).

As data has already been collected, it is improbable that this research will result in physical, psychological, economic, or social harms to At Home/Chez Soi participants. This research poses minimal new risks to participants, as data has been anonymized. This research will provide the benefit of filling a research gap surrounding homeless mobility patterns – knowledge that is integral for equitable service distribution and recovery.

## 8. Anonymity or Confidentiality

Participant data has been entered into a secured database and with participants identified by a coded participant number. The identifying code sheet is available only through a secured website ([www.healthdiary.ca](http://www.healthdiary.ca)) accessible only by research staff with consent from At Home Principle Investigators and Site Research Coordinators. As such, relevant data sets will not be linked with any directly identifying information. Mobility History data will be analyzed from a password protected workstation on a secure network located at the Institute of Urban Studies at the University of Winnipeg. Any data which could personally identify At Home project participants will be encrypted when not in use.

Participant responses to the Mobility History Tool could result in indirect identification. As such this qualitative information will be coded into thematic, parent, and sub-code categories for research findings. Databases with identifiable information will be destroyed after a successful thesis defence and publishing of peer-review articles expected by 2017.

## 9. Compensation

Participants were compensated with a \$10 to \$30 honorarium for each interview of the original At Home/Chez Soi Project. As no new data is being collected, there will be no further compensation for research participants.

## 10. Dissemination

In addition to being released through the At Home Lived Experience Circle (see Section 6), research findings will take two forms: public presentations and published scholarly articles. Public presentations may include the Three Minute Thesis competition (February 2015); the American Association of Geographers Conference (April 21st – 25<sup>th</sup>, 2015); and the Canadian Association of Geographers Conference (June 1st – June 5<sup>th</sup>, 2015). Scholarly articles will focus on a methods piece regarding the GIS Time-Space Approach and a research synopsis. The complete research finds will be released as a Master's Thesis project. Through all of these releases, participant data will remain anonymous.

## 11. Works Cited

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- Hombs, M. E. (2011). *Modern Homelessness: A Reference Handbook* (p. 289). Santa Barbara, CA: ABC-CLIO, LLC.
- Tsemberis, S. (2004). "Housing First" Approach. In *Encyclopedia of Homelessness*. Sage Publications Inc.
- Wolch, J., & Philo, C. (2000). From distributions of deviance to definitions of difference: past and future mental health geographies. *Health & Place*, 6(3), 137–57. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10936771>

## **At Home/Chez Soi**

### **DRAFT Author Initiated ABSTRACT**

**Working Title:** Mobilities of Madness: Interurban spatial movement patterns among a cohort of homeless individuals with co-occurring mental health issues

**Authors:** Andrew Kaufman

**Co-Authors** (proposed): Dr. Jino Distasio, Dr. Jonathan Peyton, Dr. Jeff Masuda, and Dr. Evelyn Peters.

**Suggested Journals:** Mobilities, Progress in Human Geography, Annals of Association of American Geographers, Canadian Journal of Urban Research

**Current Status:** Thesis Proposal Defended

**Data Request Form:** Submitted

**Data Time Points required:** (if needing access to data; which time-points are needed?)  
Screen (MINI), Baseline (Demographics), M21 (Mobility History), M18 (ACE)

**Abstract:** *The mobility patterns of homeless individuals with mental health issues have been romanticized through narratives of the hobo and pathologized via a biologically-reductionist lens. Little is known about the actual movement, meaning, and practice of interurban (between city) mobility of this population. This research will utilise a mobility history questionnaire from the At Home/Chez Soi Research Demonstration project on mental health and homelessness that surveyed 2,149 individuals in five Canadian cities. The proposed research explores interurban movement patterns among a cohort of homeless individuals with co-occurring mental health issues by i) mapping Canadian interurban migration patterns; ii) creating mobility typologies using socio-demographic information and movement histories, and iii) coding qualitative motivations for interurban movement. An analysis of movement in the At Home cohort will be informed by geographic perspectives on mobility, mental health geographies, mad studies and postcolonialism.*



**At Home Data Access At Home/Chez Soi Request Form for Datasets  
(for Cross-site Core and Investigator-initiated Analyses)**

PLEASE NOTE: Prior to submitting this request, you must have submitted an abstract to the Publications Committee for review and approval. For more information on this process,

Once your abstract is

**Date Request Made:** July 9, 2014-07-09

**Name of Requestor:** Andrew Kaufman

**Date Data Needed:** ASAP

**Preferred Output Format:** SPSS (.sav)

**If student, name of responsible investigator:** Dr. Jino Distasio, Dr. Jeff Masuda

**Title of Proposed Paper:** Mobilities of Madness: Interurban migration patterns among a cohort of homeless individuals with co-occurring mental health issues

**SECTION 1: Details of Data Requested:**

**A. Time Period:**

**Events: All or Screen (MINI), BL (Demographics, Comorbid Conditions), 18 (ACE), 21 (Mobility History), and 24 (Mobility History)**

**B. Participants: All**

**C. Site: All**

**D. Variables:**

NOTE: Any derived variable related to a selected instrument will be included with your dataset (for example, if the SF12 is requested, the SF12 scores will also be provided. Due to the complexity of the RTLFB, only derived variables will be provided.

<b>Instrument</b>	<b>Variable Name</b>	<b>Item(s) #</b>	<b>Specific Instructions or Comments</b>
Mobility History	All	All	
Demographics + Housing/Voc/Service History	All	All	
MINI	All	All	
ACE	All	All	
Comorbid Conditions	All	All	

**E. Analyses:**

Generalised G.I.S. Space-Time Analysis, Principal Component Analysis, Hierarchical Cluster Analysis, and Qualitative Coding.

# Research Demonstration Project in Mental Health and Homelessness (Winnipeg): Full Study



## RESEARCH PARTICIPANT INFORMATION AND CONSENT FORM

### Title of Study: Research Demonstration Project in Mental Health and Homelessness

#### Co-Principal Investigators:

Dr. Jitender Sareen, MD  
University of Manitoba  
Department of Psychiatry  
PZ430-771 Bannatyne Ave.  
Winnipeg, MB, R3E 3N4

Dr. Jino Distasio, PhD  
University of Winnipeg  
Institute of Urban Studies  
103-520 Portage Avenue  
Winnipeg, MB, R3C 0G2

**Sponsor:** Mental Health Commission of Canada, 10301 Southport Lane, SW. Suite 800, Calgary, Alberta, Canada, T2W 1S7

You are being invited to participate in a human research study because you do not have stable housing and may be dealing with mental health issues. Please take your time to review this consent form and discuss any questions you may have with the study staff. You may take your time to make your decision about participating in this clinical trial and you may discuss it with your regular doctor, friends and family before you make your decision. This consent form may contain words that you do not understand. Please ask the study staff to explain any words or information that you do not clearly understand.

The Universities of Manitoba and Winnipeg are receiving financial support from the Mental Health Commission of Canada to conduct this study.

#### **Why are we doing this research?**

This study is being conducted to find out what kind of housing and support works best for people who are homeless and have mental health issues and also to influence the government to create more long-term, community-based housing and supports for people who are homeless and have mental health issues. A total of 540 individuals will participate in this study.

#### **What are we asking you to do?**

If you agree to participate, over the next 2 years, we will meet with you every 3 months to ask you questions about your living situation, health, drug and alcohol use, and quality of life, as well as to share your personal story about particular life memories or events 2 times during this time. We will pay you between \$10 and \$30 at the end of each interview you do. The first few interviews will be the longest (1-1/2 hours) and the rest of the interviews will take about 30 minutes.

We are also asking you to provide us with your Manitoba health number and your permission to link the information collected from this project with your administrative record. The particular information that can be linked to your Manitoba health identification number and which may be accessed for the use of this study includes: Hospital and physician records, Mental health and emergency care visits, Educational history and achievement (e.g. highest grade in school completed in Manitoba), Community and Social

MHCC Full Study Homeless Participants

U of MB REB Full Study ClinicalTrialInformedConsent\_Homeless\_REVISED\_April 2011

Version date: April 5, 2011

Page 1 of 6

Participants Initials

## Research Demonstration Project in Mental Health and Homelessness (Winnipeg): Full Study

services data (e.g. financial assistance from Family Services and Housing). We are requesting your permission to access these records for up to 20 years in the past and up to 4 years forward from today. Once the project is complete, no further access to your administrative record will be available to the researchers in this project.

With your permission your Family Physician (GP) will be notified about your participation in this study.

### **What is the study all about?**

To find out which kind of supported housing works best, we need to compare people in supported housing with people who are homeless. For this comparison to work, it is important that participants understand that receiving housing or not receiving housing is random. You will be assigned randomly (like a name being drawn from a hat) to housing or “usual care.” **If you agree to participate, there is a chance that you will not receive housing through this study.**

If you get supported housing through this study, you will be provided with money to pay your rent every month until the end of March 2013. You will have access to support and treatment but you do not have to use it. You will be required to meet with a case manager at least once a week for 2 years. The case manager will review your situation with you and, with your permission, will put you in touch with people who can help you. At the end of the project (March 31, 2013), we will try to make sure that you can keep your housing, but there is a chance that you could lose it. If you need to move, we will help you find another place to live.

### **How will we keep in contact with you?**

To help us keep in contact with you over the next two years, we will ask you to give us names and phone numbers of friends, family, health centres and public agencies that we can contact if we can't reach you directly.

### **What are the benefits and risks of participating?**

All participants will get a cash honorarium or \$10 to \$30 for each interview depending on the length of interview. If you decide to stop before finishing the survey, or the interviewer decides to stop the interview, the amount of money you receive will be based on how far you have gotten through the surveys. Some participants will receive housing and support until March 2013 and possibly beyond (if continued funding is available). If you do not get supported housing through this study, we will let you know about housing and/or support through other sources.

A risk of participating is that some of the questions are personal and could make you feel uncomfortable, stressed, angry or upset. We will try to make the interview as comfortable as possible for you. You can refuse to answer any questions or end the interview at any time.

### **Costs**

There is no cost to you for participating in this study.

### **Confidentiality**

Information gathered in this research study may be published or presented in public forums; however your name and other identifying information will not be used or revealed. Medical records that contain your identity will be treated as confidential in accordance with the Personal Health Information Act of Manitoba. At no time will your name, address, phone number or other personal information be associated with your health, education or social services data. This process is undertaken to ensure the highest level of privacy and confidentiality.

## Research Demonstration Project in Mental Health and Homelessness (Winnipeg): Full Study

Despite efforts to keep your personal information confidential, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law. All study documents related to you will bear only your assigned Participant or code and /or initials. The University of Manitoba Health Research Ethics Board may review research-related records for quality assurance purposes.

**Recording devices:** With your permission we will audio record two of the interviews where we ask about your personal stories. The interview results will be more accurate if your actual words are recorded. These files will be typed into transcripts so that your explanations can be studied. The files will not be used for any other purpose and will be deleted/destroyed at the end of the study.

All records will be kept in a locked secure area and only those persons identified will have access to these records. If any of your medical/research records need to be copied to any of the above, your name and all identifying information will be removed. No information revealing any personal information such as your name, address or telephone number will leave the Universities of Manitoba and/or Winnipeg.

A Data Safety and Monitoring Board, an independent group of experts, will be reviewing the data from this research throughout the study. We will tell you about the new information from this or other studies that may affect your health, welfare, or willingness to stay in this study.

By signing this consent form, you have not waived any of the legal rights that you have as a participant in a research study.

### **What if you want to stop participating in this research study?**

Participation is completely voluntary. If, at any time during the study, you do not want to be involved, you can stop participating, but we encourage you to talk to the study staff and your regular doctor first. If you are getting supported housing, you will not lose your housing or support services even if you decide you do not want to participate in the research. The study staff may decide to take you off this study if it is in your best interest. We will tell you about any new information that may affect your health, welfare, or willingness to stay in this study.

### **Questions**

You are free to ask any questions that you may have about the study and your rights as a research participant. If any questions come up during or after the study or if you have a research-related injury, contact the study staff: Dr. Jino Distasio, Ph: 982-1147; OR Dr. Jitender Sareen, Ph: 787-7078. For questions about your rights as a research participant, you may contact The University of Manitoba, Bannatyne Campus Research Ethics Board Office at (204) 789-3389.

Do not sign this consent form unless you have had a chance to ask questions and have received satisfactory answers to all of your questions.

**My signature below means I agree that:**

- This research study has been explained to me and any questions I asked have been answered to my satisfaction.
- I have been informed of my right to not participate in this study.
- The potential risks, harms and discomforts have been explained to me and I also understand the benefits of participating in the research study.
- I understand that I have not waived my legal rights or released the researchers, sponsors, or other people or organizations involved from their legal and professional duties.
- I may ask now, or in future, any questions about the study or the procedures.
- Information relating to me and my housing, health care and other service use will be kept confidential and no information will be released or printed that would reveal my personal identity without my permission, unless required by law.

I will be given a signed copy of the entire consent form, including this signature page.

<b>X</b> _____	_____	_____
Signature of Participant	Name (printed)	Date

<b>X</b> _____	_____	_____
Signature of Interviewer & Role in the study	Name (printed)	Date

**AUTHORIZATIONS TO RELEASE INFORMATION**

I allow the sources initialed below to release information regarding my current **mailing address** and **phone number** to the research team. This information will be used only for contacting me to do follow-up interviews.

\_\_\_\_ (initial) Friends, family members, acquaintances,

\_\_\_\_ (initial) Public service agencies (eg., shelters, social agencies, income assistance offices, health centres, justice organizations)

We are also asking your permission to use your **Manitoba Health Card** number to find out what publically-funded services you use over time. This information will only be used for research and your privacy will be protected at all times.

\_\_\_\_ (initial) I allow the researchers to use my health card to get information about my use of the following:

- Hospital and physician records
- Mental health and emergency care visits
- Educational history and attainment (for example highest level of secondary school completion in Manitoba)
- Community and Social services data (for example financial assistance from Family Services and Housing)

Personal Health Card #: \_\_\_\_\_

\_\_\_\_ (initial) I allow the research team to contact my recent health care providers (hospital, walk-in clinic, family doctor, etc) to get my health card number. I allow these health care centres to release my health card number to the research team for the purposes of research.

Name of recent health care provider and/or centre: \_\_\_\_\_

**ASSISTANCE WITH INFORMED CONSENT**

I was assisted during the consent process by having the consent form read to me.

Yes No \_\_\_\_ (initial)

If Yes, please check the relevant box and complete the signature space below:

The consent form was read to me, and the person signing below attests that the study was accurately explained to me and I have understood what was said.

\_\_\_\_\_  
Name of Person Assisting in  
the Consent Discussion

\_\_\_\_\_  
Signature of Person Assisting in  
the Consent Discussion

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Interviewer

\_\_\_\_\_  
Name of Interviewer (printed)  
& Role in the study

\_\_\_\_\_  
Date

**WITNESS DECLARATION OF PARTICIPANT’S INFORMED CONSENT:** \*If a participant is unable to read independently for any reason or unable to sign, a witness should be present during the entire informed consent discussion and sign below. By signing the consent form I attest that the information was accurately explained to and apparently understood by the participant and that consent was given freely.

\_\_\_\_\_  
Name of Witness

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Date





# *Certificate of Completion*

*This document certifies that*

**Andrew Kaufman**

*has completed the Tri-Council Policy Statement:  
Ethical Conduct for Research Involving Humans  
Course on Research Ethics (TCPS 2: CORE)*

Date of Issue:      **21 October, 2014**



UNIVERSITY  
OF MANITOBA

# FINAL PROJECT REPORT FOR RESEARCH ETHICS BOARD

Human Ethics  
Fort Garry Campus  
Crop Technology Centre  
208 - 194 Dafoe Road  
Winnipeg, MB R3T 2N2  
Phone: (204) 474-7122  
Fax: (204) 269-7173

Protocol #



Date

May 6<sup>th</sup>, 2016



Principal Investigator(s)

Project Title Mobilities of Madness: Intervention movement among a cohort of  
homeless individuals with co-occurring mental health issues.

Sponsor (if applicable)

## TYPE OF FINAL REPORT PROVIDED TO THE REB

For **Minimal Risk** studies:

- There were no problems encountered in interactions with human participants.
- There were problems encountered. Attach a detailed description of the nature of the problems, how they were dealt with, and the final outcomes.

For **Above Minimal Risk** studies:

- Provide a description of how the study was conducted with an emphasis on any problems that were encountered. Provide a detailed description of the nature of the problems, how they were dealt with, and the final outcomes.



Signature of Principal Investigator

May 6<sup>th</sup>, 2016  
Date

Signature of REB Chair

Date

PDF forms can be filled-in and saved locally to your PC.

1. Completed online, save to your personal computer
2. Save to your PC, open and complete offline.

Return to:

Human Ethics Coordinator  
Phone: (204) 474-7122 Fax: (204) 269-7173  
humanethics@umanitoba.ca

## Appendix B: At Home/Chez Soi Survey Instruments

- i. Mobility History Survey
- ii. Demographic Survey

I'd like to ask you a bit more about other places that you might have stayed or lived in approximately the past 10 years.

1. Have you always lived in (name of city)?

If yes, end here; if no, go to next question.

Yes  No

2.a. If not, when did you move here?

Y   r  2  0   M   D

2.b. Where from?

Name of place--city, reserve, or if rural, nearest town and province

\_\_\_\_\_

2.c. How long did you live there?

Ask in years and months, convert to months.

2.d. Why did you make that move?

\_\_\_\_\_

Repeat questions A-D to capture the past 3 moves over approximately the past 10 years but if there were more moves/frequent moves provide the details in Q5.

And for the place before that...

3.a. When did you move there?

Y   r  2  0   M   D

3.b. Where from?

Name of place--city, reserve, or if rural, nearest town and province.

\_\_\_\_\_

3.c. How long did you live there?

Ask in years and months, convert to months.

3.d. Why did you make that move?

\_\_\_\_\_

And for the place before that...

4.a. When did you move there?

\_\_\_\_\_ [Date]

4.b. Where from?

Name of place--city, reserve or, if rural, nearest town and province.

\_\_\_\_\_

4.c. How long did you live there?

Ask in years and months, convert to months

4.d. Why did you make that move?

\_\_\_\_\_



5. Please provide information on additional moves or other circumstances.

---

Next, I'd like to ask some basic questions about you.

### GENDER

<b>3.1 What is your gender? Do you identify as:</b>		
<input type="checkbox"/> Male	<input type="checkbox"/> Transsexual	<input type="checkbox"/> N/A
<input type="checkbox"/> Female	<input type="checkbox"/> Other _____	<input type="checkbox"/> Refused
<input type="checkbox"/> Transgender		<input type="checkbox"/> Don't know
<b>3.2 What is your <u>biological</u> gender? What was your sex at birth?</b>		
<input type="checkbox"/> Male	<input type="checkbox"/> Female	<input type="checkbox"/> N/A
		<input type="checkbox"/> Refused
		<input type="checkbox"/> Don't know

### MISSING CULTURAL BACKGROUND INFORMATION

<i>Interviewer: Ask questions 3.3 to 3.8 only for <u>baseline</u> interviews and only if we are <u>missing</u> these questions for the participant from At Home 1. Otherwise, check "N/A" and <b>go to 3.9</b> (refer to printout).</i>							
<b>3.3 Where were you born, that is, what country?</b> <i>Interviewer: DO NOT READ LIST. If other than Canada, skip 3.4 and ask 3.5 and 3.6.</i>							
<input type="checkbox"/> Albania	<input type="checkbox"/> Iran	<input type="checkbox"/> Sri Lanka					
<input type="checkbox"/> Afghanistan	<input type="checkbox"/> Jamaica	<input type="checkbox"/> Ukraine					
<input type="checkbox"/> Bangladesh	<input type="checkbox"/> Pakistan	<input type="checkbox"/> United States					
<input type="checkbox"/> Canada	<input type="checkbox"/> Philippines	<input type="checkbox"/> Vietnam					
<input type="checkbox"/> China	<input type="checkbox"/> Romania	<input type="checkbox"/> Yugoslavia					
<input type="checkbox"/> Guyana	<input type="checkbox"/> Russia	<input type="checkbox"/> Other _____					
<input type="checkbox"/> Hong Kong	<input type="checkbox"/> Somalia						
<input type="checkbox"/> India	<input type="checkbox"/> South Korea						
<b>3.4 Within Canada, where did you live after you were born and for your early years?</b> <i>Interviewer: Record what they tell you.</i>							
_____		<input type="checkbox"/> N/A					
_____		<input type="checkbox"/> Refused					
_____		<input type="checkbox"/> Don't know					
<b>3.5 <i>Interviewer: Skip this question if participant answered "Canada" to 3.3.</i></b> <b>When did you arrive in Canada? For instance, your landing date. Please estimate if not known exactly.</b>							
<input type="checkbox"/> N/A							
<input type="checkbox"/> Refused							
<input type="checkbox"/> Don't know							
<table border="1"> <tr> <td>  d   d  </td> <td>-</td> <td>  m   m   m  </td> <td>-</td> <td>  y   y   y   y  </td> </tr> </table>			d   d	-	m   m   m	-	y   y   y   y
d   d	-	m   m   m	-	y   y   y   y			

**3.6 Interviewer:** Skip this question if participant answered "Canada" to 3.3.

**When you arrived in Canada, what was your status?**

- |   |  |                                     |
|---|--|-------------------------------------|
| <input type="checkbox"/> Landed immigrant             | <input type="checkbox"/> Temporary status (work permit, domestic help) | <input type="checkbox"/> N/A        |
| <input type="checkbox"/> Visitor with intent to apply | <input type="checkbox"/> Refugee Claimant (awaiting hearing)           | <input type="checkbox"/> Refused    |
| <input type="checkbox"/> Student                      | <input type="checkbox"/> Other _____                                   | <input type="checkbox"/> Don't know |

**3.7 Where were your parents born, that is, what country?**

*Interviewer:* Check one for each parent, unless they were born in the same country.

- |                                      |                                      |  |                                     |
|--------------------------------------|--------------------------------------|--|-------------------------------------|
| <input type="checkbox"/> Albania     | <input type="checkbox"/> Iran        | <input type="checkbox"/> Sri Lanka     | <input type="checkbox"/> N/A        |
| <input type="checkbox"/> Afghanistan | <input type="checkbox"/> Jamaica     | <input type="checkbox"/> Ukraine       | <input type="checkbox"/> Refused    |
| <input type="checkbox"/> Bangladesh  | <input type="checkbox"/> Pakistan    | <input type="checkbox"/> United States | <input type="checkbox"/> Don't know |
| <input type="checkbox"/> Canada      | <input type="checkbox"/> Philippines | <input type="checkbox"/> Vietnam       |                                     |
| <input type="checkbox"/> China       | <input type="checkbox"/> Romania     | <input type="checkbox"/> Yugoslavia    |                                     |
| <input type="checkbox"/> Guyana      | <input type="checkbox"/> Russia      | <input type="checkbox"/> Other _____   |                                     |
| <input type="checkbox"/> Hong Kong   | <input type="checkbox"/> Somalia     |  |                                     |
| <input type="checkbox"/> India       | <input type="checkbox"/> South Korea |  |                                     |

**3.8 Do you identify yourself as Canadian? You do not have to be born in Canada to think of yourself as Canadian.**

- |                              |                             |                                     |
|------------------------------|-----------------------------|-------------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A        |
|                              |                             | <input type="checkbox"/> Refused    |
|                              |                             | <input type="checkbox"/> Don't know |

*Interviewer:* This is the end of the "Missing cultural background information" section. Please continue to the "Education" section.

## **EDUCATION**

The next questions are about schooling.

**3.9 What is the highest level of education you completed? That is, how far did you go in school?**

- |   |   |   |                                     |
|---|---|---|-------------------------------------|
| <input type="checkbox"/> Less than grade 9                            | <input type="checkbox"/> Some college               | <input type="checkbox"/> Other/comments _____ | <input type="checkbox"/> N/A        |
| <input type="checkbox"/> Some high school                             | <input type="checkbox"/> Completed college          |   | <input type="checkbox"/> Refused    |
| <input type="checkbox"/> Completed high school                        | <input type="checkbox"/> Some university _____      |   | <input type="checkbox"/> Don't know |
| <input type="checkbox"/> Completed high school equivalency (i.e. GED) | <input type="checkbox"/> Completed university _____ |   |                                     |
| <input type="checkbox"/> Some trades and technical training           | <input type="checkbox"/> Some Master's _____        |   |                                     |
| <input type="checkbox"/> Completed trades and technical training      | <input type="checkbox"/> Completed Master's _____   |   |                                     |
|   | <input type="checkbox"/> Some doctorate _____       |   |                                     |
|   | <input type="checkbox"/> Completed doctorate _____  |   |                                     |

**3.10 How many years of elementary and/or high school did you complete?**

*Interviewer:* Record number of years between grade 1 and 12. Maximum of 12 years . Refer to QxQ.

- |                 |                      |                                     |
|-----------------|----------------------|-------------------------------------|
| Number of years | <input type="text"/> | <input type="checkbox"/> N/A        |
|                 |                      | <input type="checkbox"/> Refused    |
|                 |                      | <input type="checkbox"/> Don't know |

<b>3.11.a Are/were you enrolled in an apprenticeship, vocational and/or technical training program?</b>		
<input type="checkbox"/> Yes	<input type="checkbox"/> No (Go to 3.12.a)	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know
<b>3.11.b How many <u>years</u> of apprenticeship, vocational and/or technical training did you complete?</b> <i>Interviewer: Clarify which was the last year they completed.</i>		
Number of years	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know
<b>3.12.a Are/were you enrolled in a college program?</b>		
<input type="checkbox"/> Yes	<input type="checkbox"/> No (Go to 3.13.a)	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know
<b>3.12.b How many <u>years</u> of college did you complete?</b> <i>Interviewer: Clarify which was the last year they completed.</i>		
Number of years	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know
<b>3.13.a Are/were you enrolled in a Bachelor's program?</b>		
<input type="checkbox"/> Yes	<input type="checkbox"/> No (Go to 3.16)	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know
<b>3.13.b How many <u>years</u> of Bachelor studies did you complete?</b> <i>Interviewer: Clarify which was the last year they completed.</i>		
Number of years	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know
<b>3.13.c Did you receive a Bachelor's degree?</b>		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know
<b>3.14.a Are/were you enrolled in a Master's program?</b>		
<input type="checkbox"/> Yes	<input type="checkbox"/> No (Go to 3.15.a)	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know



<b>3.14.b How many <u>years</u> of your Master's program did you complete?</b> <i>Interviewer: Clarify which was the last year they completed.</i>		
Number of years <input type="text"/> <input type="text"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<b>3.14.c Did you receive a Master's degree?</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<b>3.15.a Are/were you enrolled in a doctorate program?</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No (Go to 3.16)	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<b>3.15.b How many <u>years</u> of your doctorate program did you complete?</b> <i>Interviewer: Clarify which was the last year they completed.</i>		
Number of years <input type="text"/> <input type="text"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<b>3.15.c Did you receive a doctorate degree?</b>		
<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	

**MARITAL STATUS & PARENTING**

Next are some questions about marital status and parenting.

<b>3.16 Are you <u>currently</u>...</b>		
<input type="checkbox"/> Single, never married <input type="checkbox"/> Married <input type="checkbox"/> Separated	<input type="checkbox"/> Divorced <input type="checkbox"/> Cohabiting with a partner <input type="checkbox"/> Widowed	<input type="checkbox"/> Other _____ _____ _____
	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<b>3.17 How many children do you have under the age of 18? Children can include biological, adoptive, foster, step-children or children of a partner you are living with.</b>		
<input type="checkbox"/> 0 (Go to next section) <input type="checkbox"/> 1 <input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> >4	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know } (Go to next section)

<b>3.18 How many children currently live with you <u>full-time</u>? Full-time refers to every day (i.e. 7 days a week).</b>		
<input type="checkbox"/> 0	<input type="checkbox"/> 3	<input type="checkbox"/> N/A
<input type="checkbox"/> 1	<input type="checkbox"/> 4	<input type="checkbox"/> Refused
<input type="checkbox"/> 2	<input type="checkbox"/> >4	<input type="checkbox"/> Don't know
<b>3.19 <i>Interviewer:</i> If all children are living with the participant full-time, <u>do not</u> ask this question and select '0'. How many children currently live with you <u>part-time</u>? Part-time refers to anything less than 7 days a week.</b>		
<input type="checkbox"/> 0	<input type="checkbox"/> 3	<input type="checkbox"/> N/A
<input type="checkbox"/> 1	<input type="checkbox"/> 4	<input type="checkbox"/> Refused
<input type="checkbox"/> 2	<input type="checkbox"/> >4	<input type="checkbox"/> Don't know

**MISSING PERIOD OF HOMELESSNESS INFORMATION**

<i>Interviewer:</i> Ask questions 3.20 to 3.23 only for <u>baseline</u> interviews and only if we are <u>missing</u> these questions for the participant from At Home 1. Otherwise, check "N/A" and <b>go to 4.1</b> (refer to printout).		
<b>3.20 When did you first become homeless? Please provide the year.</b>		
<input type="text" value="y"/> <input type="text" value="y"/> <input type="text" value="y"/> <input type="text" value="y"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<b>3.21 In your lifetime, what is the <u>total</u> amount of time you have been homeless? Please provide the number of months.</b>		
Number of months <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<b>3.22 How long was your longest single period of homelessness? Please provide the number of months</b>		
Number of months <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<b>3.23 <i>Interviewer:</i> Ask this question for precariously housed only. When did your last period of homelessness end? Please estimate if not known exactly.</b>		
<input type="text" value="d"/> <input type="text" value="d"/> - <input type="text" value="m"/> <input type="text" value="m"/> <input type="text" value="m"/> - <input type="text" value="y"/> <input type="text" value="y"/> <input type="text" value="y"/> <input type="text" value="y"/>	<input type="checkbox"/> N/A <input type="checkbox"/> Refused <input type="checkbox"/> Don't know	
<i>Interviewer:</i> This is the end of the "Missing period of homelessness information" section. Please <b>continue to Section 4</b> .		

# Appendix C: At Home/Chez Soi Database Sample

\*Subject Numbers Reformatted, Dates of Births Removed, and Details Randomized

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	SUBJECTNUMBER	434	434	434	434	434			435	435	435	435	435
2	EVENT_ID	Enrolment	Baseline	12 month	18 month	21 month p	21 month part 2 / 24 month	Enrolment	Baseline	12 month	18 month	21 month part 1	21 month part 2 / 24 month
3	BL_DATE	10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009	11/2/2009	11/2/2009	11/2/2009	11/2/2009	11/2/2009
4	REC_VISITDATE	10/27/2009	10/25/2010	5/31/2011	8/16/2011	11/7/2011			11/2/2009	10/28/2010	6/23/2011	6/23/2011	11/23/2011
5	REC_TASKDATE	10/23/2009	10/23/2010	4/21/2011	7/20/2011	10/18/2011			10/28/2009	10/28/2010	4/26/2011	7/25/2011	10/23/2011
6	ANALYSISDATE	10/27/2009	10/25/2010	5/31/2011	8/16/2011	11/7/2011			11/2/2009	10/28/2010	3/25/2011	6/23/2011	11/23/2011
7	DAYSFROMBL		0	363	581	658	741		0	360	508	598	751
8	ACT_ANALYSIS	1	1	1	1	1	1	1	1	1	1	1	1
9	ICM_ANALYSIS	0	0	0	0	0	0	0	0	0	0	0	0
10	ECON_ANALYSIS	1	1	1	1	1	1	1	1	1	1	1	1
11	ECON_TOP_SU_DECILE	0	0	0	0	0	0	0	0	0	0	0	0
12	SITE	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton
13	MONCTON	1	1	1	1	1	1	1	1	1	1	1	1
14	MONTREAL	0	0	0	0	0	0	0	0	0	0	0	0
15	TORONTO	0	0	0	0	0	0	0	0	0	0	0	0
16	WINNIPEG	0	0	0	0	0	0	0	0	0	0	0	0
17	VANCOUVER	0	0	0	0	0	0	0	0	0	0	0	0
18	PARTINFO_WITHDRAWN	0	0	0	0	0	0	0	0	0	0	0	0
19	PARTINFO_STUDYCENTRE	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton	Moncton
20	PARTINFO_ENROLMENTDATE	10/23/2009	10/23/2009	10/23/2009	10/23/2009	10/23/2009	10/23/2009	10/23/2009	10/28/2009	10/28/2009	10/28/2009	10/28/2009	10/28/2009
21	PARTINFO_GENDER	M	M	M	M	M	M	M	F	F	F	F	F
22	PARTINFO_MCAS_SCORE	69	69	69	69	69	69	69	73	73	73	73	73
23	PARTINFO_ISETHNORACIAL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
24	PARTINFO_ISABORIGINAL	No	No	No	No	No	No	No	No	No	No	No	No
25	PARTINFO_NEEDLEVEL	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN
26	PARTINFO_RANDOMIZATION	4	4	1/4/1900	1/4/1900	1/4/1900	1/4/1900	1/4/1900	1/4/1900	1/4/1900	1/4/1900	1/4/1900	1/4/1900
27	PARTINFO_RANDOMIZED_DATE	10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009	11/2/2009	11/2/2009	11/2/2009	11/2/2009	11/2/2009
28	PARTINFO_TG_FULL	TAU	TAU	TAU	TAU	TAU	TAU	TAU	HF + FS	HF + FS	HF + FS	HF + FS	HF + FS
29	PARTINFO_PARTICIPATIONSTATUS	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active
30	MH_Q1	No							No				
31	MH_Q2_A	1-Aug-06							1-Nov-03				
32	MH_Q2_B	unsure-hitchhiking							Montreal				
33	MH_Q2_C	120							2				
34	MH_Q2_D	To begin a new life							Return to previous hometown				
35	MH_Q3_A	999							1-Sep-03				
36	MH_Q3_B	999							Moncton				
37	MH_Q3_C	999							2				
38	MH_Q3_D	999							Family probs in Moncton				
39	MH_Q4_A	999							16-Sep-02				
40	MH_Q4_B	999							Miramichi				
41	MH_Q4_C	999							1				
42	MH_Q4_D	999							Discharged from detox				
43	MH_Q5	Participant was unsure of where he lived prior to moving to Moncton. He reported that							Sept 1, 2002, Miramichi (0.5 mths), detox / June 16 2002-Sept 1 2002, Moncton (2.5 mths), disch				
44	MH_TASKNAME	21 Months Part 1							21 Months Part 1				
45	MH_VISITNUM	1							1				
46	MH_QUESTIONNAIRENAME	MH							MH				
47	MH_ENROLMENTDATE	11/17/2009							11/17/2009				
48	MH_TASKDATE	8/14/2011							8/14/2011				
49	MH_VISITDATE	8/15/2011							8/15/2011				

# Appendix D: SPSS Syntax

```

*=====
*
* MOBILITY AS AN EVENT: Interurban movement among a cohort of homeless individuals with co-occurin
mental health issues.
*
* SPSS Programmed by: Andrew Kaufman.
*
* Date started: July 13, 2015.
*
* Purpose: Multivariate data preparation and analysis of mobility patterns among the Mental Health
Commission of Canada's At Home Research Demonstration Project on Mental Health and Homelessness.
*
*=====

```

```

*=====
* 1. PREPARE VARIABLES FOR ANALYSIS.
*=====

```

```

*=====
* 1.1 - INDEPENDENT VARIABLES.
*=====

```

```

Pi.
COMPUTE pi=4*ARTAN(1).
formats Pi (f1.4).

BL_Latitude.
DO IF (SITE=5).
  COMPUTE BL_Latitude=49.282729.
ELSE IF (SITE=4).
  COMPUTE BL_Latitude=49.899754.
ELSE IF (SITE=3).
  COMPUTE BL_Latitude=43.653226.
ELSE IF (SITE=2).
  COMPUTE BL_Latitude=45.501689.
ELSE IF (SITE=1).
  COMPUTE BL_Latitude=46.087817.
ELSE.
  COMPUTE BL_Latitude=999.
END IF.
EXECUTE.

BL_Longitude.
DO IF (SITE=5).
  COMPUTE BL_Longitude=-123.120738.
ELSE IF (SITE=4).
  COMPUTE BL_Longitude=-97.137494.

```

```

*=====
* 1.2.2 Calculate Eligible Dates for Mobility History Data
*=====

*3. Subtract 10 years 3 months from baseline dates to ensure MH data is eligible.

compute MH_eligible_date = datesum(MH_Q4_A_Clean,-3740,'days').
Execute.

*Show time values as dates.

formats MH_eligible_date (Adate10).

Execute.

```

```

*=====
* 1.2.3 Calculate Date Moved to location 3
*=====
formats MH_Q4_A_Clean (f1).
compute Move3Date = MH_Q4_A_Clean - (MH_Q4_C_*2592000).
*2592000=number of seconds in a month after converting MH_Q4_A into a continuous number.
formats MH_Q4_A_Clean (Adate10).
formats Move3Date (Adate10).
Execute.

```

```

*=====
* 1.3 - MISSING VALUES ANALYSIS
*=====

*=====
*1.3.1 - Frequency of missing data: Dates.
*=====

*Checking the frequencies of missing data (ie missing data >5%).

```

```

Temporary.
SELECT IF Move1_Eligibility = 1.
FREQUENCIES VARIABLES=MH_Q2_A_Clean
/FORMAT=NOTABLE
/STATISTICS=MEAN
/ORDER=ANALYSIS.

*9.67% missing values.

Temporary.
SELECT IF Move2_Eligibility = 1.

```

```

ELSE IF (SITE=3).
COMPUTE BL_Longitude=-79.383184.
ELSE IF (SITE=2).
COMPUTE BL_Longitude=-73.567256.
ELSE IF (SITE=1).
COMPUTE BL_Longitude=-64.778231.
ELSE.
COMPUTE BL_Longitude=999.
END IF.
EXECUTE.

```

```

*=====
* 1.2 - DEPENDENT VARIABLES.
*=====

```

```

*BL_Latitude_Radians.
COMPUTE BL_Latitude_Radians=BL_Latitude*(pi/180).

*BL_Longitude_Radians.
COMPUTE BL_Longitude_Radians=BL_Longitude*(pi/180).

*Move1_Lat_Rads.
COMPUTE Move1_Lat_Rads=MH_Q2_B_Latitude*(pi/180).

*Move1_Long_Rads.
COMPUTE Move1_Long_Rads=MH_Q2_B_Longitude*(pi/180).

*Move2_Lat_Rads.
COMPUTE Move2_Lat_Rads=MH_Q3_B_Latitude*(pi/180).

*Move2_Long_Rads.
COMPUTE Move2_Long_Rads=MH_Q3_B_Longitude*(pi/180).

*Move3_Lat_Rads.
COMPUTE Move3_Lat_Rads=MH_Q4_B_Latitude*(pi/180).

*Move3_Long_Rads.
COMPUTE Move3_Long_Rads=MH_Q4_B_Longitude*(pi/180).

EXECUTE.

```

```

*=====
* 1.2.2 Calculate Age at Baseline
*=====
compute Baseline_Age = datesum(BL_DATE-PARTINFO__DOB).
Execute.
formats Baseline_Age (Adate10).

```

```

FREQUENCIES VARIABLES= MH_Q3_A_Clean
/FORMAT=NOTABLE
/STATISTICS=MEAN
/ORDER=ANALYSIS.

*7.07% missing values.

```

```

Temporary.
SELECT IF Move3_Eligibility = 1.
FREQUENCIES VARIABLES= MH_Q4_A_Clean
/FORMAT=NOTABLE
/STATISTICS=MEAN
/ORDER=ANALYSIS.

*17% missing values.

```

```

*=====
* 1.3.2 - Recode for T-Test
*=====
*Recode measures with high missing data in order to run a t-test to determine if data are missing at random
or if there is significant bias.

```

```

Compute MH_Q2_A_Missing=1.
If (sysmis(MH_Q2_A_Clean)) MH_Q2_A_Missing=0.
format MH_Q2_A_Missing (f2.0).
var lab MH_Q2_A_Missing "MH_Q2_A_Clean Data Check".
var lab MH_Q2_A_Missing 0 "Missing data" 1 "Non-missing data".

```

```

Compute MH_Q3_A_Missing=1.
If (sysmis(MH_Q3_A_Clean)) MH_Q3_A_Missing=0.
format MH_Q3_A_Missing (f2.0).
var lab MH_Q3_A_Missing "MH_Q3_A_Clean Data Check".
var lab MH_Q3_A_Missing 0 "Missing data" 1 "Non-missing data".

```

```

Compute MH_Q4_A_Missing=1.
If (sysmis(MH_Q4_A_Clean)) MH_Q4_A_Missing=0.
format MH_Q4_A_Missing (f2.0).
var lab MH_Q4_A_Missing "MH_Q4_A_Clean Data Check".
var lab MH_Q4_A_Missing 0 "Missing data" 1 "Non-missing data".

```

```

Execute.

*=====
* 1.3.3 - T Test
*=====

```

```

Temporary.

```

```

SELECT IF Move1_Eligibility = 1.
T-TEST GROUPS=MH_Q2_A_Missing(0 1)
/MISSING=ANALYSIS
/VARIABLES=MH_Q1
/CRITERIA=C(.95).

*****
* 1.3.4 - Missing Values Analysis.
*****

MVA VARIABLES = MH_Q2_A_Clean
/Maxcat =25
/CATEGORICAL=
/ID=SUBJECTNUMBER
/TTEST NOPROB PERCENT =5
/CROSSTAB PERCENT =5
/TPATTERN PERCENT=1 DESCRIBE=MH_Q2_A_Clean_MV
/EM(TOLERANCE=0.001 CONVERGENCE=0.0001 ITERATIONS=25) OUTFILE=
'D:\at Home\MHCC_MOBILITY_DATA_CLEANING\Analysis\MissingValues\MissingValues1.sav' .

*Replace missing vlaues with serives mean.

IF Move1_Eligibility = 1.
RMV /MH_Q2_A_Clean_1=SMEAN(MH_Q2_A_Clean).
formats MH_Q2_A_Clean_1(Adate10).

Do IF Move2_Eligibility = 1.
RMV /MH_Q3_A_Clean_1=SMEAN(MH_Q3_A_Clean).
formats MH_Q3_A_Clean_1(Adate10).
end if.

DO IF Move3_Eligibility = 1.
RMV /MH_Q4_A_Clean_1=SMEAN(MH_Q4_A_Clean).
formats MH_Q4_A_Clean_1(Adate10).
end if.

*****
* 2.0 - Geographical Distance Between Move Points (kilometres)
*****

*****
* 2.1 Compute Distance (spherical earth)
*****

'DIST_BL_To_Move1.

COMPUTE DIST_MOVE1_TO_BL=(2 * 6378137*ARSIN (SQRT((1- COS (Move1_Lat_Rads -

```

```

BL_Latitude_Radians))/2 +
COS(BL_Latitude_Radians)*COS(Move1_Lat_Rads)*(1-COS(Move1_Long_Rads-BL_Longitude_Radians)
/1000.

*APPROX_DIST_BL_To_Move1.

COMPUTE
APPROX_MOVE1_TO_BL=(SQRT((COS((BL_Latitude_Radians+Move1_Lat_Rads)/2)*(MH_Q2_B_Longi
-BL_Longitude)**2+(MH_Q2_B_Latitude-BL_Latitude)**2)/111320)/1000.

'DIST_Move2_to_Move1

COMPUTE DIST_MOVE2_TO_MOVE1=(2 * 6378137*ARSIN (SQRT((1- COS (Move2_Lat_Rads -
Move2_Lat_Rads))/2 +
COS(Move2_Lat_Rads)*COS(Move2_Lat_Rads)*(1-COS(Move2_Long_Rads-Move2_Long_Rads))/2)))/11
*APPROX_DIST_Move2_to_Move1.

COMPUTE
APPROX_DIST_MOVE2_to_MOVE1=(SQRT((COS((Move1_Lat_Rads+Move2_Lat_Rads)/2)*(MH_Q3_B_
gitude-MH_Q2_B_Longitude)**2+(MH_Q3_B_Latitude-MH_Q2_B_Latitude)**2)/111320)/1000.

'DIST_Move3_to_Move2

COMPUTE DIST_MOVE3_TO_MOVE2=(2 * 6378137*ARSIN (SQRT((1- COS (Move3_Lat_Rads -
Move3_Lat_Rads))/2 +
COS(Move3_Lat_Rads)*COS(Move3_Lat_Rads)*(1-COS(Move3_Long_Rads-Move3_Long_Rads))/2)))/11
*APPROX_DIST_MOVE3_TO_MOVE2

COMPUTE
APPROX_DIST_MOVE3_to_MOVE2=(SQRT((COS((Move2_Lat_Rads+Move3_Lat_Rads)/2)*(MH_Q4_B_
gitude-MH_Q3_B_Longitude)**2+(MH_Q4_B_Latitude-MH_Q3_B_Latitude)**2)/111320)/1000.

Execute.

*****
* 2.2 Move Eligibility Coding
*****

*Move1 Eligibility.
*Compute Move1_Eligibility = 0.

*If MH_Q2_A_Clean >= MH_eligible_date Move1_Eligibility = 1.

*Move1 Eligibility.
Compute Move1_Eligibility = 0.

#EarthRad = 6372.7976 /* km */.

* #AngleCvt is the number of your angle units (degrees, here) .
* in one of SPSS's angle units (radians). It uses that
* ARCTAN(1)is PI/4 radians or (in any angle measure) 1/8 circle .

. COMPUTE
#AngleCvt = 360 /* Number of input units in a full circle */
/(8*ARTAN(1)).

END IF.

* ..... Compute distance .....
* Compute distance between points with coordinates
* (lat1,lon1) and (lat2,lon2)

DO IF Move1_Eligibility = 1.
compute CHECK_DIST_MOVE1_TO_BL = #EarthRad *
(2*atan(1)-arsin( sin(BL_Latitude/#AngleCvt) /* (sin(lat1) */
*sin(MH_Q2_B_Latitude/#AngleCvt) /* (sin(lat2) */
+ cos(BL_Latitude/#AngleCvt) /* +cos(lat1) */
*cos(MH_Q2_B_Latitude/#AngleCvt) /* .cos(lat2) */
*cos(MH_Q2_B_Longitude/#AngleCvt) /* .cos(long2 */
-BL_Longitude/#AngleCvt) /* -long1)')').

END IF.

FORMATS CHECK_DIST_MOVE1_TO_BL (F7.2).

*****
* 2.3.2 Move 2 to Move 1
*****

DO IF $CASENUM EQ 1.
COMPUTE
#EarthRad = 6372.7976 /* km */.
COMPUTE
#AngleCvt = 360 /* Number of input units in a full circle */
/(8*ARTAN(1)).

END IF.

* ..... Compute distance .....
* Compute distance between points with coordinates
* (lat1,lon1) and (lat2,lon2)

DO IF Move2_Eligibility = 1.
compute CHECK_DIST_MOVE2_TO_MOVE1 = #EarthRad *

```

```

(2*atan(1)-arsin( sin(MH_Q2_B_Latitude/#AngleCvt) /* sin(lat1) */
*sin(MH_Q3_B_Latitude/#AngleCvt) /* sin(lat2) */
+ cos(MH_Q2_B_Latitude/#AngleCvt) /* +cos(lat1) */
*cos(MH_Q3_B_Latitude/#AngleCvt) /* .cos(lat2) */
*cos(MH_Q3_B_Longitude/#AngleCvt) /* .cos(long2) */
-MH_Q2_B_Longitude/#AngleCvt) /* -long1)*/
))

```

END IF.

FORMATs CHECK\_DIST\_MOVE2\_TO\_MOVE1 (F7.2).

```

*-----
*2.3.3 Move 3 to Move 2
*-----

```

```

DO IF $CASENUM EQ 1.
COMPUTE
#EarthRad = 6372.7976 /* km */.
COMPUTE
#AngleCvt = 360 /* Number of input units in a full circle */
/(8*ARTAN(1)).
END IF.

```

```

* ..... Compute distance .....
* Compute distance between points with coordinates
* (lat1,lon1) and (lat2,lon2)

```

```

DO IF Move3_Eligibility = 1.
compute CHECK_DIST_MOVE3_TO_MOVE2 = #EarthRad *
(2*atan(1)-arsin( sin(MH_Q3_B_Latitude/#AngleCvt) /* sin(lat1) */
*sin(MH_Q4_B_Latitude/#AngleCvt) /* sin(lat2) */
+ cos(MH_Q3_B_Latitude/#AngleCvt) /* +cos(lat1) */
*cos(MH_Q4_B_Latitude/#AngleCvt) /* .cos(lat2) */
*cos(MH_Q4_B_Longitude/#AngleCvt) /* .cos(long2) */
-MH_Q3_B_Longitude/#AngleCvt) /* -long1)*/
))
END IF.

```

FORMATs CHECK\_DIST\_MOVE3\_TO\_MOVE2 (F7.2).

```

*-----
* 3. DESCRIPTIVE STATISTICS FOR MEAN MOVE DEISTANCES, NUMBER OF MOVES,
AND DURATION LIVED IN EACH LOCATION.
*-----

```

```

*-----

```

```

*-----
*Toronto.
*-----

```

```

Temporary.
SELECT IF Site = 3.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*Montreal.
*-----

```

```

Temporary.
SELECT IF Site = 2.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*Moncton.
*-----

```

```

Temporary.
SELECT IF Site = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.

```

```

* 3.1 - Sites.
*-----
*-----
*All Sites and Populations.
*-----

```

```

Temporary.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.

```

```

EXECUTE.
*-----
*Vancouver
*-----

```

```

Temporary.
SELECT IF Site = 5.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*Winnipeg
*-----

```

```

Temporary.
SELECT IF Site = 4.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

EXECUTE.

```

*-----
* 3.2 - Gender
*-----
*-----
*Male.
*-----

```

```

Temporary.
SELECT IF DSHH_Q1Gender = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*Female.
*-----

```

```

Temporary.
SELECT IF DSHH_Q1Gender = 2.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*Non-Binary
*-----

```

```

Temporary.
SELECT IF DSHH_Q1Gender = 3 or DSHH_Q1Gender = 4 or DSHH_Q1Gender = 5.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW

```

```

KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*=====
* 3.3 - Ethnicity.
*=====

```

```

*-----
*White.
*-----

```

```

Temporary.
Select if (PARTINFO__ISETHNORACIAL = 'No').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*Non-White.
*-----

```

```

Temporary.
Select if (PARTINFO__ISETHNORACIAL = 'Yes').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*Indigenous.
*-----

```

Temporary.

```

*-----
*High Need.
*-----

```

```

Temporary.
Select if (PARTINFO__NEEDLEVEL = 'HN').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*=====
* 3.5 - Age at Baseline
*=====

```

```

*-----
*34 or younger
*-----

```

```

Temporary.
SELECT IF RANGE (PARTINFO__DOB,date.dmy(17,8,1975), date.dmy(30,10,1991)).
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*35-54.
*-----

```

```

Temporary.
SELECT IF RANGE (PARTINFO__DOB,date.dmy(3,8,1955), date.dmy(19,2,1976)).
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT

```

```

Select if (PARTINFO__ISABORIGINAL = 'Yes').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*=====
* 3.4 - Need Level.
*=====

```

```

*-----
*Top 10%.
*-----

```

```

Temporary.
Select if ECON_TOP_SU_DECILE = 10.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*Moderate Need.
*-----

```

```

Temporary.
Select if (PARTINFO__NEEDLEVEL = 'MN').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
*55+ (75).
*-----

```

```

Temporary.
SELECT IF RANGE (PARTINFO__DOB,date.dmy(28,7,1940), date.dmy(25,12,1955)).
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE S#
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.

```

```

*-----
* 4. Descriptive Statistics for Move Distances
*-----

```

```

*-----
* 4.1 - Prepare Data
*-----

```

```

* Date and Time Wizard: Days_Final.
COMPUTE Days_Final=XDATE.MDAY(Date_Final).
VARIABLE LABELS Days_Final "Days_Final".
VARIABLE LEVEL Days_Final(SCALE).
FORMATS Days_Final(F8.0).
VARIABLE WIDTH Days_Final(8).
EXECUTE.

```

```

* Date and Time Wizard: Month_Final.
COMPUTE Month_Final=XDATE.MONTH(Date_Final).
VARIABLE LABELS Month_Final "Month_Final".
VARIABLE LEVEL Month_Final(SCALE).
FORMATS Month_Final(F8.0).
VARIABLE WIDTH Month_Final(8).
EXECUTE.

```

```

* Date and Time Wizard: Year_Final.
COMPUTE Year_Final=XDATE.YEAR(Date_Final).

```



```
VARIABLE LABELS Year_Final "Year_Final".
VARIABLE LEVEL Year_Final(SCALE).
FORMATS Year_Final(F8.0).
VARIABLE WIDTH Year_Final(8).
EXECUTE.
```

```
*=====
* 4.2 - Sites.
*=====
*-----
*All Sites and Populations.
*-----
```

```
Temporary.
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

```
*-----
*Vancouver - Moving to
*-----
```

```
Temporary.
SELECT IF (Geocode = 'Vancouver' OR 'geocode = Vancouver, BC, Canada').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.
```

```
*-----
*Calgary - Moving to
*-----
```

```
Temporary.
SELECT IF (Geocode = 'Calgary, AB, Canada' or Geocode = 'Calgary').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT =NOTABLE
```

```
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.
```

```
*-----
*Ottawa - Moving to
*-----
```

```
Temporary.
SELECT IF (Geocode = 'Ottawa, ON, Canada' or Geocode = 'Ottawa').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.
```

```
*-----
*Montreal - Moving to
*-----
```

```
Temporary.
SELECT IF (Geocode = 'Montreal' OR Geocode = 'Montreal, QC, Canada').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.
```

```
*-----
*Moncton - Moving to
*-----
```

```
Temporary.
SELECT IF (Geocode = 'Moncton' OR Geocode = 'Moncton, NB, Canada').
```

```
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.
```

```
*-----
*Edmonton - Moving to
*-----
```

```
Temporary.
SELECT IF (Geocode = 'Edmonton, AB, Canada' or Geocode = 'Edmonton').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.
```

```
*-----
*Winnipeg - Moving to
*-----
```

```
Temporary.
SELECT IF (Geocode = 'Winnipeg' OR Geocode = 'Winnipeg, MB, Canada').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.
```

```
*-----
*Toronto - Moving to
*-----
```

```
Temporary.
SELECT IF (Geocode = 'Toronto' or Geocode = 'Toronto, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
```

```
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT =NOTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE SK
NESS SESKEW
KURTOSIS SEKURT
/NTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
EXECUTE.
```

## Appendix E: Extended Mobility History

**Interview method:** Survey questionnaire; scheduled interview conducted in person.

**Goal of Study:** To examine inter-city movement and migration (mobility); moves between cities.

**Background:** You may remember that from one of your last interviews, the At Home Research Team asked you about the moves and travelling you've done outside of \_\_\_\_\_ (*interview site*). Aside from those questions we asked you, we don't know much about how people move between cities and why people move between cities. With this research, we're looking to find out more about people's moves between cities and how that can influence services. We've contacted you for an additional interview because \_\_\_\_\_ (*case selection rationale*) and we're interested in learning more about your experiences. We have a \$20.00 honorarium for you in exchange for information that you share with me. Would you like to continue?

**Confidentiality/Privacy/Potential Risks Statement:** Similar to all other At Home interviews, everything you share with me is confidential. I will not pass on information that you share with me to other people in a way that people could ever connect it to you. Like all the other interviews, your information will be stored in a password-protected computer. Your information will only be available to me, or other At Home Researchers. The only time that I would have to share your information is if you tell me that you are going to hurt yourself, or someone else. There is a risk that some of the questions I ask may upset you or bring up unpleasant memories. If any questions bother you, make you uncomfortable, or you prefer not to answer them: please let me know and we can skip them.

\_\_\_\_\_  
Participant Name

\_\_\_\_\_  
Participant Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Researcher Name

\_\_\_\_\_  
Researcher Signature

\_\_\_\_\_  
Date

**Interviewer instructions:** *All open ended questions to be recorded verbatim. If participant's response does not fit in the space allotted, please write neatly in page margins. Statement questions are directed towards most recent move. For participants with complex move histories, please record further information in the Comments section.*

## Demographics

I realise that we have asked you personal questions about your background before. I need to update this information in case any of your personal details have changed since we first interviewed you four years ago.

1. Do you identify as?

Male  Female  Transgender  Transsexual  Other  Declined

2. How old are you? \_\_\_\_\_

3. What is your home community? (*Place Name, Province/State, Country*)

\_\_\_\_\_  Don't know  Declined

4. What is the **first** language you first learned to speak at home in childhood?

\_\_\_\_\_  Don't know  Declined

5. What is your ethnic or cultural background? *(I.e. Jamaican, Swampy Cree, Black, Irish, Aborginal, Sudanese)*  
 \_\_\_\_\_  Don't know  Declined

6. What is your level of education?

<input type="radio"/> Completed grade 4 or less	<input type="radio"/> Completed grade 5 to 8
<input type="radio"/> Attended High School, not completed	<input type="radio"/> Completed High School
<input type="radio"/> Attended business, trade, technical school	<input type="radio"/> Completed business, trade, technical school
<input type="radio"/> Attended University	<input type="radio"/> Completed University (Bachelor's Degree)
<input type="radio"/> Don't know	<input type="radio"/> Declined

7. Are you currently?

<input type="radio"/> Attending School	<input type="radio"/> Planning to attend school
<input type="radio"/> Not attending school	<input type="radio"/> Don't know <input type="radio"/> Declined

8. Are you currently *(Please choose most appropriate response for current status):*

<input type="radio"/> Single, never married	<input type="radio"/> Married
<input type="radio"/> Separated	<input type="radio"/> Divorced
<input type="radio"/> Living with a partner	<input type="radio"/> Widowed
<input type="radio"/> Don't know	<input type="radio"/> Declined

9. How many children do you have? \_\_\_\_\_  Don't know  Declined *(Proceed to Q.10 if no children)*

- When were you last in contact with your children? \_\_\_\_\_  Don't know  Declined
- How many of these children live with you? \_\_\_\_\_  Don't know  Declined
- How many of these children are under 18? \_\_\_\_\_  Don't know  Declined

10. What is your **current** employment status?

<input type="radio"/> Unemployed	<input type="radio"/> Paid Employment	<input type="radio"/> Voluntary employment
<input type="radio"/> Sheltered employment	<input type="radio"/> Retired	<input type="radio"/> Student
<input type="radio"/> Househusband/wife	<input type="radio"/> Other (specify) _____	
<input type="radio"/> Don't know	<input type="radio"/> Declined	

11. What is your current **primary** source of income?

<input type="radio"/> Earnings from regular work	<input type="radio"/> Earning from casual work	<input type="radio"/> Unemployment Insurance or EI
<input type="radio"/> Disability Income (Prov/Fed)	<input type="radio"/> Welfare/Income Assistance	<input type="radio"/> Pension (old age/veterans/private)
<input type="radio"/> Pan-handling/ Flagging	<input type="radio"/> Busking	<input type="radio"/> Selling crafts
<input type="radio"/> Bottling	<input type="radio"/> Squeegeeing	<input type="radio"/> Other: _____
<input type="radio"/> Don't know	<input type="radio"/> Declined	

Now we will move onto some questions about moving. Please let me know if any questions are confusing and you need to hear them again.

12. Have you moved outside of \_\_\_\_\_ *(interview site)* in the last 6 months? *(If no proceed to question 15)*  
 Yes  No  Don't know  Declined

- 13. When was your last move outside of \_\_\_\_\_ *(interview site)*?
- 14. How many times have you moved between cities in the last two years? \_\_\_\_\_

For your most recent move: *(repeat before each question – if most recent move was an intra-city move, focus on most recent inter-city move)*

- 15. Where were you going? *(Probe for multiple destinations or single moves).*  
\_\_\_\_\_  
\_\_\_\_\_
- 16. Were there things going on in \_\_\_\_\_ *(interview site)* that made you move away? *(Probe for Push Factors)*  
\_\_\_\_\_  
\_\_\_\_\_
- 17. Were there things going on in \_\_\_\_\_ *(destination site)* that made you move there? *(Probe for Pull Factors).*  
\_\_\_\_\_  
\_\_\_\_\_
- 18. When did you start to think about moving?  
\_\_\_\_\_  
\_\_\_\_\_
- 19. How did you travel *(mode: carpool, own car, bus, hitchhike, freight hop, other)*?  
\_\_\_\_\_  
\_\_\_\_\_

### Travel (Movement)

For your most recent move: *(repeat before each question – if most recent move was an intra-city move, focus on most recent inter-city move)*

- 20. While traveling, did you travel directly from \_\_\_\_\_ *(move origin)* to \_\_\_\_\_ *(move destination)*?  
 Yes  No  Other \_\_\_\_\_  Don't know  Declined
- 21. How much would you estimate it cost for you to move? \$ \_\_\_\_\_  
 Don't know  Declined
- 22. Did you travel to a First Nation/Band Reserve?  
 Yes  No  Other \_\_\_\_\_  Don't know  Declined

I'm now going to read you several statements that people have made about their moves between cities. For these statements, please tell me how strongly you agree with the statements. You can refer to this answer key [\[display agree statements answer key\]](#)

23. I travelled alone.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

24. I stayed with people while I travelled to \_\_\_\_\_ *(move destination)*.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

25. Moving was difficult for me.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

26. Move arrangements came together quickly.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

27. I wanted to move.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

28. I knew people that lived in \_\_\_\_\_ *(move destination)*.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

29. I had strong ties to my family in \_\_\_\_\_ *(move origin)*.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

30. I had strong ties to family in \_\_\_\_\_ *(move destination)*.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

31. It was easy to settle in \_\_\_\_\_ *(move destination)*.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

32. I'm glad that I moved to \_\_\_\_\_ *(move destination)*.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

33. I am a frequent mover (*Clarify with more than two inter-city moves per year.*)

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

34. I moved in order to feel safer.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

35. I felt safe while moving.

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

36. I felt safer after I moved to \_\_\_\_\_ (*move destination*).

- Strongly Agree    Agree    Neutral    Disagree    Strongly Disagree  
 Don't know    Declined    Other \_\_\_\_\_

## Housing (Practice)

For your most recent move: (*repeat before each question – if most recent move was an intra-city move, focus on most recent inter-city move*)

37. What was your housing situation like before you moved to \_\_\_\_\_ (*move destination*).

---

---

---

---

38. Did you have any arrangement for housing before arriving in \_\_\_\_\_ (*move destination*).

---

---

---

---

39. What was your housing experience like when you arrived in \_\_\_\_\_ (*move destination*).

---

---

---

---

## Mental Health, Substance Abuse, and Movement

These next questions can be very personal and are about issues related to mental health, addictions, and your physical health. Please let me know if any questions make you feel uncomfortable.

40. Do you currently have any symptoms related to mental health issues?

Yes  No  Don't know  Declined

41. Do you currently identify yourself as a person with a mental health issues(s) *(For example PTSD, Depression, Schizophrenia, Anxiety, Bipolar, etc.)?*

Yes  No  Don't know  Declined

42. Do you have a current mental health diagnosis? *(If negative responses to q.'s 40 – 43, proceed to q. 44).*

Yes  No  Don't know  Declined

43. Did any symptoms from mental health issue(s) come up during your most recent move?

Yes  No  Don't know  Declined

i. *(If YES to question 43) Can you expand on that? (Probe for delusions, psychotics breaks, lack of awareness of movement)*

---

---

---

---

44. Do you identify yourself as a person who has ever had addictions or substance abuse issue(s)?

Yes  No  Don't know  Declined

45. Did any symptoms from substance addictions(s) come up during your most recent move? *[ie. Withdrawal, Delirium tremens (DTs), cravings]*

Yes  No  Don't know  Declined

i. *(If YES to question 45) Can you expand on that?*

---

---

---

---

46. Do you currently identify yourself as a person with any physical health issue(s)?

Yes  No  Don't know  Declined

47. Did any symptoms from physical health issue(s) come up during your most recent move?

Yes  No  Don't know  Declined

i. *(If YES to question 47) Can you expand on that?*

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## Inter-City Mobility and Service Provider

These questions are about service providers: people like doctors, case managers, welfare workers, mental health workers, spiritual counsellors, probation officers, and the like. Similar to those questions from before, please tell me how strongly you agree or disagree with the statements I read.

For your most recent move: *(repeat before each question – if most recent move was an intra-city move, focus on most recent inter-city move)*

48. I had a worker that helped me a lot **before** moving to \_\_\_\_\_ *(move destination)* *[If no worker; proceed to question 51].*

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

49. I told my worker that I would be moving away.

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

50. My worker kept helping me even **after** I moved away from \_\_\_\_\_ *(move origin).*

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

51. I had arrangements for a new worker in \_\_\_\_\_ *(move destination).*

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

52. Finding health, social, or justice services in \_\_\_\_\_ *(move destination)* was important for me.

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

53. I connected with a new worker within one month after arriving in \_\_\_\_\_ *(move destination).*

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

54. I had outstanding legal issues **before** moving to \_\_\_\_\_ *(move destination).*

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

55. I had outstanding health issues **before** moving to \_\_\_\_\_ *(move destination).*

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

56. I had a hard time getting my prescription medications filled **before** moving to \_\_\_\_\_ *(move destination).*

- Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree  
 Don't know     Declined     Other \_\_\_\_\_

57. I had a hard time getting my prescription medications filled **after** moving to \_\_\_\_\_ (*move destination*).

- Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree
- Don't know  Declined  Other \_\_\_\_\_

58. My benefits (welfare, pension, etc.) were cut off **after** I moved to \_\_\_\_\_ (*move destination*).

- Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree
- Don't know  Declined  Other \_\_\_\_\_

## Conclusion

We're getting really close to the end with just a few questions left. Thank you for your patience so far.

59. Are there any questions about moving between cities that I should have asked you?

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60. Anything else that you would like to say?

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That's it for the questions. I want to sincerely thank you for taking the time to participate in another survey. I have an honorarium for you that I'll need you to sign for (\$20). Is there anything else that you would like to share with me? Do you have any questions for me?

## Interviewer Impressions Items

1. How confident are you in the overall validity of the information collected in this interview?

- Completely confident  Some doubts  No confidence

2. Other comments:

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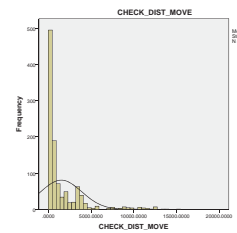
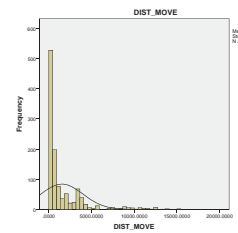
# Appendix F: Full Descriptive Statistics

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*****
* MOBILITIES OF WAGES: Intermittent movement among a cohort of homeless individuals with co-occurring mental health issues.
*
* SSSS Programmed by: Andrew Kaufman.
*
* Date started: January 19th, 2016.
*
* Purpose: Descriptive Statistics for Move Distances Among All Move Study Sites and Subpopulations.
*****

```

Statistics					
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)	
N	119	109	411	103	
Mean	615	686	1140	671	
Mean	1536.285198	1492.798912	1.8625	94.861	
Std. Error of Mean	72.842943	73.2609949	.03077	4.1790	
Median	502.304500	519.790000	2.0000	36.0000	
Mode	3362.6750	3359.8600	1.00	12.0	
Std. Deviation	6468.4949323	2394.1770358	.02228	137.2623	
Variance	6044197.376	5720907.401	.005	18833.711	
Skewness	2.735	2.758	.259	2.170	
Std. Error of Skewness	.072	.075	.009	.074	
Kurtosis	8.228	8.302	-1.475	4.662	
Std. Error of Kurtosis	.145	.150	.197	.149	
Range	15313.3687	15274.6386	2.000	893.5	
Minimum	3.0176	3.6146	1.00	.5	
Maximum	15316.4863	15278.2532	3.00	893.5	
Percentiles	25	158.00000	124.41710	1.0000	12.0000
	50	520.30450	519.79000	2.0000	36.0000
	75	1885.80000	1889.20000	3.0000	120.0000



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*****
* 1. Descriptive Statistics for Move Distances, Number of Moves, and Duration Lived in Each Move Location
*****

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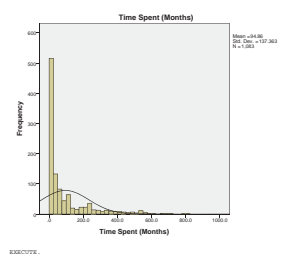
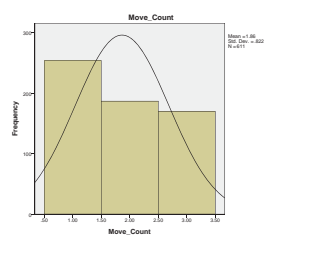
*****
* 1.1 - Sites.
*****
All Sites and Populations.
*****

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Frequencies
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*****
* Successive.
*****

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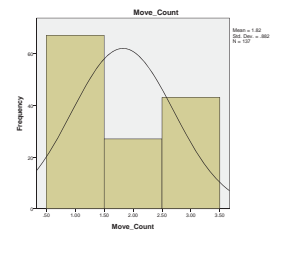
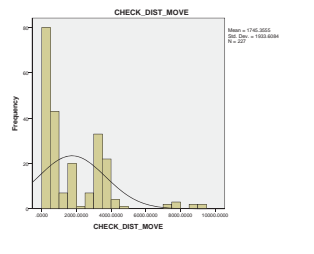
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*****
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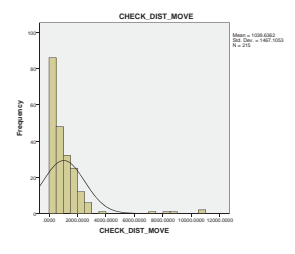
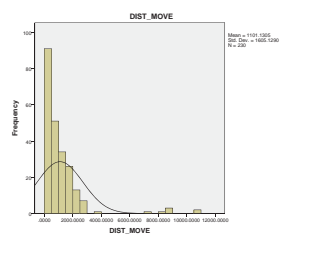
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*****
* Successive.
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* Successive.
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**Frequencies**

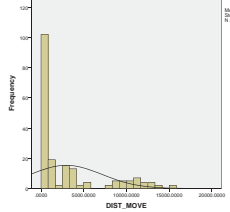
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		STATISTICS	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	133	133	133	137	137
	Missing	130	124	133	136	136
Mean		2947.70695	2892.95992	1.9383	112.292	
Std. Error of Mean		301.603982	300.269993	26914	11.4333	
Median		551.056041	538.951827	1.0000	48.000	
Mode		167.80267	352.19927	1.00	2.0	
Std. Deviation		4190.003034	4128.248651	7.1395	156.2118	
Variance		17559130.113	1704242.775	509	24422.127	
Skewness		1.462	1.462	779	2.182	
Std. Error of Skewness		.175	.177	.221	.178	
Kurtosis		.722	.857	-.754	5.205	
Std. Error of Kurtosis		.348	.352	.438	.384	
Range		15310.7881	15272.0762	2.00	893.5	
Minimum		61.881	61.8800	1.00	5	
Maximum		15316.8623	15278.2522	3.00	810.0	
Percentiles	25	121.887216	117.312416	1.0000	12.000	
	50	541.056041	538.951827	1.0000	48.000	
	75	3452.95534	3452.95533	2.0000	105.000	

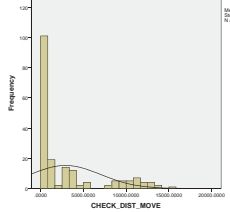
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**Histogram**

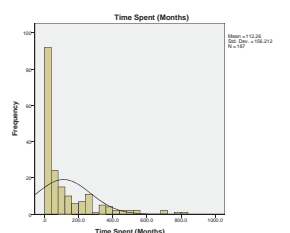
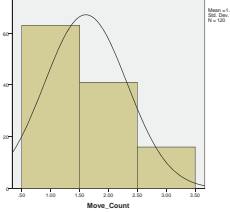
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**CHECK\_DIST\_MOVE**



**Move\_Count**

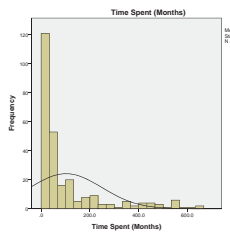
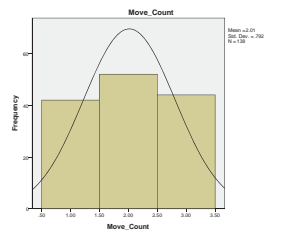
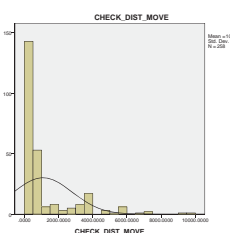
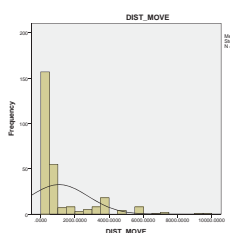


**Frequencies**

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		STATISTICS	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	376	356	128	362	362
	Missing	138	158	278	148	148
Mean		1068.327750	1079.228970	2.0145	101.981	
Std. Error of Mean		102.092986	102.814178	28743	8.9890	
Median		283.425207	318.589245	2.0000	36.000	
Mode		828.5037	827.3275	2.00	24.0	
Std. Deviation		1732.023114	1708.8145642	7.0171	147.0914	
Variance		2999894.714	2920116.535	492	21633.884	
Skewness		2.295	2.212	-.028	3.038	
Std. Error of Skewness		.146	.152	.206	.148	
Kurtosis		5.395	5.738	-1.432	3.386	
Std. Error of Kurtosis		.291	.302	.415	.297	
Range		1863.0571	1844.8587	2.00	659.0	
Minimum		5.5381	5.5359	1.00	1.0	
Maximum		3665.0563	3649.4427	3.00	660.0	
Percentiles	25	87.992004	68.263985	1.0000	12.000	
	50	283.425207	318.589245	2.0000	36.000	
	75	828.502683	827.327513	3.0000	120.000	

**Histogram**



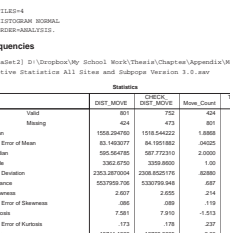
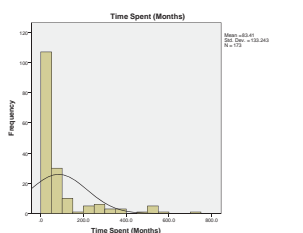
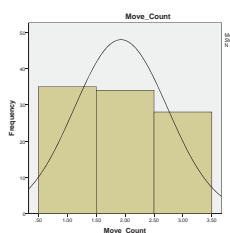
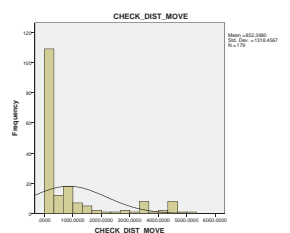
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N	Valid	188	178	57	173	173
	Missing	98	105	187	111	111
Mean		809.91110	832.288204	1.8278	83.470	
Std. Error of Mean		100.297964	98.546099	28932	10.1393	
Median		185.76705	185.92527	2.0000	24.000	
Mode		44.8011	124.8267	1.00	12.0	
Std. Deviation		1371.552728	1318.4567498	8.0054	131.2400	
Variance		1881156.994	1738208.283	651	17353.691	
Skewness		1.910	1.806	-.133	2.444	
Std. Error of Skewness		.177	.182	.245	.185	
Kurtosis		2.960	2.316	-1.448	5.911	
Std. Error of Kurtosis		.353	.361	.485	.367	
Range		5745.1773	5292.9592	2.00	715.5	
Minimum		1.8719	3.6148	1.00	9	
Maximum		5748.7948	5296.6088	3.00	720.0	
Percentiles	25	127.028704	118.612323	1.0000	8.000	
	50	185.76705	185.92527	2.0000	24.000	
	75	841.01199	807.744378	3.0000	84.000	

a. Multiple modes exist. The smallest value is shown.

**Histogram**

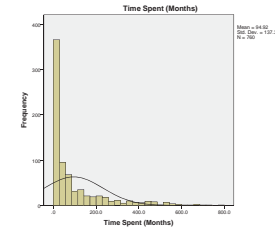
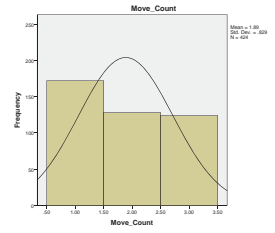
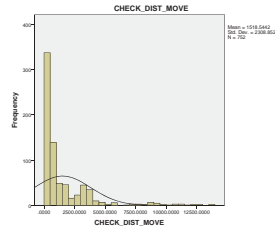
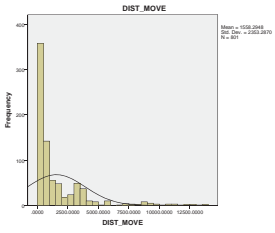


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	Missing	424	473	801	465	465
Mean		1058.29470	1018.54422	1.8888	94.813	
Std. Error of Mean		93.163577	84.101384	28262	4.8913	
Median		585.564785	587.772310	2.0000	36.000	
Mode		5382.8750	5388.8800	1.00	12.0	
Std. Deviation		2292.897004	2208.650716	8.0880	137.2447	
Variance		5257959.708	5339795.948	6547	18838.082	
Skewness		2.807	2.855	.214	2.154	
Std. Error of Skewness		.086	.088	.119	.088	
Kurtosis		7.081	7.910	-1.533	4.543	
Std. Error of Kurtosis		.178	.178	.237	.177	
Range		13741.4638	13728.6605	2.00	791.5	
Minimum		61.5335	61.2714	1.00	5	
Maximum		15392.2660	15378.7979	3.00	792.0	
Percentiles	25	137.801778	134.438916	1.0000	12.000	
	50	585.564785	587.772310	2.0000	36.000	
	75	1885.82081	1882.56818	3.0000	120.000	

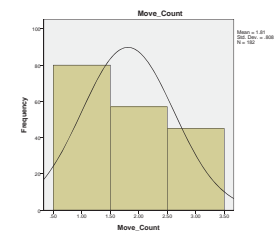
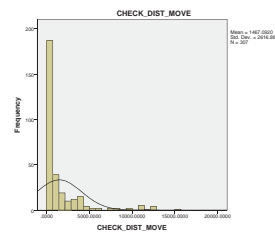
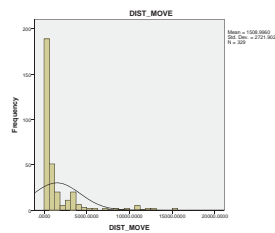
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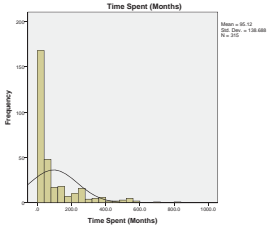
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N	Valid 220	220	182	195
	Missing 182	204	329	196
Mean	105009502	148702047	1.8077	95.116
Std. Error of Mean	192000004	148201852	20992	7.8162
Median	333.89303	308.733219	2.0000	36.0000
Mode	5848272 <sup>a</sup>	3584046 <sup>a</sup>	1.00	2.00
Std. Deviation	2721.902876	2016.656730	80384	136.6583
Variance	7400795.206	6048148.455	6863	18244.448
Skewness	2.487	2.882	385	2.211
Std. Error of Skewness	.134	.139	.180	.137
Kurtosis	8.695	8.746	-1.377	5.070
Std. Error of Kurtosis	.269	.277	.368	.274
Range	151332687	152746384	2.00	805.0
Minimum	2.6176	3.0146	1.00	5
Maximum	15136.6863	15278.3532	3.00	810.0
Percentiles	25 95.59702	95.335554	1.0000	12.0000
	50 333.89303	308.733219	2.0000	36.0000
	75 1627.199518	1608.146853	2.5000	120.0000

<sup>a</sup>. Multiple modes exist. The smallest value is shown.



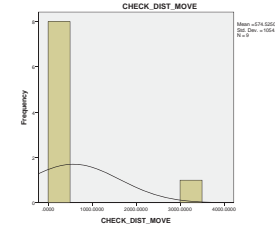
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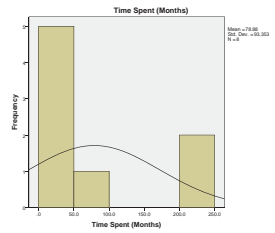
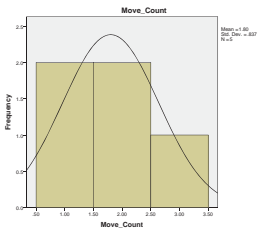
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N	Valid 5	5	5	6
	Missing 5	5	9	6
Mean	575.00017	574.24056	1.8000	79.875
Std. Error of Mean	261.77950	361.64264	2147	32.000
Median	333.95870	333.97830	2.0000	36.0000
Mode	14122 <sup>a</sup>	14122 <sup>a</sup>	1.00 <sup>a</sup>	1.00 <sup>a</sup>
Std. Deviation	1056.214616	1054.330091	80965	95.3525
Variance	1115749.450	1111611.958	700	8714.496
Skewness	2.882	2.882	0.12	1.148
Std. Error of Skewness	.717	.717	.913	.752
Kurtosis	8.531	8.531	-8.72	-3.76
Std. Error of Kurtosis	1.400	1.400	2.000	1.481
Range	3348.3405	3345.7384	2.00	239.0
Minimum	14.124	14.126	1.00	1.0
Maximum	3362.6750	3359.8660	3.00	240.0
Percentiles	25 71.74090	71.88003	1.0000	13.5000
	50 330.36870	330.97838	2.0000	36.0000
	75 366.48204	368.17583	2.5000	177.0000

<sup>a</sup>. Multiple modes exist. The smallest value is shown.

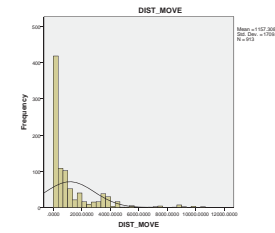


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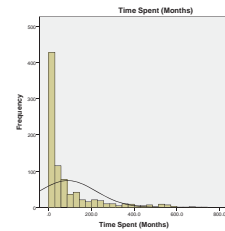
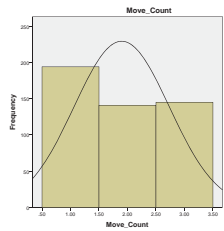
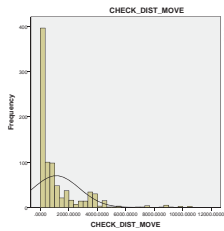


**Frequencies**  
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subtype Version 3.0.sav

	Statistics			
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid 913	805	480	883
	Missing 480	538	915	500
Mean	1107.00857	1109.20346	1.8879	83.200
Std. Error of Mean	56.5828867	55.5087316	23811	4.5184
Median	476.59246	473.82227	2.0000	29.0000
Mode	3955.050	3982.7661	1.00	12.0
Std. Deviation	1709.705672	1623.995730	83003	132.8790
Variance	2923024.84	2636460.485	6897	17652.788
Skewness	2.579	2.587	.194	2.283
Std. Error of Skewness	.081	.084	.111	.083
Kurtosis	8.081	8.845	-1.340	5.012
Std. Error of Kurtosis	.162	.167	.222	.166
Range	10559.1466	10519.3446	2.00	719.0
Minimum	3.8176	3.8146	1.00	6
Maximum	10559.7641	10520.8462	3.00	720.0
Percentiles	25 117.719097	114.201078	1.0000	12.0000
	50 476.59246	473.82227	2.0000	29.0000
	75 1468.03224	1330.16622	3.0000	106.0000



**Histogram**



**Frequencies**

[DataSet2] D:\Drogba\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

N	Statistics			
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
Valid	526	313	131	222
Missing	131	144	225	137
Mean	3097.282542	3047.386533	1.7229	119.791
Std. Error of Mean	236.264197	267.270595	.09955	10.2662
Median	1195.225734	1194.222504	2.0000	47.500
Mode	3382.8705	3383.8600	1.00	24.0
Std. Deviation	3973.058158	3902.722352	.76283	152.1533
Variance	15784775.213	15216024.031	.582	23153.3369
Skewness	1.489	1.430	.482	1.024
Std. Error of Skewness	.162	.167	.212	.164
Kurtosis	.999	.820	-1.120	3.760
Std. Error of Kurtosis	.302	.330	.420	.327
Range	15305.6544	15305.6508	2.00	808.0
Minimum	11.3310	11.3224	1.00	.0
Maximum	15316.9663	15297.2533	3.00	810.0
Percentiles				
25	240.89252	240.798235	1.0000	12.000
50	1195.225734	1194.222504	2.0000	47.500
75	3386.45571	3387.361318	2.0000	253.500

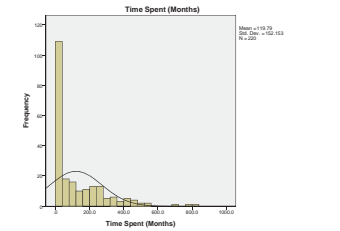
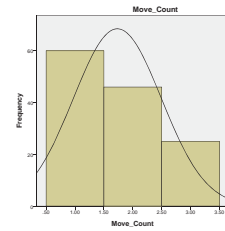
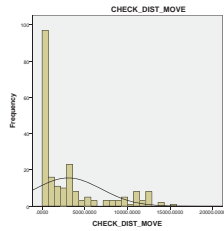
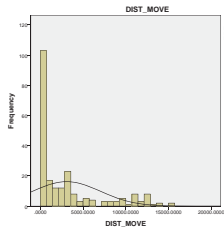
Histogram

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EXECUTE.

\*Non-White.

**Frequencies**

[DataSet2] D:\Drogba\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

N	Statistics			
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
Valid	526	313	131	222
Missing	123	144	225	137
Mean	1081.030171	993.202927	1.8201	81.536
Std. Error of Mean	112.026164	102.264972	.29736	9.0168
Median	543.302981	539.844305	2.0000	24.000
Mode	1885.8710	1885.2582	1.00	12.0
Std. Deviation	1678.5546223	1460.4697777	.83777	130.0135
Variance	2817279.191	2132972.556	.700	16903.510
Skewness	3.365	4.326	2.314	2.429
Std. Error of Skewness	.163	.171	.219	.169
Kurtosis	16.894	23.474	-1.023	6.594
Std. Error of Kurtosis	.324	.346	.430	.336
Range	10518.4322	10508.6267	2.00	671.5
Minimum	11.3310	11.3224	1.00	.0
Maximum	10523.7641	10503.8482	3.00	672.0
Percentiles				
25	190.703198	180.543050	1.0000	11.000
50	544.909613	539.844305	2.0000	24.000
75	1461.89638	1347.411748	3.0000	108.000

EXECUTE.

\*Indigenous.

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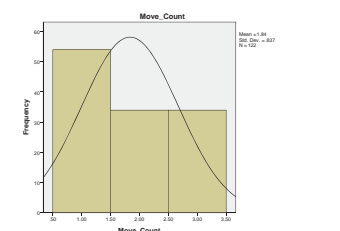
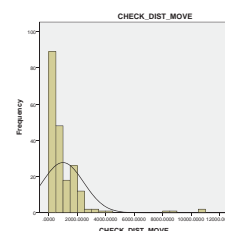
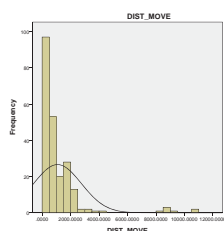
Page 56

**Frequencies**

[DataSet2] D:\Drogba\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

N	Statistics			
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
Valid	526	313	131	222
Missing	123	144	225	137
Mean	1081.030171	993.202927	1.8201	81.536
Std. Error of Mean	112.026164	102.264972	.29736	9.0168
Median	543.302981	539.844305	2.0000	24.000
Mode	1885.8710	1885.2582	1.00	12.0
Std. Deviation	1678.5546223	1460.4697777	.83777	130.0135
Variance	2817279.191	2132972.556	.700	16903.510
Skewness	3.365	4.326	2.314	2.429
Std. Error of Skewness	.163	.171	.219	.169
Kurtosis	16.894	23.474	-1.023	6.594
Std. Error of Kurtosis	.324	.346	.430	.336
Range	10518.4322	10508.6267	2.00	671.5
Minimum	11.3310	11.3224	1.00	.0
Maximum	10523.7641	10503.8482	3.00	672.0
Percentiles				
25	190.703198	180.543050	1.0000	11.000
50	544.909613	539.844305	2.0000	24.000
75	1461.89638	1347.411748	3.0000	108.000

Histogram

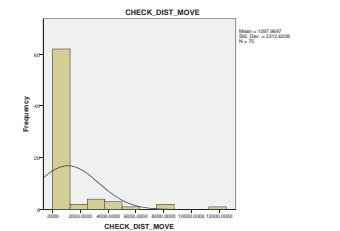
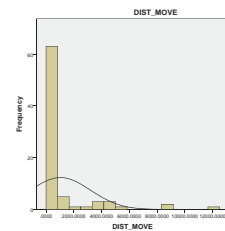
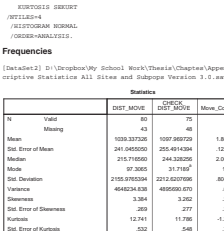
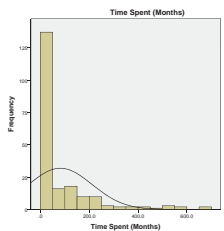


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EXECUTE.

\* 1 = Black Level.

\* Top 10%.

**Frequencies**

[DataSet2] D:\Drogba\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

N	Statistics			
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
Valid	80	75	43	72
Missing	43	46	80	47
Mean	1033.337336	1097.897929	1.8005	74.508
Std. Error of Mean	241.046550	255.4914394	.12264	11.7422
Median	215.719550	244.326200	2.0000	36.000
Mode	97.8950	81.7167	1.00	24.0
Std. Deviation	2158.978234	2212.6207956	.80420	102.3639
Variance	4662424.838	4915850.870	.6467	10478.766
Skewness	3.384	3.262	.263	2.465
Std. Error of Skewness	.269	.277	.361	.276
Kurtosis	12.741	11.236	-1.386	7.233
Std. Error of Kurtosis	.532	.548	.708	.549
Range	12485.0077	12479.0050	2.00	93.0
Minimum	6.180	6.100	1.00	1.0
Maximum	12491.8559	12481.2385	3.00	95.0
Percentiles				
25	68.188719	68.088719	1.0000	13.000
50	215.719550	244.326200	2.0000	36.000
75	636.497467	797.174794	3.0000	102.000

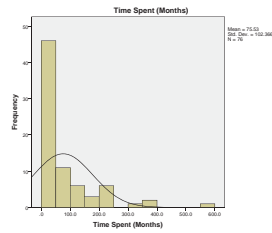
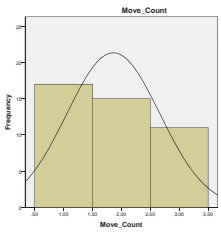
Histogram

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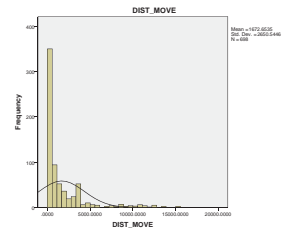
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**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	626	626	627
	Missing	376	418	407
Mean	1072.20349	1629.02102	1.8040	96.990
Std. Error of Mean	100.280464	101.648247	.04117	5.2293
Median	545.74254	535.37345	2.0000	36.000
Mode	626.0000 <sup>a</sup>	627.0000 <sup>a</sup>	1.00	12.0
Std. Deviation	2030.544638	2033.347284	.80732	143.9261
Variance	702456.908	677747.079	.651	20716.309
Skewness	2.623	2.650	.253	2.266
Std. Error of Skewness	.053	.055	.136	.095
Kurtosis	7.295	7.316	-1.425	4.983
Std. Error of Kurtosis	1.85	1.91	.251	1.69
Range	1533.3847	15274.6386	2.00	808.5
Minimum	5.8776	5.8146	1.00	5
Maximum	1533.6963	15278.2322	3.00	810.5
Percentiles	25	134.941881	1.00	12.000
	50	545.74254	2.0000	36.000
	75	1024.50220	3.0000	120.000

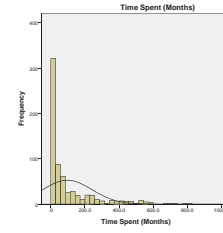
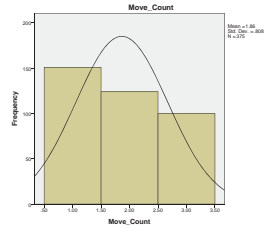
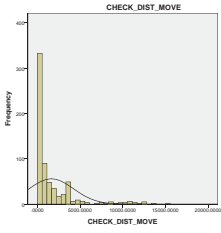


```

EXECUTE.
.....
* Moderate Skew.
.....

Temporary:
SELECT IF (PARTISPO_NEEDLEVEL = 'N').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEWESS
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.

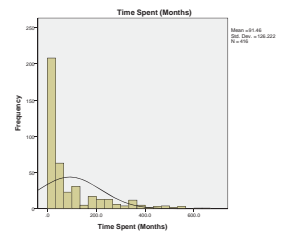
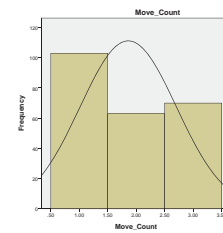
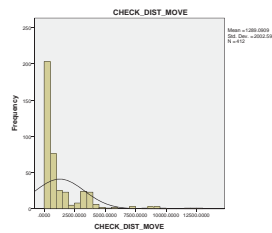
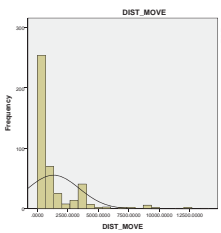
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**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

Statistics					
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)	
N	Valid	441	442	442	
	Missing	235	264	260	
Mean	1320.44034	1280.00910	1.8000	91.483	
Std. Error of Mean	105.09324	94.607087	.05010	4.1885	
Median	484.82490	504.40400	2.0000	34.200	
Mode	282.0000 <sup>a</sup>	289.0000 <sup>a</sup>	1.00	12.0	
Std. Deviation	2104.102796	2002.595127	.84648	126.2719	
Variance	4427448.209	4010387.966	.717	15933.807	
Skewness	2.815	2.764	.271	1.837	
Std. Error of Skewness	.116	.120	.158	.120	
Kurtosis	9.064	9.297	-1.554	5.486	
Std. Error of Kurtosis	.292	.290	.395	.299	
Range	1343.9225	1293.4287	3.00	853.5	
Minimum	8.5225	8.0274	1.00	5	
Maximum	1540.0550	1294.6571	3.00	853.0	
Percentiles	25	95.77936	96.89878	1.000	12.000
	50	484.82490	104.00000	2.0000	34.000
	75	1050.64830	164.01800	3.0000	120.000



```

EXECUTE.
*****
* 1.5 - Age at Baseline
*****
* 24 or younger
*****

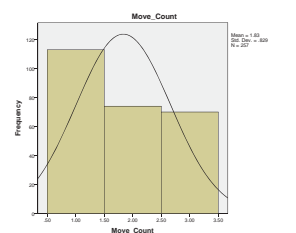
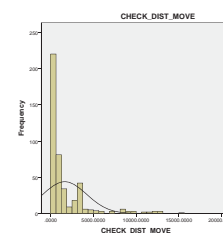
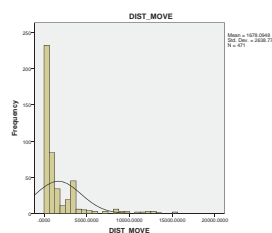
Temporary:
SELECT IF RANGE (PARTISPO_DOW_data doy(17,8,1978),_data.doy(10,10,1991)).
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEWESS
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.

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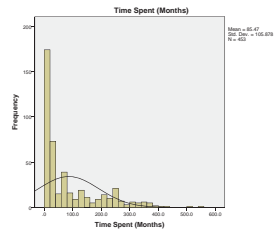
**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	471	448	453
	Missing	297	293	275
Mean	1078.00484	1647.65705	1.8217	92.466
Std. Error of Mean	121.866177	120.405253	.05169	4.9746
Median	652.43107	656.92412	2.0000	29.000
Mode	189.8010	189.2562	1.00	12.0
Std. Deviation	2038.770287	2048.387877	.82870	152.8779
Variance	695708.747	6949438.265	.687	15010.138
Skewness	2.727	2.648	.301	1.478
Std. Error of Skewness	.113	.115	.152	.115
Kurtosis	8.064	7.977	-1.412	4.487
Std. Error of Kurtosis	.295	.290	.393	.299
Range	1533.3847	15274.6386	2.00	843.5
Minimum	3.0178	5.8146	1.00	5
Maximum	1537.6963	15278.2322	3.00	844.0
Percentiles	25	134.941881	1.0000	12.000
	50	652.43107	2.0000	29.000
	75	2110.90394	3.0000	120.000







```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(1,8,1955), data.doy(18,2,1976)).
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
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**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

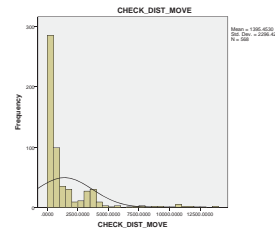
Statistics				
N	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
Valid	600	550	123	524
Missing	303	364	600	358
Mean	1448.594143	1350.452064	1.88204	95.946
Std. Error of Mean	95.9497700	94.3088851	.04826	6.11009
Median	564.827212	491.530311	2.0000	36.000
Mode	3382.8700	3200.8880	1.00	12.00
Std. Deviation	2346.633493	2296.4560731	.83104	146.466
Variance	5501896.427	5277072.709	.69064	21434.716
Skewness	2.144	2.880	.224	3.000
Std. Error of Skewness	.099	.103	.136	.162
Kurtosis	8.215	9.319	-1.525	3.185
Std. Error of Kurtosis	1.88	.205	.271	.204
Range	12741.1638	13728.6605	2.00	791.5
Minimum	6.1305	6.1724	1.00	.5
Maximum	12747.2903	13734.7919	3.00	792.0
Percentiles	25	122.731687	1.0000	12.000
	50	564.827212	2.0000	36.000
	75	1076.344658	3.0000	120.000

**Histogram**



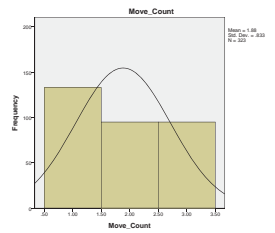
```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(1,8,1955), data.doy(18,2,1976)).
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
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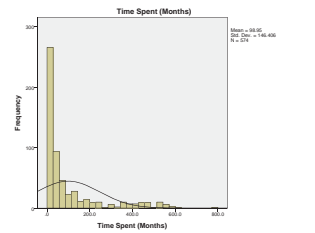
```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(1,8,1955), data.doy(18,2,1976)).
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=HOIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=HOIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
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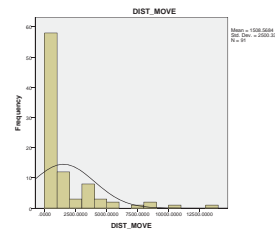
**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

Statistics				
N	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
Valid	61	60	91	87
Missing	51	60	91	95
Mean	1008.98392	1439.275997	1.7943	132.445
Std. Error of Mean	382.1664667	214.6459112	.10595	12.7946
Median	431.016161	271.207348	2.0000	36.000
Mode	2482.8700	2030.8880	1.00	12.00
Std. Deviation	2000.230348	2487.0246103	.75887	212.238
Variance	4000.924	6185145.928	.575	45045.741
Skewness	2.670	3.268	.386	2.887
Std. Error of Skewness	.253	.266	.333	.298
Kurtosis	8.126	9.560	-1.137	3.204
Std. Error of Kurtosis	3.00	.509	.690	.811
Range	1341.8822	13430.4620	2.00	809.0
Minimum	5.0381	5.0338	1.00	1.0
Maximum	1346.9203	13435.4658	3.00	810.0
Percentiles	25	70.787915	1.0000	12.000
	50	431.016161	2.0000	36.000
	75	1622.190913	3.0000	132.000

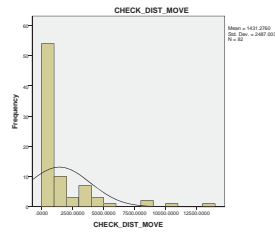
\* Multiple modes exist. The smallest value is shown.

**Histogram**



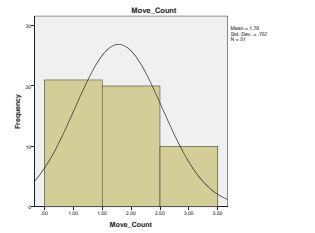
```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=HOIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



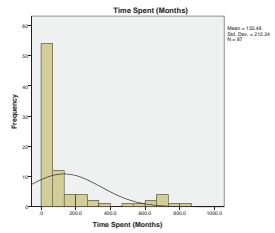
```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=HOIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



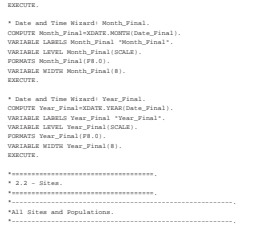
```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=HOIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=HOIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



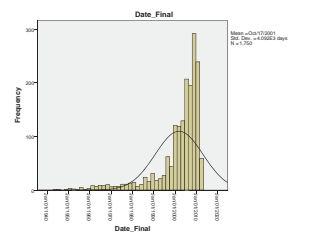
```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```

**Statistics**

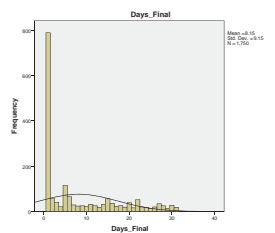
N	Date_Final	Day_Final	Month_Final	Year_Final
Valid	1700	1700	1700	1700
Missing	4	4	4	4
Mean	17-Oct-2001	8.15	6.13	2001.26
Std. Error of Mean		.07	.08	.06
Median	16-Jan-2002	3.00	6.00	2000.50
Mode	01-Jan-2010	1	6	2009
Std. Deviation	1.029	2.183	3.485	11.234
Variance	1.25877	83.714	12.167	125.985
Skewness	-2.192	1.041	.026	-2.183
Std. Error of Skewness	.058	.059	.058	.058
Kurtosis	5.064	-2.27	-1.107	5.059
Std. Error of Kurtosis	.117	.117	.117	.117
Range	2007	30	11	75
Minimum	16-Oct-1942	1	1	1942
Maximum	25-Feb-2013	31	12	2013
Percentiles	25	08-Feb-2000	1.00	3.00
	50	16-Jan-2005	3.00	6.00
	75	01-Jan-2009	15.00	9.00

**Histogram**



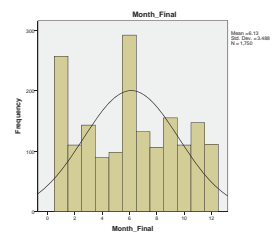
```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



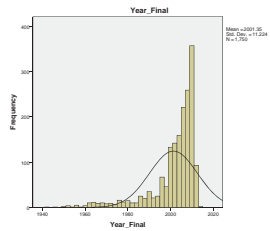
```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*****
*15-54.
```

```
Temporary.
SELECT * FROM (PARTINFO_D08_data.doy(28,7,1940), data.doy(12,1,1951)).
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEBENT
/RTITLE=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```

/TITLE=4
/RESTORAN NORMAL
/ORDER=ANALYSIS.

Frequencies
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

```

	Date_Final	Month_Final	Year_Final
N	Valid	1700	1700
	Missing	4	4
Mean	17-Oct-2007	8.82	5.13
Std. Error of Mean	19.30153	.87	.219
Median	05-Jan-2005	3.00	6.00
Mode	01-Jan-2010	1	6
Std. Deviation	4.951	5.150	3.488
Variance	19.30228	26.724	12.167
Skewness	-2.192	1.041	.056
Std. Error of Skewness	.669	.099	.039
Kurtosis	5.084	-2.277	-1.157
Std. Error of Kurtosis	.117	.117	.117
Range	20050	30	31
Minimum	10-Oct-1982	1	1
Maximum	25-Feb-2013	31	12
Percentiles	25	05-Jan-2005	1.00
	50	05-Jan-2005	3.00
	75	01-Jan-2009	15.00

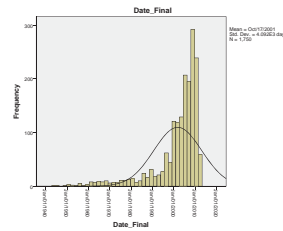
Histogram

```

*****
*Vancouver - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Vancouver' OR Geocode = 'Vancouver, BC, Canada').

>Error # 4321 in column 70. 'Text' )
>One of the operands of a logical operator (AND, OR, and NOT) is neither a
>logical expression nor a logical function nor a logical variable.
>Attention of this command is ignored.
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/KURTOSIS SEEM

```

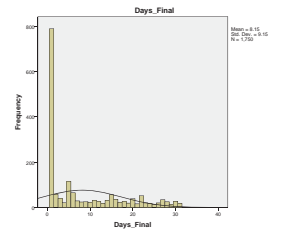


```

*****
*Vancouver - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Vancouver' OR Geocode = 'Vancouver, BC, Canada').

>Error # 4321 in column 70. 'Text' )
>One of the operands of a logical operator (AND, OR, and NOT) is neither a
>logical expression nor a logical function nor a logical variable.
>Attention of this command is ignored.
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM

```

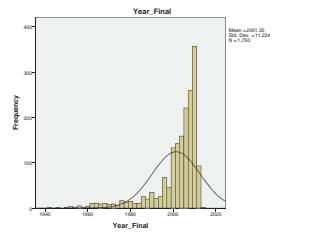
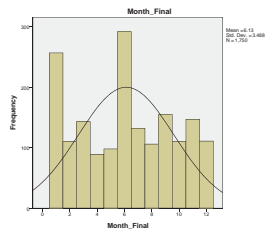


```

*****
*Vancouver - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Vancouver' OR Geocode = 'Vancouver, BC, Canada').

>Error # 4321 in column 70. 'Text' )
>One of the operands of a logical operator (AND, OR, and NOT) is neither a
>logical expression nor a logical function nor a logical variable.
>Attention of this command is ignored.
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM

```



```

*****
*Calgary - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Calgary, AB, Canada' OR Geocode = 'Calgary').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

```

```

Frequencies
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

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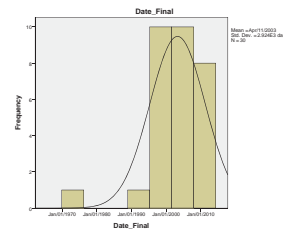
	Date_Final	Month_Final	Year_Final
N	Valid	30	30
	Missing	0	0
Mean	11-Aug-2003	8.67	3.27
Std. Error of Mean	19.30153	1.01	1.478
Median	31-Aug-2003	5.50	5.50
Mode	05-Jun-2007	1	1
Std. Deviation	2.822	9.319	3.463
Variance	6.36116	86.851	11.985
Skewness	-2.332	.379	.389
Std. Error of Skewness	.427	.427	.427
Kurtosis	9.918	-3.300	-.882
Std. Error of Kurtosis	.813	.813	.813
Range	10004	29	11
Minimum	21-Nov-1989	1	1
Maximum	01-Aug-2012	30	12
Percentiles	25	05-Jun-2007	1.00
	50	31-Aug-2003	5.50
	75	08-Feb-2008	16.25

Histogram

```

*****
*Edmonton - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Edmonton, AB, Canada' OR Geocode = 'Edmonton').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

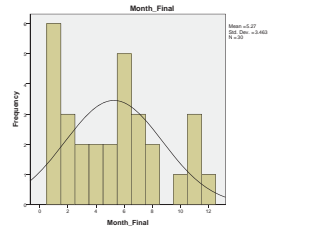
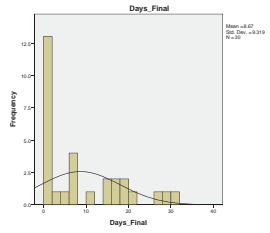
```



```

*****
*Edmonton - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Edmonton, AB, Canada' OR Geocode = 'Edmonton').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

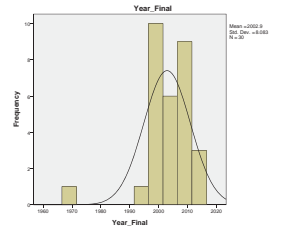
```



```

*****
*Edmonton - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Edmonton, AB, Canada' OR Geocode = 'Edmonton').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

```



```

*****
*Edmonton - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Edmonton, AB, Canada' OR Geocode = 'Edmonton').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

```

```

Frequencies
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

```

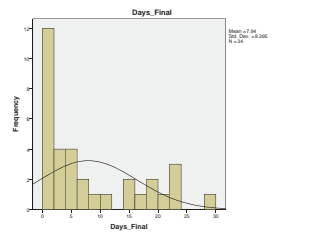
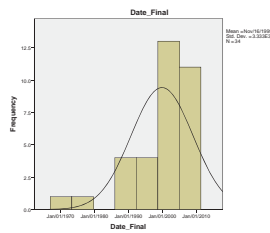
	Date_Final	Month_Final	Year_Final
N	Valid	34	34
	Missing	0	0
Mean	16-Nov-1999	7.94	6.00
Std. Error of Mean	19.30153	.721	.604
Median	05-Dec-2002	5.00	6.00
Mode	02-Mar-2000	1	6
Std. Deviation	11.64225	8.395	3.525
Variance	135.543	70.481	12.424
Skewness	-1.801	.344	.155
Std. Error of Skewness	.403	.403	.403
Kurtosis	4.396	-.527	-1.168
Std. Error of Kurtosis	.788	.788	.788
Range	10008	27	11
Minimum	10-Dec-1995	1	1
Maximum	01-Jun-2009	28	12
Percentiles	25	04-Aug-1998	1.00
	50	05-Dec-2002	5.00
	75	04-Dec-2005	15.50

Histogram

```

*****
*Winnipeg - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Winnipeg' OR Geocode = 'Winnipeg, MB, Canada').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

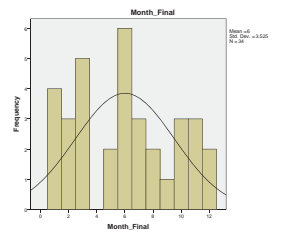
```



```

*****
*Winnipeg - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Winnipeg' OR Geocode = 'Winnipeg, MB, Canada').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

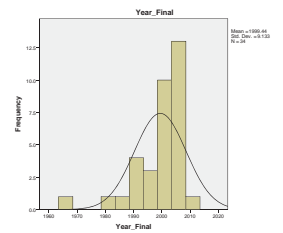
```



```

*****
*Winnipeg - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Winnipeg' OR Geocode = 'Winnipeg, MB, Canada').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

```



```

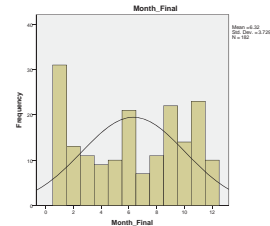
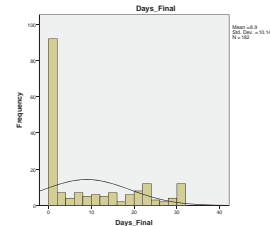
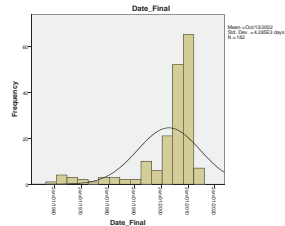
*****
*Winnipeg - Moving to
*****
Temporary:
SELECT IF (Geocode = 'Winnipeg' OR Geocode = 'Winnipeg, MB, Canada').
FREQUENCIES VARIABLES=Date_Final,Month_Final,Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV, VARIANCE, RANGE, MINIMUM, MAXIMUM, SKEWNESS, MEAN, MEDIAN, MODE, S
KNESS, SEEM
/RESTORAN NORMAL
/ORDER=ANALYSIS.

```

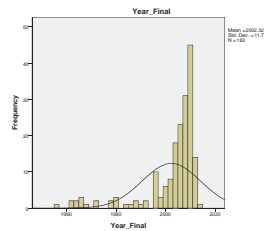
**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

		Statistics	Day_Final	Month_Final	Year_Final
N	Valid		182	182	182
	Missing		0	0	0
Mean			8.90	8.22	2002.94
Std. Error of Mean			.752	.276	.872
Median			31-Dec-2008	1.00	6.00
Mode			01-Jan-2010	1	2010
Std. Deviation			4.825	10.145	3.729
Variance			102.912	13.899	138.528
Skewness			-2.245	.396	-2.227
Std. Error of Skewness			.180	.180	.180
Kurtosis			4.961	-1.391	4.517
Std. Error of Kurtosis			.358	.358	.358
Range			2002	30	11
Minimum			07-Sep-1956	1	1
Maximum			25-Feb-2013	31	12
Percentiles	25		09-Feb-2002	1.00	3.00
	50		31-Dec-2008	1.00	6.00
	75		25-Jul-2009	18.00	10.00



**Histogram**

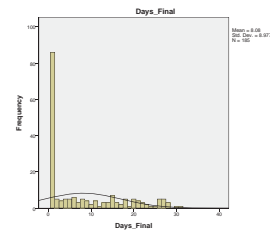
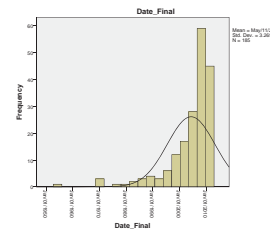


**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

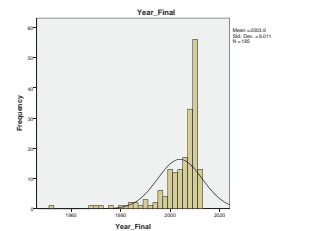
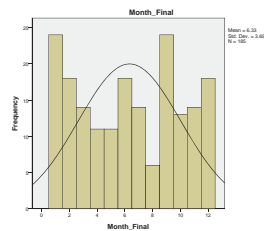
		Statistics	Day_Final	Month_Final	Year_Final
N	Valid		185	185	185
	Missing		0	0	0
Mean			8.18	6.33	2003.90
Std. Error of Mean			.660	.271	.863
Median			21-Dec-2007	3.00	6.00
Mode			01-Jan-2010	1	2010
Std. Deviation			5.977	3.683	6.011
Variance			35.7216	13.561	36.131
Skewness			-2.612	.380	-2.619
Std. Error of Skewness			.179	.179	.179
Kurtosis			8.693	-1.417	-1.338
Std. Error of Kurtosis			.355	.355	.355
Range			2106	30	11
Minimum			05-Oct-1950	1	1
Maximum			05-Dec-2012	31	12
Percentiles	25		02-Jan-2002	1.00	3.00
	50		21-Dec-2007	3.00	6.00
	75		01-Oct-2009	10.00	9.00

\* Multiple modes exist. The smallest value is shown.



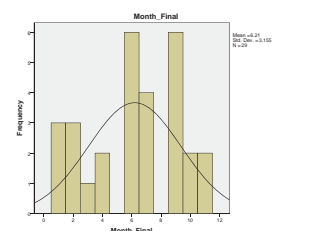
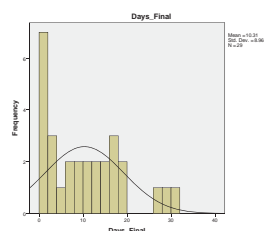
EXECUTE.  
\*Toronto - Moving to

```
TEMPORARY.  
SELECT IF (Secode = 'Toronto' or Secode = 'Toronto, ON, Canada').  
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final  
/FORMAT=HISTOGRAM  
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S  
KURTOSIS SEDEWY  
KURTOSIS SEDEWY  
/NTILES=4  
/RESTORAN= NORMAL  
/ORDER=ANALYSIS.
```



EXECUTE.  
\*Ottawa - Moving to

```
TEMPORARY.  
SELECT IF (Secode = 'Ottawa, ON, Canada' or Secode = 'Ottawa').  
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final  
/FORMAT=HISTOGRAM  
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S  
KURTOSIS SEDEWY  
KURTOSIS SEDEWY  
/NTILES=4  
/RESTORAN= NORMAL  
/ORDER=ANALYSIS.
```



EXECUTE.  
\*Montreal - Moving to

```
TEMPORARY.  
SELECT IF (Secode = 'Montreal' or Secode = 'Montreal, QC, Canada').  
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final  
/FORMAT=HISTOGRAM  
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S  
KURTOSIS SEDEWY  
KURTOSIS SEDEWY  
/NTILES=4  
/RESTORAN= NORMAL  
/ORDER=ANALYSIS.
```

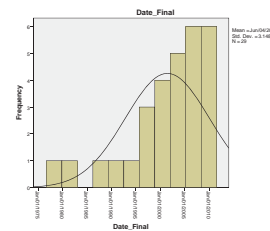
**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

		Statistics	Day_Final	Month_Final	Year_Final
N	Valid		29	29	29
	Missing		0	0	0
Mean			10.31	6.21	2003.97
Std. Error of Mean			1.085	.586	1.611
Median			17-Jan-2003	9.00	6.00
Mode			01-Sep-1957	1	4
Std. Deviation			31.163	6.965	3.155
Variance			7386.16	48.365	9.956
Skewness			-1.479	.780	-.292
Std. Error of Skewness			.424	.424	.424
Kurtosis			1.952	-1.160	-1.058
Std. Error of Kurtosis			.846	.846	.846
Range			10410	30	10
Minimum			01-Sep-1976	1	1
Maximum			01-Sep-2010	31	11
Percentiles	25		14-Jun-1986	1.00	3.00
	50		17-Jan-2003	9.00	6.00
	75		02-Nov-2007	17.00	9.00

\* Multiple modes exist. The smallest value is shown.

**Histogram**



EXECUTE.  
\*Montreal - Moving to

**Frequencies**

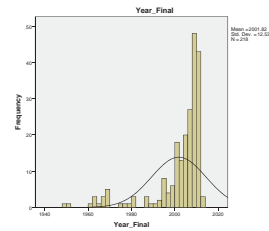
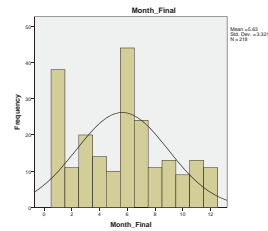
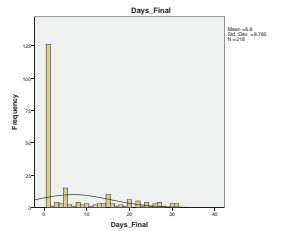
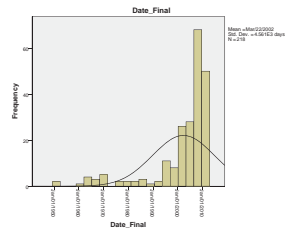
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

		Statistics	Day_Final	Month_Final	Year_Final
N	Valid		218	218	218
	Missing		0	0	0
Mean			8.60	5.83	2004.82
Std. Error of Mean			.595	.235	.640
Median			16-Jan-2007	1.00	6.00
Mode			01-Jan-2007	1	4
Std. Deviation			6.760	3.321	12.310
Variance			45.6917	11.026	151.226
Skewness			-2.288	1.347	-.283
Std. Error of Skewness			.180	.180	.180
Kurtosis			4.740	-.809	-1.712
Std. Error of Kurtosis			.338	.338	.338
Range			22067	30	11
Minimum			20-May-1949	1	1
Maximum			16-Jul-2012	31	12
Percentiles	25		16-Dec-2000	1.00	3.00
	50		16-Jan-2007	1.00	6.00
	75		16-Jan-2008	12.25	8.00

\* Multiple modes exist. The smallest value is shown.

**Histogram**

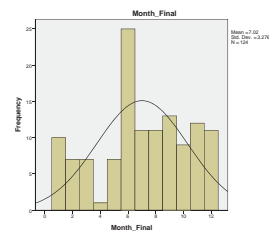
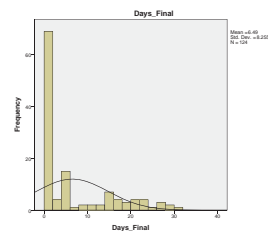
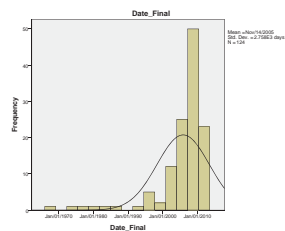
```
TEMPORARY.  
SELECT IF (Secode = 'Montreal' or Secode = 'Montreal, QC, Canada').  
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final  
/FORMAT=HISTOGRAM  
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S  
KURTOSIS SEDEWY  
KURTOSIS SEDEWY  
/NTILES=4  
/RESTORAN= NORMAL  
/ORDER=ANALYSIS.
```



**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

		Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	124	124	124	124
	Missing	0	0	0	0
Mean		14-Nov-2008	6.48	7.02	2008.26
Std. Error of Mean		.247	.741	.294	.652
Median		01-Sep-2008	1.00	7.00	2008.00
Mode		01-Jan-2008	1	6	2008
Std. Deviation		2755	8.255	3.276	7.600
Variance		5,686.16	68.138	10.731	57.759
Skewness		-2.967	1.376	-.271	-2.381
Std. Error of Skewness		.217	.217	.217	.217
Kurtosis		10.229	.642	.828	10.347
Std. Error of Kurtosis		.451	.451	.451	.451
Range		17109	30	11	68
Minimum		18-Dec-1965	1	1	1965
Maximum		19-Jan-2013	31	12	2013
Percentiles	25	01-Sep-2008	1.00	5.00	2008.00
	50	01-Sep-2008	1.00	7.00	2008.00
	75	01-Dec-2009	11.25	10.50	2009.00

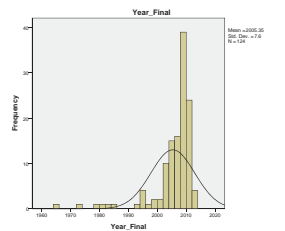


Histogram

Histogram

Histogram

Histogram

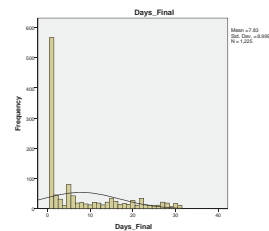
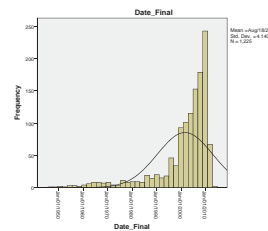


**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

		Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	1225	1225	1225	1225
	Missing	0	0	0	0
Mean		18-Aug-2009	7.83	6.52	2009.10
Std. Error of Mean		69.557182	.257	.100	.325
Median		01-Jun-2009	2.00	6.00	2009.00
Mode		01-Jan-2008	1	6	2008
Std. Deviation		4740	8.999	3.408	11.361
Variance		1,806717	80.981	12.164	129.081
Skewness		-2.170	1.102	.042	-2.183
Std. Error of Skewness		.070	.070	.070	.070
Kurtosis		4.839	-.138	-1.166	4.785
Std. Error of Kurtosis		.140	.140	.140	.140
Range		24852	30	11	68
Minimum		13-Jul-1945	1	1	1945
Maximum		19-Jan-2013	31	12	2013
Percentiles	25	24-Feb-2009	1.00	3.00	2009.00
	50	01-Jun-2009	2.00	6.00	2009.00
	75	31-Dec-2008	14.00	9.00	2009.00

Histogram

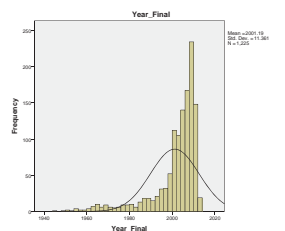
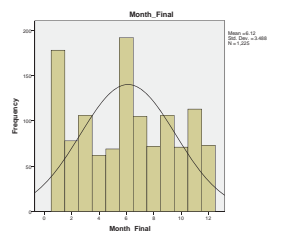


Histogram

Histogram

Histogram

Histogram



Histogram

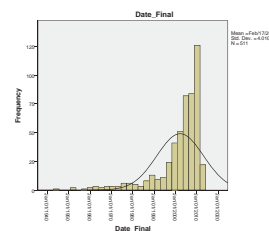
Histogram

**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

		Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	511	511	511	511
	Missing	0	0	0	0
Mean		17-Feb-2002	8.98	8.17	2001.68
Std. Error of Mean		69.177122	.415	.154	.496
Median		01-Sep-2005	5.00	6.00	2005.00
Mode		01-Jan-2010	1	6	2008
Std. Deviation		4020	9.480	3.487	10.987
Variance		1,206712	89.874	12.159	120.720
Skewness		-2.241	.895	.017	-2.249
Std. Error of Skewness		.108	.108	.108	.108
Kurtosis		5.876	-.581	-1.139	5.733
Std. Error of Kurtosis		.216	.216	.216	.216
Range		20887	30	11	71
Minimum		18-Oct-1942	1	1	1942
Maximum		20-Feb-2013	31	12	2013
Percentiles	25	01-Jan-2000	1.00	3.00	2000.00
	50	01-Sep-2005	5.00	6.00	2005.00
	75	20-Apr-2009	16.00	9.00	2009.00

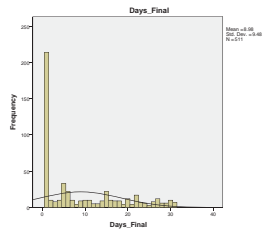
Histogram



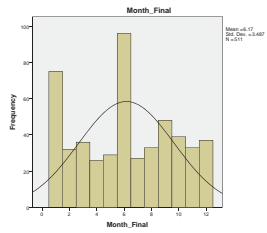
Histogram

Histogram

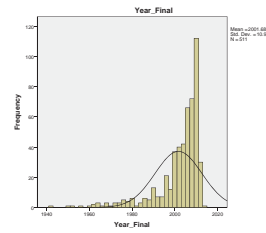
Histogram



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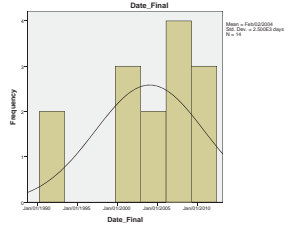
Statistics

	Days_Final	Month_Final	Year_Final
N	Valid 14	14	14
	Missing 0	0	0
Mean	0.95	4.17	1991.82
Std. Error of Mean	0.34	1.16	0.58
Median	0	4	1990.00
Mode	0	1	1990
Std. Deviation	1.16	3.74	1.87
Variance	1.34	14.00	3.50
Skewness	-1.00	1.00	-1.00
Kurtosis	.00	3.00	.00
Std. Error of Kurtosis	1.50	1.50	1.50
Range	0.00-1.00	1	12
Minimum	0	1	1990
Maximum	1	12	1991
Percentiles	25	1.00	1990.00
	50	1.00	1990.00
	75	1.00	1990.00

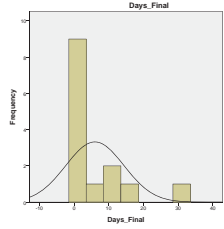
a. Multiple modes exist. The smallest value is shown.

Histogram

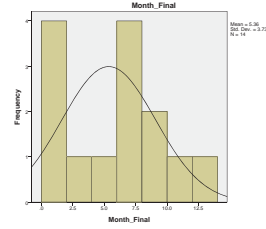
Page 146



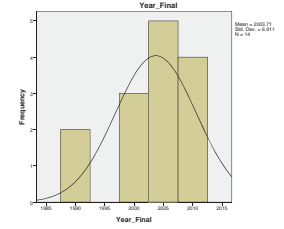
Page 147



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```

/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESI SESSIV
/ENTRIES SESSIV
/TITLE=4
/ISTITUTUM NORMAL
/ORDER=ANALYSIS.

```

Statistics

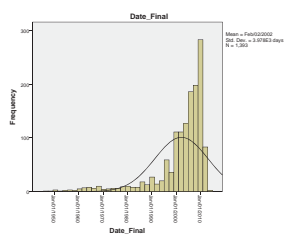
	Days_Final	Month_Final	Year_Final
N	Valid 13	13	13
	Missing 0	0	0
Mean	0.92	6.08	2001.62
Std. Error of Mean	.244	.882	.292
Median	0	6.00	2000.00
Mode	0	6	2000
Std. Deviation	1.04	3.42	1.92
Variance	1.08	11.79	3.68
Skewness	-1.00	1.00	-1.00
Kurtosis	.00	3.00	.00
Std. Error of Kurtosis	1.50	1.50	1.50
Range	0.00-1.00	1	12
Minimum	0	1	1990
Maximum	1	12	2000
Percentiles	25	1.00	1990.00
	50	1.00	1990.00
	75	1.00	1990.00

Statistics

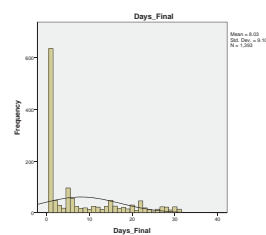
	Days_Final	Month_Final	Year_Final
N	Valid 13	13	13
	Missing 0	0	0
Mean	0.92	6.08	2001.62
Std. Error of Mean	.244	.882	.292
Median	0	6.00	2000.00
Mode	0	6	2000
Std. Deviation	1.04	3.42	1.92
Variance	1.08	11.79	3.68
Skewness	-1.00	1.00	-1.00
Kurtosis	.00	3.00	.00
Std. Error of Kurtosis	1.50	1.50	1.50
Range	0.00-1.00	1	12
Minimum	0	1	1990
Maximum	1	12	2000
Percentiles	25	1.00	1990.00
	50	1.00	1990.00
	75	1.00	1990.00

Histogram

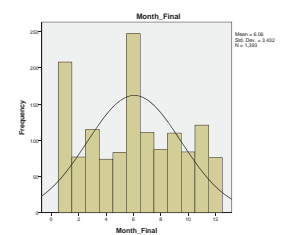
Page 147



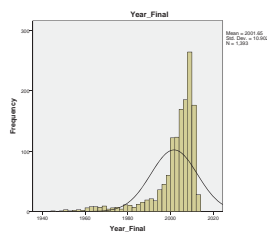
Page 148



Page 149



Page 150



EXECUTE.

\*\*\*\*\*  
\*Liste.  
\*\*\*\*\*

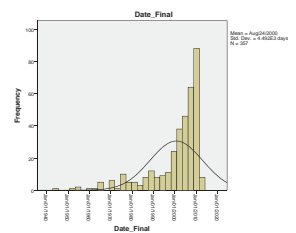
Page 147

Statistics

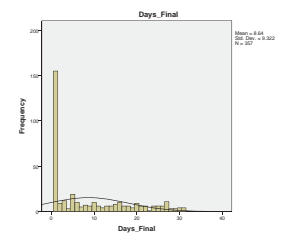
	Days_Final	Month_Final	Year_Final
N	Valid 13	13	13
	Missing 0	0	0
Mean	0.92	6.08	2001.62
Std. Error of Mean	.244	.882	.292
Median	0	6.00	2000.00
Mode	0	6	2000
Std. Deviation	1.04	3.42	1.92
Variance	1.08	11.79	3.68
Skewness	-1.00	1.00	-1.00
Kurtosis	.00	3.00	.00
Std. Error of Kurtosis	1.50	1.50	1.50
Range	0.00-1.00	1	12
Minimum	0	1	1990
Maximum	1	12	2000
Percentiles	25	1.00	1990.00
	50	1.00	1990.00
	75	1.00	1990.00

Histogram

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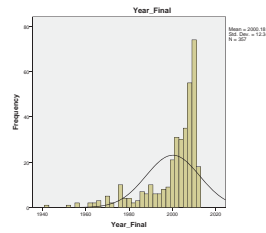
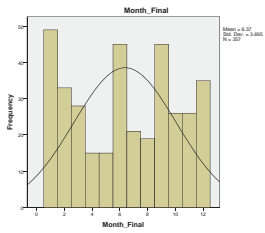


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```

Temporary:
Select if (PARTINFO_ISTHINABACTAL = 'Yes').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESI SESSIV
/ENTRIES SESSIV
/TITLE=4
/ISTITUTUM NORMAL
/ORDER=ANALYSIS.

```



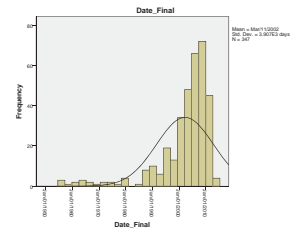
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/ORDER=ANALYSIS.

Frequencies
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

```

		Days_Final	Month_Final	Year_Final
N	Valid	247	247	247
	Missing	0	0	0
Mean		11.64	5.81	6.21
Std. Error of Mean		1.2746	.336	.102
Median		11	6	6
Mode		1	6	2000
Std. Deviation		3.005	1.987	3.589
Variance		11.9617	99.731	12.727
Skewness		-.346	.772	.007
Std. Error of Skewness		.131	.131	.131
Kurtosis		6.114	-.875	-1.242
Std. Error of Kurtosis		.361	.261	.261
Range		21403	30	11
Minimum		22-Jul-1954	1	1
Maximum		25-Feb-2015	31	2015
Percentiles	25	02-Mar-2000	1.00	3.00
	50	01-Jan-2005	5.00	6.00
	75	02-Oct-2008	16.00	9.00



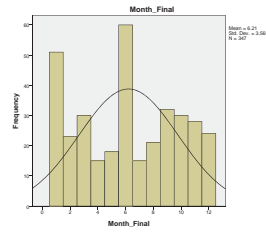
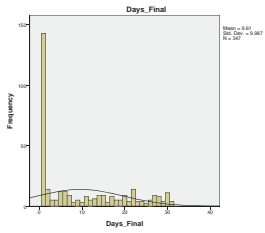
```

EXECUTE.

*-----*
* Subpage:
*-----*

Temporary.
Select if (PARTINFO_ISABORIGINAL = 'Yes').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=NOFSTATS
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/STILES=4
/HISTOGRAM NORMAL

```



```

/ORDER=ANALYSIS.

Frequencies
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

```

		Days_Final	Month_Final	Year_Final
N	Valid	123	123	123
	Missing	0	0	0
Mean		23-May-2002	7.75	5.09
Std. Error of Mean		21.62-06-1950	.734	.287
Median		15-Mar-2005	4.00	6.00
Mode		23-Mar-1964	1	6
Std. Deviation		23.62-2010	8.141	3.179
Variance		8.146816	66.272	10.106
Skewness		-2.387	.303	.138
Std. Error of Skewness		.216	.216	.216
Kurtosis		7.562	-.365	-.983
Std. Error of Kurtosis		.433	.433	.433
Range		200211	30	11
Minimum		08-Feb-1956	1	1
Maximum		01-Nov-2012	31	12
Percentiles	25	23-Jun-2000	1.00	3.00
	50	15-Mar-2006	4.00	6.00
	75	02-Apr-2008	16.00	9.00

```

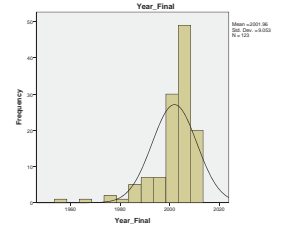
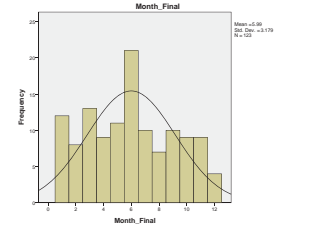
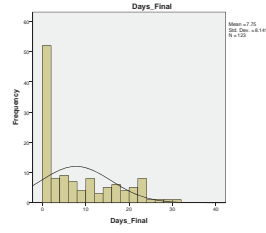
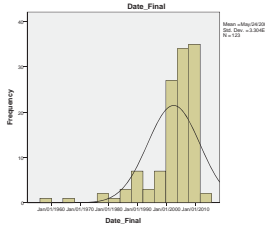
EXECUTE.

*-----*
* Subpage:
*-----*

Temporary.
Select if (RORR_TOP_50_DECILE = 10).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=NOFSTATS
/ORDER=ANALYSIS.

Frequencies
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

```



```

EXECUTE.

*-----*
* Subpage:
*-----*

Temporary.
Select if (PARTINFO_NEEDLEVEL = 'NO').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=NOFSTATS
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/STILES=4
/HISTOGRAM NORMAL

```

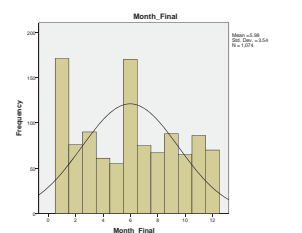
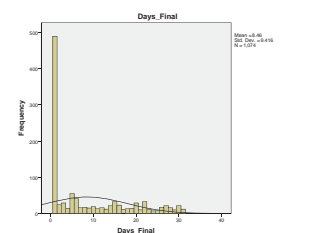
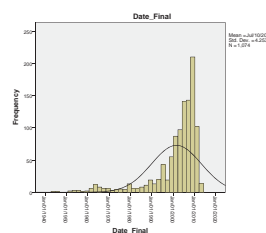
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/ORDER=ANALYSIS.

Frequencies
[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

```

		Days_Final	Month_Final	Year_Final
N	Valid	1074	1074	1074
	Missing	0	0	0
Mean		10.84-2001	6.46	5.08
Std. Error of Mean		18.49-11-128	.287	.108
Median		29-Apr-2005	3.00	6.00
Mode		01-Jan-2005	1	2000
Std. Deviation		4252	6.416	3.540
Variance		1.330817	88.670	12.530
Skewness		-2.241	.360	.088
Std. Error of Skewness		.075	.075	.075
Kurtosis		5.134	-.427	-1.191
Std. Error of Kurtosis		.148	.148	.148
Range		20057	30	11
Minimum		19-Oct-1942	1	1
Maximum		18-Oct-2012	31	2012
Percentiles	25	01-Jan-2000	1.00	3.00
	50	29-Apr-2005	3.00	6.00
	75	05-Dec-2008	16.00	9.00



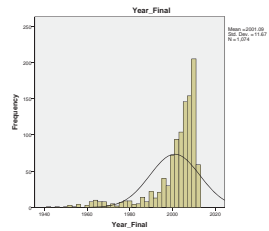
```

EXECUTE.

*-----*
* Subpage:
*-----*

Temporary.
Select if (PARTINFO_NEEDLEVEL = 'NO').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=NOFSTATS
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/STILES=4
/HISTOGRAM NORMAL

```



```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_YEAR_Final, 1, 100).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

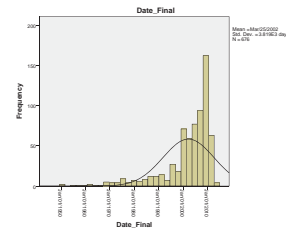
```

**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

	Year_Final	Date_Final	Month_Final	Year_Final
N	Valid	676	676	676
	Missing	0	0	0
Mean	25-Mar-2002	7.05	6.28	2003.34
Std. Error of Mean	21.1546581	.334	.131	.403
Median	09-Jul-2005	3.00	6.00	2005.00
Mode	02-Mar-2001	1	6	2001
Std. Deviation	3819	8.693	3.304	10.473
Variance	1458517	75.564	11.019	109.885
Skewness	-2.043	1.120	-.087	-2.940
Std. Error of Skewness	.084	.084	.084	.084
Kurtosis	4.587	-.022	-1.073	4.536
Std. Error of Kurtosis	1.188	.188	.188	.188
Range	22292	30	11	64
Minimum	20-May-1949	1	1	1949
Maximum	25-Mar-2012	31	12	2012
Percentiles	25	02-Mar-2001	1.00	3.00
	50	09-Jul-2005	3.00	6.00
	75	01-May-2009	14.00	9.00

**Histogram**



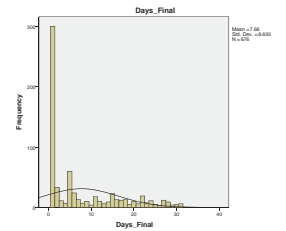
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_DATE_Final, 1, 20).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



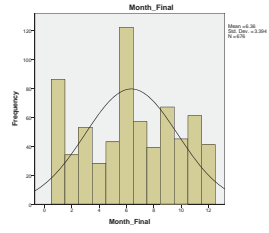
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_DAYS_Final, 1, 10).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



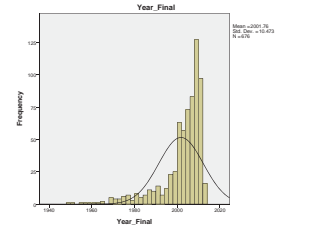
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_MONTH_Final, 1, 15).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_YEAR_Final, 1, 100).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

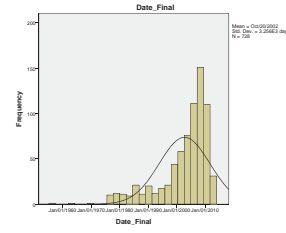
```

**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

	Year_Final	Date_Final	Month_Final	Year_Final
N	Valid	728	728	728
	Missing	0	0	0
Mean	20-Oct-2002	8.04	6.28	2003.34
Std. Error of Mean	16.0726341	.332	.129	.331
Median	01-Nov-2005	3.00	6.00	2005.00
Mode	20-Jan-2001	1	6	2001
Std. Deviation	3251	8.962	3.468	8.942
Variance	7914816	80.319	12.166	79.963
Skewness	-1.585	1.066	-.084	-1.587
Std. Error of Skewness	.091	.091	.091	.091
Kurtosis	2.440	-.194	-1.159	2.382
Std. Error of Kurtosis	.181	.181	.181	.181
Range	11778	30	11	58
Minimum	05-Mar-1952	1	1	1952
Maximum	20-Feb-2012	31	12	2012
Percentiles	25	02-Mar-2001	1.00	3.00
	50	01-Nov-2005	3.00	6.00
	75	23-Jan-2009	14.00	9.00

**Histogram**



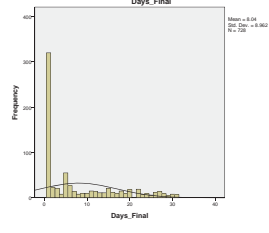
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_DATE_Final, 1, 20).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



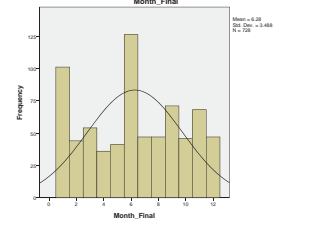
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_DAYS_Final, 1, 10).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



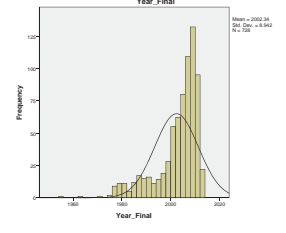
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_MONTH_Final, 1, 15).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_YEAR_Final, 1, 100).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```

**Frequencies**

[DataSet2] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sav

	Year_Final	Date_Final	Month_Final	Year_Final
N	Valid	832	832	832
	Missing	0	0	0
Mean	10-Apr-2001	8.32	6.06	2003.83
Std. Error of Mean	16.4105321	.307	.113	.389
Median	01-Apr-2005	3.00	6.00	2005.00
Mode	01-Apr-2001	1	4	2001
Std. Deviation	3228	9.359	3.442	11.889
Variance	1306117	87.583	11.890	140.879
Skewness	-2.020	1.094	.077	-2.020
Std. Error of Skewness	.080	.080	.080	.080
Kurtosis	3.517	-.393	-1.112	3.505
Std. Error of Kurtosis	.160	.160	.160	.160
Range	20705	30	11	57
Minimum	25-Dec-1865	1	1	1865
Maximum	01-Apr-2012	31	12	2012
Percentiles	25	02-Apr-2001	1.00	3.00
	50	01-Apr-2005	3.00	6.00
	75	01-Jun-2009	15.00	9.00

**Histogram**

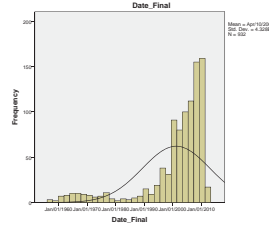
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_YEAR_Final, 1, 100).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



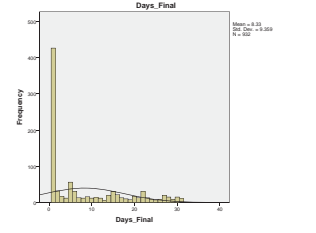
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_DATE_Final, 1, 20).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



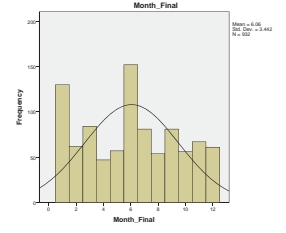
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_DAYS_Final, 1, 10).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



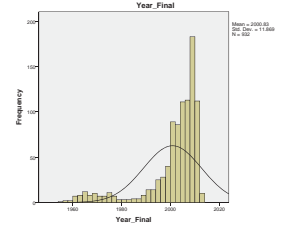
```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_MONTH_Final, 1, 15).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

```



```

EXECUTE.

*****
*****
*****

Temporary.
SELECT IF RANGE (PARTDPO_YEAR_Final, 1, 100).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEKWIT
/KURTOSIS SEKWIT
/TITLE=4
/HISTOGRAM NORMAL.

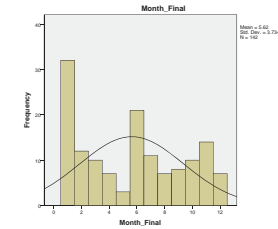
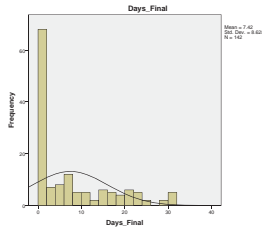
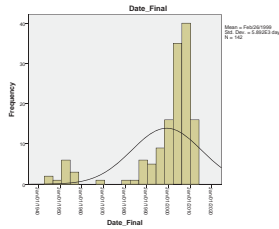
```

/ORDER=ANALYSIS.

Frequencies

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sas

		Statistics			
		Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	142	142	142	142
	Missing	0	0	0	0
Mean		25-Feb-1999	7.42	5.62	1998.75
Std. Error of Mean		11.2229	.724	.313	1.327
Median		15-Aug-2004	3.00	6.00	2004.00
Mode		01-Nov-2005	1	1	2005
Std. Deviation		6602	8.628	3.734	16.172
Variance		2.80217	74.443	13.839	261.535
Skewness		2.237	1.217	.185	-2.240
Std. Error of Skewness		.203	.203	.203	.203
Kurtosis		4.174	.272	-1.333	4.187
Std. Error of Kurtosis		.404	.404	.404	.404
Range		35463	29	11	70
Minimum		15-Oct-1942	1	1	1942
Maximum		01-Jul-2015	30	12	2015
Percentiles	25	11-Mar-1988	1.00	2.00	1988.00
	50	15-Aug-2004	3.00	6.00	2004.00
	75	04-Nov-2005	13.00	9.00	2005.00



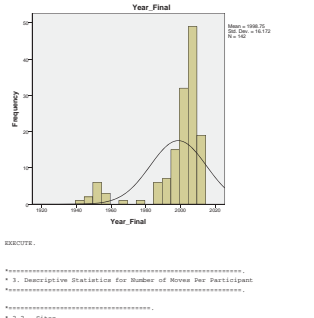
Histogram

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```

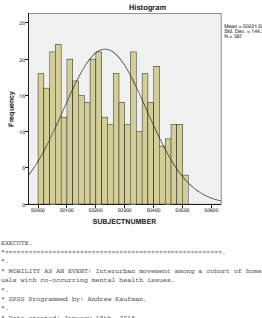
/STATISTICS=STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEWNET
/WTLS=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.

Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 3.0.sas

Statistics
SUBJECTNUMBER
N Valid 327
Mean 50231.05
Std. Error of Mean 7.237
Median 50014.00
Mode 50001*
Std. Deviation 144.340
Variance 20833.884
Skewness .160
Std. Error of Skewness .028
Kurtosis -1.158
Std. Error of Kurtosis .247
Range 861
Minimum 50001
Maximum 50952
Percentiles 25 50014.00
50 50216.00
75 50252.00

* Multiple modes exist. The smallest value is shown.

```



```

* 1. Descriptive Statistics for Move Distances, Number of Moves, and Duration Lived in Each Move Location.
*****
* 1.1 - Sites.
*****
* All Sites and Populations.
*****

Temporary
PRINTERDEFINITION=STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEWNET
/WTLS=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.

Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sas

```

EXECUTE.

\*\*\*\*\*

\* 2.2 - Sites.

\*\*\*\*\*

Temporary.

SELECT OF SITE = 5.

PRINTERDEFINITION=SUBJECTNUMBER

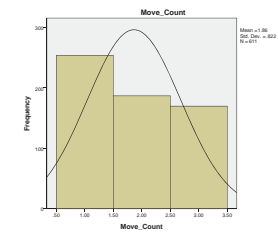
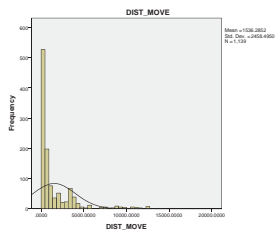
FORMAT=HORIZONTAL

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		Statistics			
		DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	1139	1068	1131	1083
	Missing	610	666	114	61
Mean		1036.280198	1495.798912	1.8235	94.881
Std. Error of Mean		72.842043	73.205594	.02027	4.1940
Median		520.04060	519.79509	2.0000	36.000
Mode		3302.0700	3353.8000	1.00	12.0
Std. Deviation		2408.648828	2284.177028	82.228	127.3828
Variance		604191.578	517307.955	676	16208.721
Skewness		2.735	2.738	.259	2.170
Std. Error of Skewness		.072	.072	.039	.074
Kurtosis		8.228	8.332	-1.475	4.692
Std. Error of Kurtosis		.145	.150	.107	.149
Range		15333.3097	152746.036	2.00	800.5
Minimum		3.6178	3.6146	1.00	.5
Maximum		15336.9265	152781.2322	3.00	855.0
Percentiles	25	128.04265	124.87110	1.0000	12.000
	50	520.20489	519.79509	2.0000	36.000
	75	1866.820981	1858.92554	3.0000	120.000



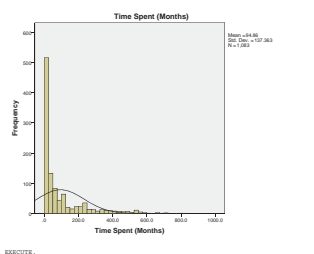
Histogram

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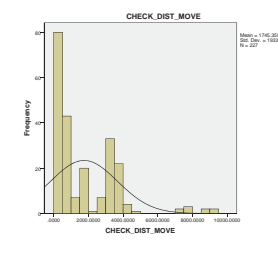
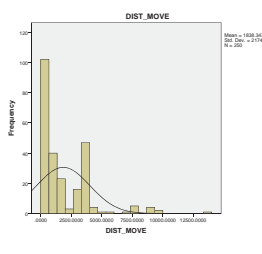


```

Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sas

Statistics
SUBJECTNUMBER
N Valid 250
Mean 137 140 250 151
Std. Error of Mean 183.37115 174.63589 27.000 94.483
Median 137.054140 128.338058 2.0000 36.0000
Mode 816.091365 816.000006 2.0000 36.0000
Std. Deviation 2302.0700 2020.8600 1.00 24.0
Variance 5274.8620211 4083.652016 .8000 121.6224
Skewness 47.00209161 37.28841257 7.78 14840.893
Kurtosis 1.967 1.562 322 1.027
Std. Error of Skewness .154 .162 .207 .158
Std. Error of Kurtosis 5.000 3.002 -1.632 2.386
Range 13431.3332 9405.4030 2.00 953.0
Minimum 13440.0500 9404.1165 3.00 944.0
Maximum 13440.0500 9404.1165 3.00 944.0
Percentiles 25 202.941039 221.426393 1.0000 12.0000
50 816.091366 816.000006 2.0000 36.0000
75 3362.72003 3358.860000 3.0000 144.0000

```



EXECUTE.

\*\*\*\*\*

Temporary.

SELECT OF SITE = 5.

PRINTERDEFINITION=STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S

KURTOSIS SEWNET

/WTLS=4

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

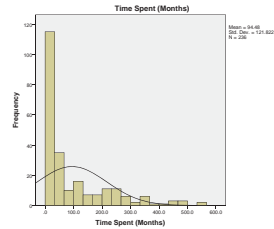
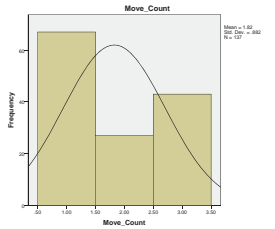
Histogram

Page 205

Page 207

Page 208

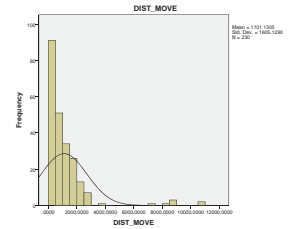




**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	230	215	215
	Missing	120	135	131
Mean	1101.32021	1039.026161	1.0026	60.790
Std. Error of Mean	100.690761	100.0697946	.07861	8.4693
Median	652.439107	651.802524	2.0000	24.000
Mode	188.84761	188.2282	1.00	1.00
Std. Deviation	1695.026955	1467.1024433	.85103	125.2994
Variance	2875439.058	2152268.088	.724	15698.937
Skewness	2.265	4.246	-1.50	2.266
Std. Error of Skewness	.160	.166	.222	.164
Kurtosis	17.797	22.402	-1.613	5.933
Std. Error of Kurtosis	.320	.330	.448	.327
Range	1058.2831	1050.4853	2.00	671.0
Minimum	20.4810	20.4828	1.00	1.0
Maximum	1059.7641	1050.9682	3.00	672.0
Percentiles	25	199.95351	2.01181003	10.000
	50	652.439107	651.802524	24.000
	75	1461.862553	1397.305623	3.000

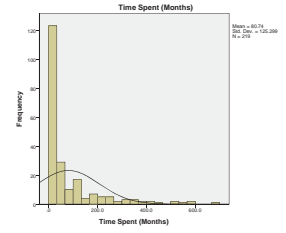
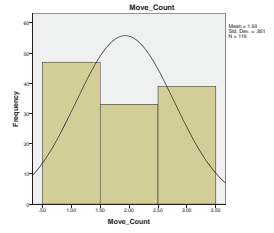
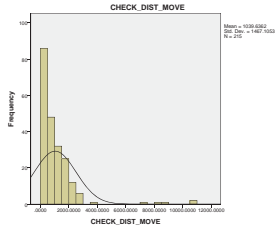


```

EXECUTE.
*Montage
*-----
Temporary:
SELECT IF Site = 4.
FREQUENCIES VARIABLES=CHECT_DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESTORAN NORMAL
/ORDER=ANALYSIS.

```

**Histogram**



**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	133	133	133
	Missing	124	135	126
Mean	2947.750885	3882.585982	1.8005	112.282
Std. Error of Mean	261.610059	340.369593	.08914	114.2223
Median	551.080201	539.96137	1.0000	48.000
Mode	107.80227	202.1667	1.00	1.00
Std. Deviation	4166.052034	4128.4656551	.7105	158.2118
Variance	17356130.113	17042447.775	.505	24422.127
Skewness	1.422	1.442	-.729	2.162
Std. Error of Skewness	.175	.177	.221	.178
Kurtosis	.722	.657	-1.794	5.295
Std. Error of Kurtosis	.348	.352	.458	.354
Range	15310.7981	15272.0702	2.00	808.0
Minimum	6.1881	6.8300	1.00	8.0
Maximum	15316.9863	15278.9532	3.00	810.0
Percentiles	25	121.987316	117.210416	10.000
	50	501.980001	620.961837	10.000
	75	3452.555944	3450.662333	2.000

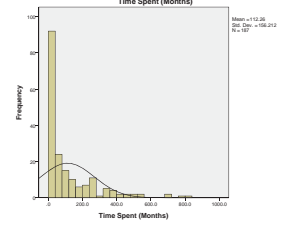
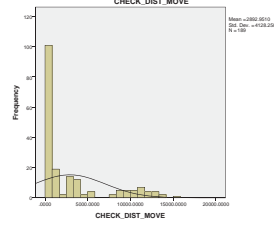
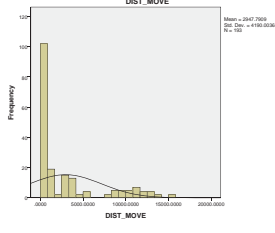
a. Multiple modes exist. The smallest value is shown.

**Histogram**

```

EXECUTE.
*Don't do.
*-----
Temporary:
SELECT IF Site = 3.
FREQUENCIES VARIABLES=CHECT_DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESTORAN NORMAL
/ORDER=ANALYSIS.

```



```

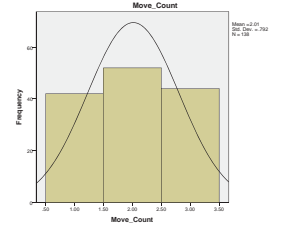
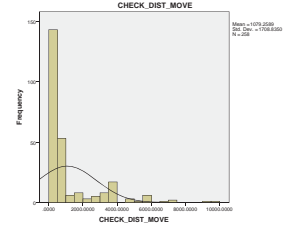
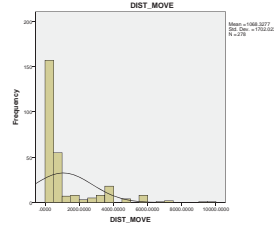
EXECUTE.
*Montreal.
*-----
Temporary:
SELECT IF Site = 2.
FREQUENCIES VARIABLES=CHECT_DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESTORAN NORMAL
/ORDER=ANALYSIS.

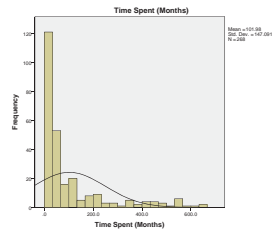
```

**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	178	158	158
	Missing	138	158	148
Mean	1088.32759	1079.288975	2.8142	161.581
Std. Error of Mean	102.000686	106.2674179	.08743	8.9855
Median	263.462897	319.892482	2.0000	36.000
Mode	888.0207	827.2515	1.50	24.0
Std. Deviation	1702.0227114	1708.848942	.79217	147.0914
Variance	2896984.714	2920116.395	.628	21635.854
Skewness	2.265	2.312	-1.50	2.266
Std. Error of Skewness	.148	.152	.205	.149
Kurtosis	5.595	5.758	-1.402	3.395
Std. Error of Kurtosis	.291	.302	.410	.297
Range	9853.0571	9844.8087	2.00	650.0
Minimum	5.0388	5.0328	1.00	1.0
Maximum	9858.0953	9848.8427	3.00	650.0
Percentiles	25	67.892874	68.203385	10.000
	50	263.462897	319.892482	20.000
	75	628.020683	827.251513	30.000





```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF SITE = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```

**Frequencies**

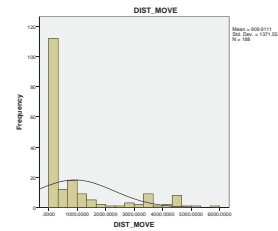
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

	Statistics		Move_Count	Time Spent (Months)	
	DIST_MOVE	CHECK_DIST_MOVE			
N	182	172	187	172	
Missing	96	105	187	111	
Mean	929.91110	852.28824	1.8279	83.410	
Std. Error of Mean	103.20294	94.94983	.08162	10.1303	
Median	185.70270	185.82527	2.0000	24.000	
Mode	144.8011	134.82527	1.00	12.00	
Std. Deviation	1371.55276	1316.45679	8.0564	133.2432	
Variance	1881156.04	1732328.093	65.1	17725.891	
Skewness	1.810	1.855	1.23	2.444	
Std. Error of Skewness	.177	.182	.243	.185	
Kurtosis	2.000	2.316	-1.448	5.911	
Std. Error of Kurtosis	.353	.361	.495	.387	
Range	5745.1773	5282.6652	2.00	718.5	
Minimum	3.8176	3.8176	1.00	.5	
Maximum	5749.9949	5286.6658	3.00	720.0	
Percentiles	25	127.82874	118.61263	1.0000	8.000
	50	185.70270	185.82527	2.0000	24.000
	75	941.01599	927.74276	3.0000	84.000

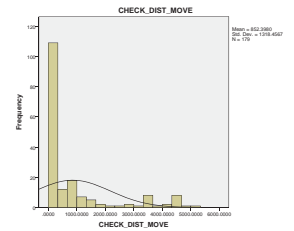
a. Multiple modes exist. The smallest value is shown.

**Histogram**

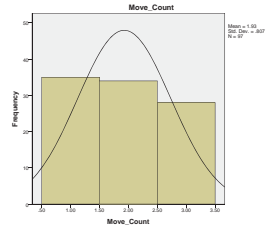
```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF SITE = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



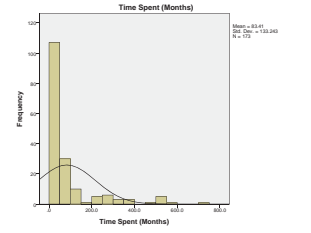
```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF SITE = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF SITE = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```

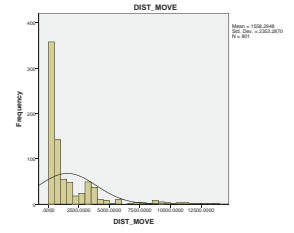
**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

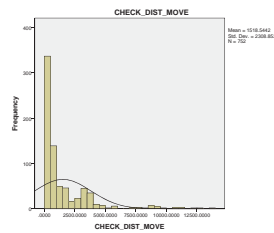
	Statistics		Move_Count	Time Spent (Months)	
	DIST_MOVE	CHECK_DIST_MOVE			
N	601	752	424	767	
Missing	424	473	801	485	
Mean	1558.29470	1518.54422	1.8888	94.353	
Std. Error of Mean	83.14027	84.10182	.04826	6.8513	
Median	588.564785	587.772310	2.0000	36.000	
Mode	332.6700	338.88000	1.00	12.00	
Std. Deviation	203.87004	208.852176	8.8889	137.3847	
Variance	553795.706	535795.948	68.7	18858.162	
Skewness	2.887	2.826	2.14	2.154	
Std. Error of Skewness	.086	.089	.119	.088	
Kurtosis	7.581	7.910	-1.513	4.345	
Std. Error of Kurtosis	.173	.176	.237	.171	
Range	13741.638	13729.6605	2.00	791.5	
Minimum	6.1325	6.1274	1.00	.5	
Maximum	13747.7683	13735.7879	3.00	792.0	
Percentiles	25	137.801778	134.828916	1.0000	12.000
	50	588.564785	587.772310	2.0000	36.000
	75	1862.82081	1865.25189	3.0000	120.000

**Histogram**

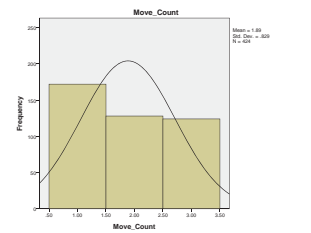
```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



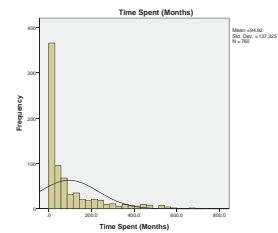
```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 1.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```

**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

	Statistics		Move_Count	Time Spent (Months)	
	DIST_MOVE	CHECK_DIST_MOVE			
N	320	357	182	352	
Missing	182	204	320	196	
Mean	1558.89093	1487.20247	1.8277	95.116	
Std. Error of Mean	105.82354	148.26162	.07892	7.8162	
Median	332.69533	308.73319	2.0000	36.000	
Mode	334.82527	334.82527	1.00	12.00	
Std. Deviation	275.1828796	2616.89720	8.8884	138.8880	
Variance	748795.286	6944148.455	65.3	19284.448	
Skewness	2.887	2.882	2.00	2.211	
Std. Error of Skewness	.134	.130	.180	.137	
Kurtosis	8.045	8.746	-1.377	5.070	
Std. Error of Kurtosis	.277	.271	.358	.274	
Range	15313.2697	15274.6386	2.00	808.5	
Minimum	3.8176	3.8146	1.00	.5	
Maximum	15316.9853	15278.2532	3.00	810.0	
Percentiles	25	95.397082	98.329554	1.0000	12.000
	50	332.69533	308.73319	2.0000	36.000
	75	1827.199818	1828.146859	2.5000	120.000

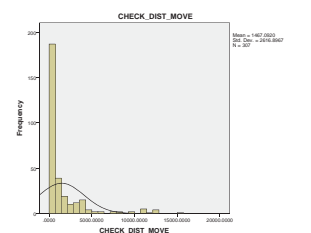
a. Multiple modes exist. The smallest value is shown.

**Histogram**

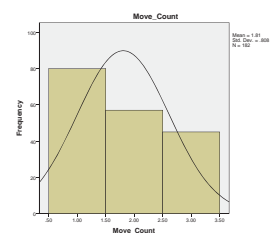
```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 1 OR DSBL_Q2Gender = 4 OR DSBL_Q3Gender = 5.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



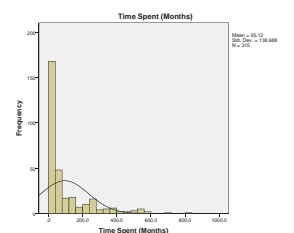
```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 3 OR DSBL_Q2Gender = 4 OR DSBL_Q3Gender = 5.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 3 OR DSBL_Q2Gender = 4 OR DSBL_Q3Gender = 5.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```



```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 3 OR DSBL_Q2Gender = 4 OR DSBL_Q3Gender = 5.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
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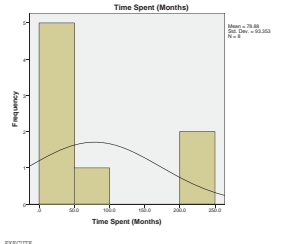
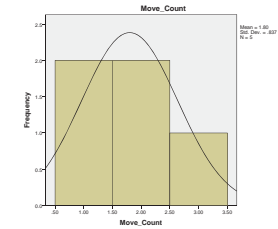
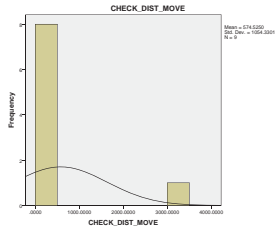
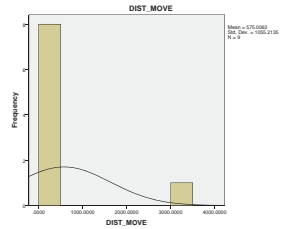
```
EXECUTE.
*-----*
*Result(s).
*-----*
Temporary.
SELECT IF DSBL_Q1Gender = 3 OR DSBL_Q2Gender = 4 OR DSBL_Q3Gender = 5.
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESIS SEWISS
KENNESIS SEWISS
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.
```

**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	5	5	5
	Missing	5	5	5
Mean	375.000017	574.200000	1.8000	78.875
Std. Error of Mean	301.700000	261.400000	20.817	33.0000
Median	333.650074	333.670000	2.0000	30.0000
Mode	141.0000	141.0000	1.0000	1.0000
Std. Deviation	1055.214618	1054.530000	8.0000	61.3535
Variance	1113785.00	1111911.000	.7000	8714.696
Skewness	2.8802	2.8802	.510	1.1669
Std. Error of Skewness	.717	.717	.913	.752
Kurtosis	8.531	8.531	-8.512	-3.976
Std. Error of Kurtosis	1.400	1.400	2.000	1.481
Range	3348.5400	3345.7300	2.00	239.00
Minimum	141.0000	141.0000	1.00	1.00
Maximum	3359.0700	3359.8600	3.00	240.00
Percentiles	25	71.740000	71.800000	1.0000
	50	333.650074	333.670000	2.0000
	75	365.463024	368.175010	2.5000

**Histogram**



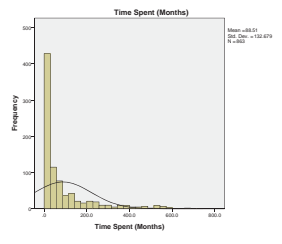
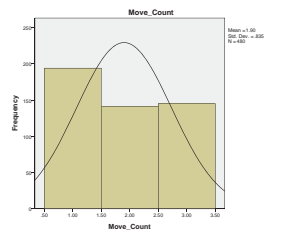
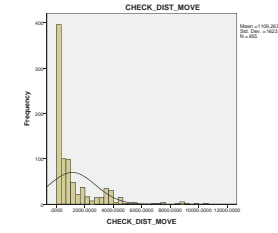
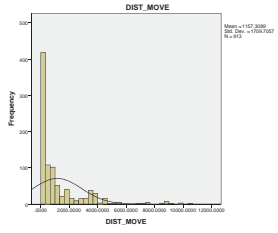
KURTOSIS REPORT  
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/RESTORAN NORMAL  
/ORDER=ANALYSIS.

**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	513	482	482
	Missing	460	530	530
Mean	1107.350007	1108.200000	1.8070	88.9000
Std. Error of Mean	56.5626087	55.0887316	20.811	4.0164
Median	478.000046	478.820000	2.0000	20.0000
Mode	3904.0000	3907.0000	1.00	1.00
Std. Deviation	1708.708672	1653.0885730	8.0000	132.4750
Variance	2920005.04	2934462.460	.8000	17650.7600
Skewness	2.579	2.597	.194	2.283
Std. Error of Skewness	.081	.084	.111	.083
Kurtosis	8.643	8.543	-5.460	-5.912
Std. Error of Kurtosis	.162	.167	.222	.166
Range	10305.1400	10017.2300	2.00	719.5
Minimum	3.0170	3.0150	1.00	.0
Maximum	10308.1641	10020.2400	3.00	720.0
Percentiles	25	1177.0000	1142.0000	1.0000
	50	478.000046	478.820000	2.0000
	75	1488.82224	1330.168000	3.0000

**Histogram**



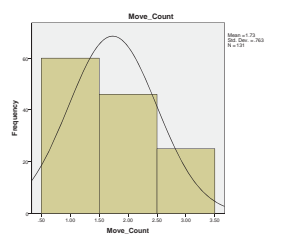
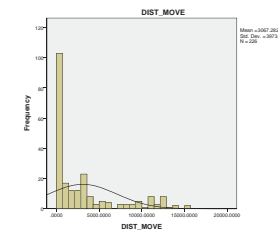
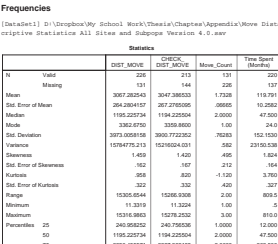
EXECUTE.  
\*.....  
\* Non-White.  
\*.....

**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	238	213	131
	Missing	131	144	226
Mean	2097.282040	2047.280000	1.7228	119.791
Std. Error of Mean	246.284010	237.270000	69.855	10.2862
Median	1195.23724	1194.235000	2.0000	47.5000
Mode	282.0700	282.0000	1.00	24.0
Std. Deviation	3870.0589158	3800.772300	76.183	151.1000
Variance	1497475.210	1456704.031	.582	22830.038
Skewness	1.400	1.420	.450	1.624
Std. Error of Skewness	.162	.167	.212	.164
Kurtosis	.968	.800	-1.120	3.780
Std. Error of Kurtosis	.322	.332	.430	.387
Range	15305.6544	15268.9308	2.00	808.5
Minimum	11.3316	11.3224	1.00	.0
Maximum	15316.9853	15278.2532	3.00	810.0
Percentiles	25	240.95832	240.790000	1.0000
	50	1195.23724	1194.235000	2.0000
	75	3658.455671	3687.268139	2.0000

**Histogram**



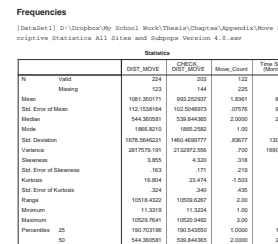
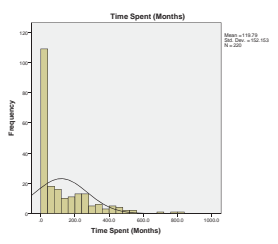
EXECUTE.  
\*.....  
\* Indigeous.  
\*.....

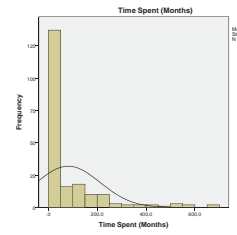
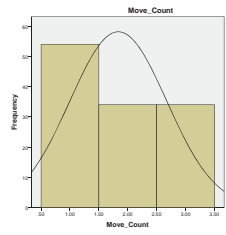
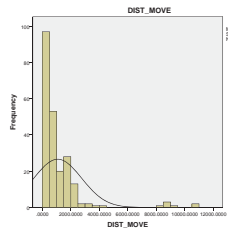
**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics				
	DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	124	144	139
	Missing	123	144	225
Mean	1881.000011	1893.200000	1.8000	81.0000
Std. Error of Mean	112.1000004	102.5000000	20.817	9.0468
Median	544.3000001	538.8400000	2.0000	24.0000
Mode	1880.010	1882.282	1.00	12.0
Std. Deviation	1078.5666221	1405.4697777	8.0000	103.0300
Variance	2817979.191	2125922.506	.7000	10610.510
Skewness	3.805	4.320	3.18	2.520
Std. Error of Skewness	.163	.171	.219	.169
Kurtosis	16.004	23.474	-1.500	6.394
Std. Error of Kurtosis	.324	.340	.430	.389
Range	10518.4332	10059.2267	2.00	871.5
Minimum	11.3316	11.3224	1.00	.0
Maximum	10529.7641	10020.4400	3.00	872.0
Percentiles	25	180.793196	180.543000	1.0000
	50	544.300001	538.840000	2.0000
	75	1451.898038	1347.417169	3.0000

**Histogram**





```

EXECUTE.
*****
* 1.4 - Read Level.
*****
*
* Top 10%.
*
Temporary.
Select if (PARTISO_MIDLEVEL = 'B').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESD SEWENN

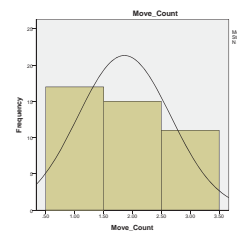
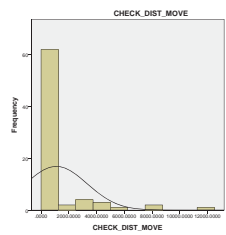
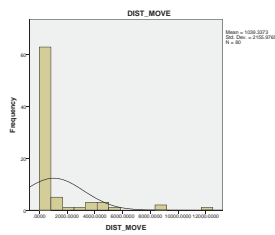
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KENNESD SEWENN  
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/RESTOREAN NORMAL  
/ORDER=ANALYSIS.

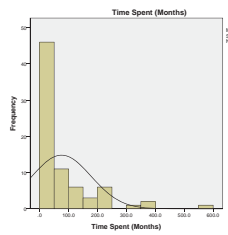
**Frequencies**  
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	20	75	43	70
	Missing	0	0	0	0
Mean		1038.3728	1037.80779	1.8000	75.500
Std. Error of Mean		241.045050	255.4914284	.12264	11.7422
Median		215.16500	244.32000	2.0000	36.000
Mode		97.0000	31.7180 <sup>a</sup>	1.00	24.0
Std. Deviation		2155.876334	2219.8207896	.80420	102.3659
Variance		4646234.828	4908000.000	.64674	10479.786
Skewness		3.384	3.352	.263	2.486
Std. Error of Skewness		.299	.277	.361	.276
Kurtosis		12.344	11.786	-1.396	7.233
Std. Error of Kurtosis		.530	.548	.709	.545
Range		1248.5077	12479.0000	2.00	563.0
Minimum		6.180	6.1800	1.00	1.0
Maximum		1249.6255	12481.2800	3.00	564.0
Percentiles	25	66.100719	66.200719	1.0000	12.000
	50	215.165000	244.320000	2.0000	36.000
	75	638.497497	797.174794	3.0000	102.000

<sup>a</sup>. Multiple modes exist. The smallest value is shown.



**Histogram**



**Frequencies**  
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	608	566	379	652
	Missing	376	418	625	402
Mean		1072.02448	1025.821620	1.8540	95.990
Std. Error of Mean		160.304946	161.648247	.04172	6.5708
Median		549.740246	535.373462	2.0000	36.000
Mode		208.000 <sup>a</sup>	107.000 <sup>a</sup>	1.00	12.0
Std. Deviation		2055.5446408	2022.3472834	.80762	143.5281
Variance		7023365.908	6777417.078	.6521	20515.309
Skewness		3.023	2.960	.263	2.246
Std. Error of Skewness		.088	.088	.126	.086
Kurtosis		7.205	7.316	-1.425	4.969
Std. Error of Kurtosis		.180	.181	.281	.188
Range		15313.3687	15274.6386	2.00	803.0
Minimum		3.6176	3.6146	1.00	6.0
Maximum		15316.9863	15278.2532	3.00	810.0
Percentiles	25	134.841881	131.930083	1.0000	12.000
	50	549.740246	535.373462	2.0000	36.000
	75	1538.020200	1585.258189	3.0000	120.000

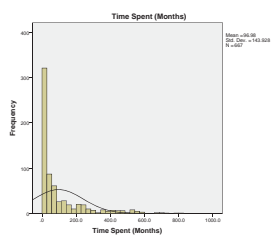
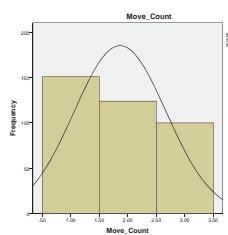
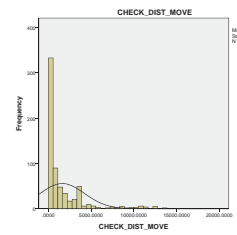
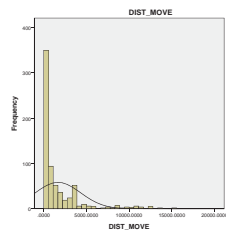
<sup>a</sup>. Multiple modes exist. The smallest value is shown.

**Histogram**

```

EXECUTE.
*****
* Moderate Skew.
*****
*
* Top 10%.
*
Temporary.
Select if (PARTISO_MIDLEVEL = 'B').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESD SEWENN

```



```

EXECUTE.
*****
* High Skew.
*****
*
* Top 10%.
*
Temporary.
Select if (PARTISO_MIDLEVEL = 'B').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESD SEWENN

```

**Frequencies**  
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	441	413	238	458
	Missing	235	264	440	280
Mean		1233.66000	1280.20000	1.8800	91.463
Std. Error of Mean		101.199324	98.609780	.05010	6.1885
Median		484.82490	504.40400	2.0000	34.500
Mode		208.000 <sup>a</sup>	208.000 <sup>a</sup>	1.00	12.0
Std. Deviation		2104.102798	2059.593127	.84448	126.2219
Variance		4427482.309	4010872.986	.711	15931.067
Skewness		2.910	2.794	.271	1.821
Std. Error of Skewness		.116	.120	.158	.120
Kurtosis		6.944	6.297	-1.554	3.400
Std. Error of Kurtosis		.282	.240	.316	.289
Range		13433.9225	12534.5397	2.00	652.0
Minimum		4.1226	6.1274	1.00	6.0
Maximum		13440.0550	12540.6671	3.00	653.0
Percentiles	25	96.77990	96.69878	1.0000	12.000
	50	484.82490	504.40400	2.0000	34.500
	75	1660.85430	1645.87180	3.0000	120.000

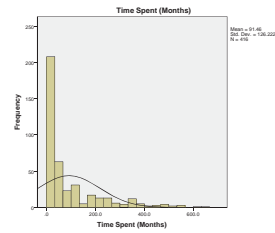
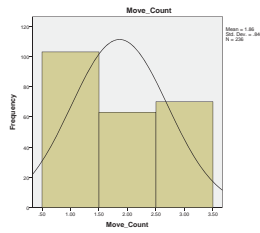
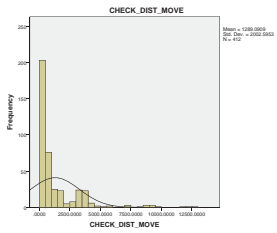
<sup>a</sup>. Multiple modes exist. The smallest value is shown.

**Histogram**

```

EXECUTE.
*****
* High Skew.
*****
*
* Top 10%.
*
Temporary.
Select if (PARTISO_MIDLEVEL = 'B').
FREQUENCIES VARIABLES=DIST_MOVE CHECK_DIST_MOVE Move_Count Move_Duration
/FORMAT=HISTOGRAM
/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KENNESD SEWENN

```



KURTOSIS RESULT

```

/RTITLE=4
/RESIDUAL NORMAL
/ORDER=ANALYSIS.

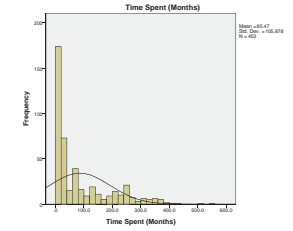
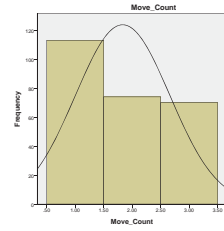
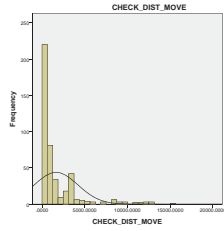
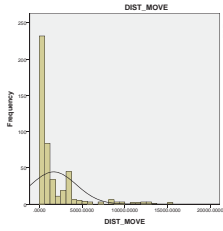
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Frequencies

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	471	471	257	471
	Missing	0	0	200	275
Mean		125.000000	167.000000	1.9227	2.1561
Std. Error of Mean		121.5881177	120.4002053	.05168	4.9746
Median		82.420107	69.858412	2.0000	28.0000
Mode		188.0000	188.0000	1.00	1.00
Std. Deviation		2524.7703097	2546.3587817	.03970	105.8779
Variance		6383709.747	6494326.280	.00158	11210.188
Skewness		.727	2.648	.321	1.478
Std. Error of Skewness		.115	.115	.152	.115
Kurtosis		8.564	7.277	4.42	1.847
Std. Error of Kurtosis		.225	.230	.303	.229
Range		15313.2657	15274.6286	3.00	54.15
Minimum		3.0176	3.0146	1.00	5
Maximum		15316.2863	15278.232	3.00	54.15
Percentiles	25	124.04181	124.00000	1.0000	12.0000
	50	82.420107	69.858412	2.0000	28.0000
	75	2116.983094	2040.12326	3.0000	120.0000

Histogram

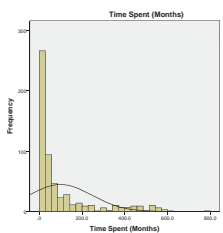
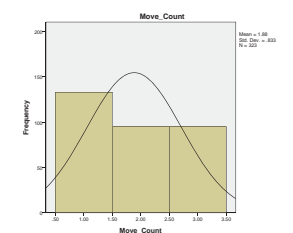
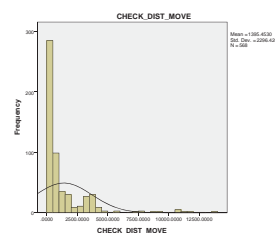
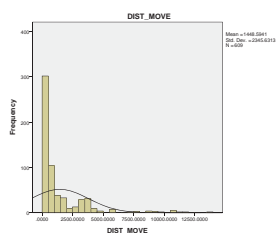


Frequencies

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	471	471	257	471
	Missing	0	0	200	275
Mean		148.504143	1326.452964	1.8234	25.946
Std. Error of Mean		85.407785	86.2620295	.04638	8.1183
Median		504.87212	491.520311	2.0000	36.0000
Mode		282.0700	2028.8000	1.00	1.00
Std. Deviation		2346.621928	2296.426273	.0318	146.4640
Variance		550188.427	527572.709	.0104	21484.716
Skewness		2.744	2.806	.214	2.065
Std. Error of Skewness		.099	.103	.136	.102
Kurtosis		8.215	9.319	-1.525	3.185
Std. Error of Kurtosis		.188	.205	.271	.204
Range		13741.1634	13728.6802	2.00	79.15
Minimum		6.1286	6.1274	1.00	5
Maximum		13747.2963	13735.7679	3.00	79.15
Percentiles	25	122.72187	122.47456	1.0000	12.0000
	50	504.87012	491.520311	2.0000	36.0000
	75	1676.30458	1607.45019	3.0000	120.0000

Histogram

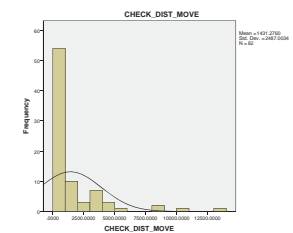
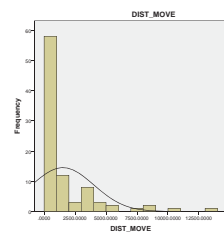


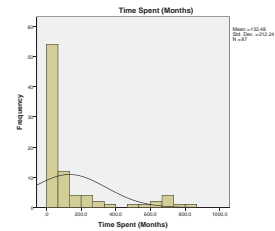
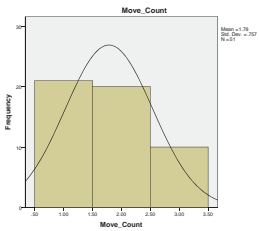
Frequencies

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		DIST_MOVE	CHECK_DIST_MOVE	Move_Count	Time Spent (Months)
N	Valid	91	91	51	97
	Missing	51	60	91	55
Mean		188.08202	143.27897	1.7863	13.483
Std. Error of Mean		262.1064667	274.642612	1.0262	22.7945
Median		43.018161	271.207049	2.0000	36.0000
Mode		200.0000	200.0000	1.00	1.00
Std. Deviation		2550.383249	2487.034033	.7567	212.2388
Variance		651181.788	6182185.828	.573	45042.741
Skewness		2.070	2.866	.386	3.087
Std. Error of Skewness		.263	.286	.333	.258
Kurtosis		8.136	9.205	-1.137	3.204
Std. Error of Kurtosis		.500	.536	.656	.511
Range		13641.8622	13630.4602	2.00	69.00
Minimum		5.581	5.529	1.00	1.0
Maximum		13646.6203	13635.9693	3.00	69.00
Percentiles	25	70.79715	68.96091	1.0000	12.0000
	50	40.018161	271.207049	2.0000	36.0000
	75	1822.12813	1591.83704	3.0000	132.0000

Histogram





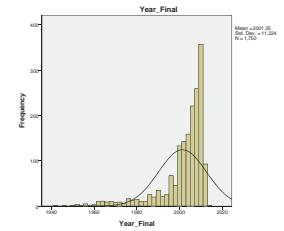
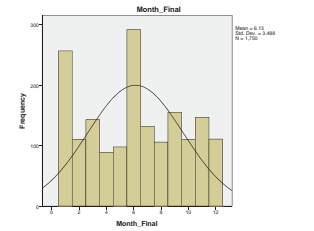
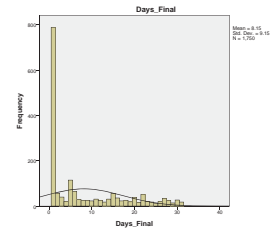
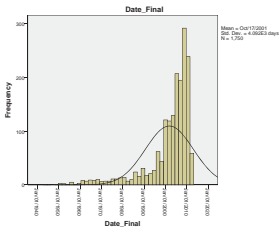
```
EXECUTE.
* Date and Time Wizard: Month_Final.
COMPUTE Month_Final=DATE.MONTH(Date_Final).
VARIABLE LABELS Month_Final "Month_Final".
VARIABLE LEVEL Month_Final(SCALE).
FORMATS Month_Final(8).
VARIABLE WIDTH Month_Final(8).
EXECUTE.
* Date and Time Wizard: Year_Final.
COMPUTE Year_Final=DATE.YEAR(Date_Final).
VARIABLE LABELS Year_Final "Year_Final".
VARIABLE LEVEL Year_Final(SCALE).
FORMATS Year_Final(4).
VARIABLE WIDTH Year_Final(8).
EXECUTE.
```

	Des_Final	Days_Final	Month_Final	Year_Final
N	Valid	1750	1750	1750
	Missing	4	4	4
Mean	17-Oct-2001	6.15	6.15	2001.35
Std. Error of Mean	19.3015272	.219	.262	.688
Median	05-Jan-2005	3.00	6.00	2005.00
Mode	01-Jan-2010	1	6	2010
Std. Deviation	689	9.160	2.468	11.224
Variance	1326217	83.714	12.162	125.966
Skewness	-2.192	1.041	.036	-2.189
Std. Error of Skewness	.059	.059	.059	.059
Kurtosis	5.084	.277	-1.157	5.059
Std. Error of Kurtosis	.117	.117	.117	.117
Range	2087	30	11	71
Minimum	19-Oct-1942	1	1	1942
Maximum	25-Feb-2013	31	12	2013
Percentiles	25	05-Jan-2005	1.00	3.00
	50	05-Jan-2005	3.00	6.00
	75	01-Jan-2010	15.00	9.00

Histogram

```
EXECUTE.
*****
* 2. Descriptive Statistics for Move Distances
*****
* 2.1 - Prepare Data
*****
* Date and Time Wizard: Days_Final.
COMPUTE Days_Final=DATE.MONTH(Date_Final).
VARIABLE LABELS Days_Final "Days_Final".
VARIABLE LEVEL Days_Final(SCALE).
FORMATS Days_Final(8).
VARIABLE WIDTH Days_Final(8).
```

```
Temporary.
FREQUENCIES VARIABLES=Des_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
/KURTOSIS SEWESS
/RTITLE=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```



```
*****
* Vancouver - Moving to
*****
```

```
Temporary.
SELECT IF (Geocode = "Vancouver" OR "geocode" = "Vancouver", "BC", "Canada").
>Error # 4332 in column 70. Text: )
>One of the operands of a logical operator (AND, OR, and NOT) is neither a
>logical expression nor a logical function nor a logical variable.
>Abandon of this command step.
FREQUENCIES VARIABLES=Des_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
/KURTOSIS SEWESS
/ORDER=ANALYSIS.
```

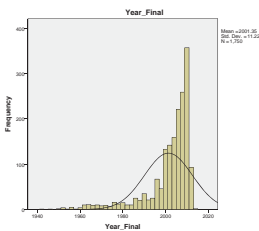
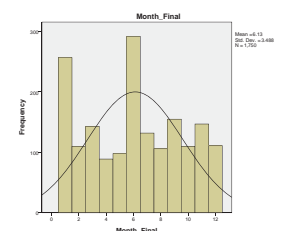
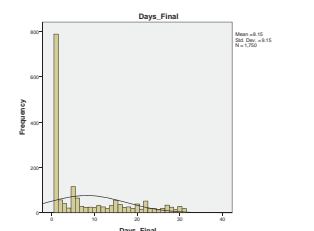
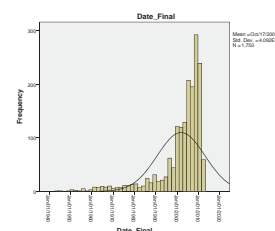
```
/RTITLE=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

Frequencies

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subtype Version 4.0.sav

	Des_Final	Days_Final	Month_Final	Year_Final
N	Valid	1750	1750	1750
	Missing	4	4	4
Mean	17-Oct-2001	6.15	6.15	2001.35
Std. Error of Mean	19.3015272	.219	.262	.688
Median	05-Jan-2005	3.00	6.00	2005.00
Mode	01-Jan-2010	1	6	2010
Std. Deviation	689	9.160	2.468	11.224
Variance	1326217	83.714	12.162	125.966
Skewness	-2.192	1.041	.036	-2.189
Std. Error of Skewness	.059	.059	.059	.059
Kurtosis	5.084	.277	-1.157	5.059
Std. Error of Kurtosis	.117	.117	.117	.117
Range	2087	30	11	71
Minimum	19-Oct-1942	1	1	1942
Maximum	25-Feb-2013	31	12	2013
Percentiles	25	05-Jan-2005	1.00	3.00
	50	05-Jan-2005	3.00	6.00
	75	01-Jan-2010	15.00	9.00

Histogram

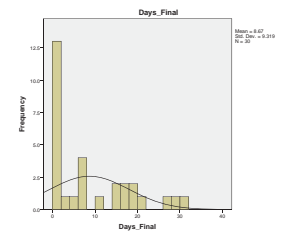
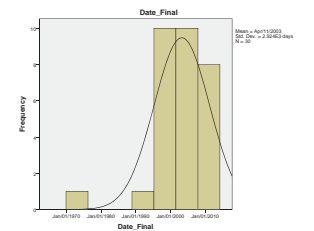


Frequencies

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subtype Version 4.0.sav

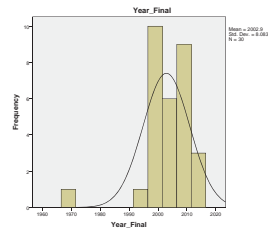
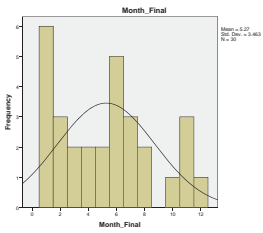
	Des_Final	Days_Final	Month_Final	Year_Final
N	Valid	30	30	30
	Missing	0	0	0
Mean	11-Apr-2003	8.67	5.37	2003.90
Std. Error of Mean	18.3015272	1.701	.632	1.476
Median	31-Aug-2003	5.50	5.50	2003.00
Mode	05-Jan-2007	1	1	2007
Std. Deviation	144.101267	9.319	3.463	6.883
Variance	6.301616	86.851	11.995	65.334
Skewness	-2.522	.370	.369	-2.584
Std. Error of Skewness	.427	.427	.427	.427
Kurtosis	9.918	-.320	-.862	10.200
Std. Error of Kurtosis	.833	.833	.833	.833
Range	15584	25	11	43
Minimum	21-Nov-1969	1	1	1969
Maximum	01-Aug-2012	30	12	2012
Percentiles	25	05-Jan-2007	1.00	2.00
	50	31-Aug-2003	5.50	5.50
	75	08-Feb-2008	16.25	9.25

Histogram



```
EXECUTE.
*****
* Calgary - Moving to
*****
```

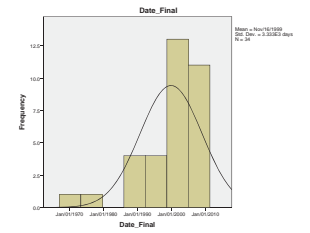
```
Temporary.
SELECT IF (Geocode = "Calgary", "AB", "Canada" OR "geocode" = "Calgary").
FREQUENCIES VARIABLES=Des_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS=STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
/KURTOSIS SEWESS
/RTITLE=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```



**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Dec_1995	Dec_1996	Month_Final	Year_Final
N	Valid	34	34	34	34
	Missing	0	0	0	0
Mean		15-Nov-1995	7.94	6.00	1998.44
Std. Error of Mean		16.26-2002	.511	1.440	.804
Median		16-Oct-2002	5.00	6.00	2002.50
Mode		20-Mar-2005	1	6	2007
Std. Deviation		11-16-2002	3.332	8.305	3.255
Variance		8-20-1996	10.481	12.424	83.406
Skewness			-1.961	.344	.150
Std. Error of Skewness			.403	.403	.403
Kurtosis			4.336	-.527	-1.168
Std. Error of Kurtosis			.768	.768	.768
Range			10505	77	11
Minimum			18-Dec-1995	1	1
Maximum			15-Jan-2009	28	12
Percentiles	25		28-Aug-1995	1.00	3.00
	50		16-Oct-2002	5.00	6.00
	75		04-Oct-2005	10.00	0.25



```

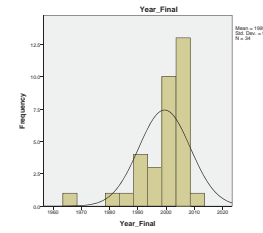
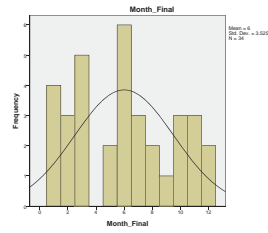
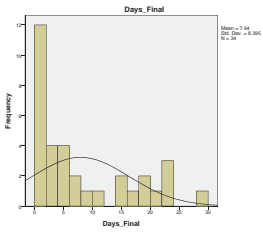
EXECUTE.

*Edmonton - Moving to

Temporary:
SELECT IF (Geocode = 'Edmonton, AB, Canada' or Geocode = 'Edmonton').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
/KINDNESS=SEMI
/KURTOSIS=SEMI
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.

```

**Histogram**



**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Dec_1995	Dec_1996	Month_Final	Year_Final
N	Valid	182	182	182	182
	Missing	0	0	0	0
Mean		13-Oct-2002	8.00	6.32	2003.32
Std. Error of Mean		10-20-2002	.217	.752	.372
Median		31-Dec-2006	1.00	6.00	2006.50
Mode		01-Jan-2010	1	1	2010
Std. Deviation		10-14-2002	4.205	10.145	3.723
Variance		13-07-1997	17.682	103.912	13.858
Skewness			-2.240	.006	-.085
Std. Error of Skewness			.190	.190	.190
Kurtosis			4.961	-.684	-1.391
Std. Error of Kurtosis			.354	.354	.354
Range			20003	30	11
Minimum			07-Sep-1995	1	1
Maximum			25-Feb-2013	31	12
Percentiles	25		09-Jun-2002	1.00	3.00
	50		31-Dec-2006	1.00	6.00
	75		23-Jul-2009	10.00	10.00

**Histogram**

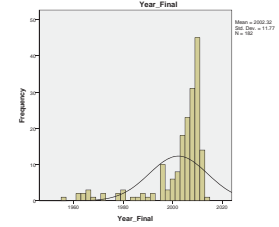
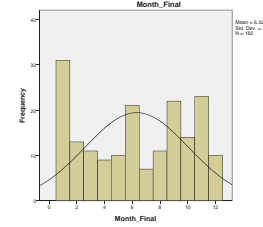
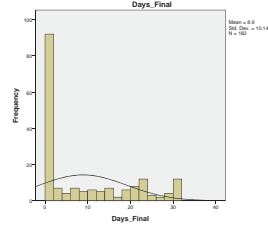
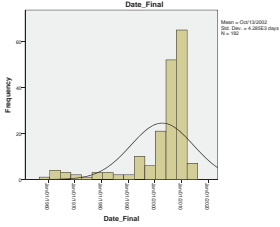
```

EXECUTE.

*Winnipeg - Moving to

Temporary:
SELECT IF (Geocode = 'Winnipeg' OR Geocode = 'Winnipeg, MB, Canada').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
/KINDNESS=SEMI
/KURTOSIS=SEMI
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.

```



```

EXECUTE.

*Toronto - Moving to

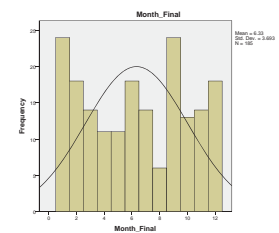
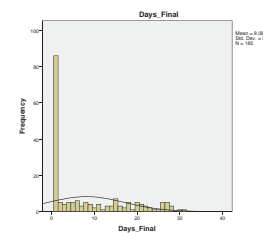
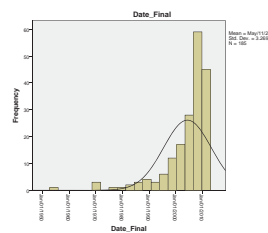
Temporary:
SELECT IF (Geocode = 'Toronto' or Geocode = 'Toronto, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
/KINDNESS=SEMI
/KURTOSIS=SEMI
/NTILES=4
/HISTOGRAM=NORMAL
/ORDER=ANALYSIS.

```

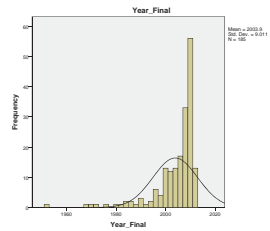
**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapitre\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Dec_1995	Dec_1996	Month_Final	Year_Final
N	Valid	185	185	185	185
	Missing	0	0	0	0
Mean		11-Mar-2004	8.08	6.10	2003.94
Std. Error of Mean		08-34-2002	.660	.271	.463
Median		21-Dec-2007	3.00	6.00	2007.00
Mode		20-Mar-2005	1	6	2007
Std. Deviation		04-05-2002	3.925	8.977	3.690
Variance		7-07-1996	80.581	13.826	81.201
Skewness			-2.612	.365	-.219
Std. Error of Skewness			.179	.179	.179
Kurtosis			6.662	-.417	-1.338
Std. Error of Kurtosis			.385	.385	.385
Range			11092	30	11
Minimum			05-Oct-1992	1	1
Maximum			05-Dec-2012	31	12
Percentiles	25		20-Apr-2002	1.00	3.00
	50		21-Dec-2007	3.00	6.00
	75		21-Dec-2009	10.00	9.00



**Histogram**



Mean = 20.63  
Std. Dev. = 3.61  
N = 25

EXECUTE.  
\*Ottawa - Moving to

```
Temporary.
SELECT IF (Gender = 'Ottawa, ON, Canada' OR Gender = 'Ottawa').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```

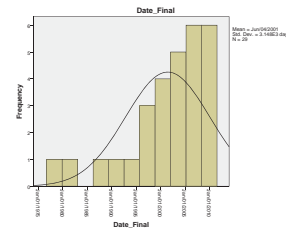
**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

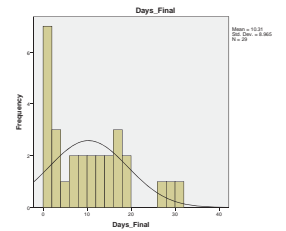
		Date_Final	Day_Final	Month_Final	Year_Final
N	Valid	25	25	25	25
	Missing	0	0	0	0
Mean		04-Jun-2001	10.31	6.21	2002.07
Std. Error of Mean			1.665	.586	1.611
Median		17-Jan-2003	9.00	6.00	2003.00
Mode		01-Sep-2001	1	4	2007
Std. Deviation		07-Feb-1979	3.148	8.965	3.155
Variance		7.306E16	80.305	9.956	79.249
Skewness		-1.479	.796	-.202	-1.474
Std. Error of Skewness		.434	.434	.434	.434
Kurtosis		1.952	-1.60	-1.058	1.910
Std. Error of Kurtosis		.846	.846	.846	.846
Range		12418	30	10	34
Minimum		01-Sep-1976	1	1	1976
Maximum		01-Sep-2010	31	11	2010
Percentiles		14-Sep-1988	1.00	3.00	1987.00
	50	17-Jan-2003	9.00	6.00	2003.00
	75	08-Nov-2007	17.00	9.00	2007.50

\* Multiple modes exist. The smallest value is shown.

**Histogram**



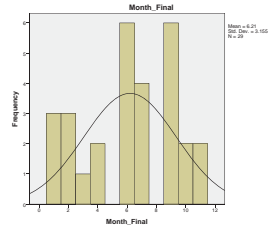
Mean = 04/06/2001  
Std. Dev. = 3.6633e6  
N = 25



Mean = 10.31  
Std. Dev. = 3.148  
N = 25

EXECUTE.

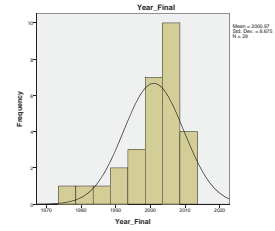
```
Temporary.
SELECT IF (Gender = 'Ottawa, ON, Canada' OR Gender = 'Ottawa').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 6.81  
Std. Dev. = 3.146  
N = 25

EXECUTE.  
\*Montreal - Moving to

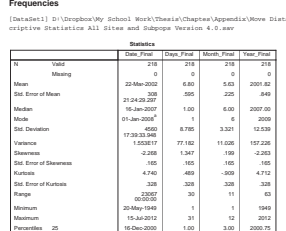
```
Temporary.
SELECT IF (Gender = 'Montreal, QC, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 2002.07  
Std. Dev. = 8.874  
N = 25

EXECUTE.

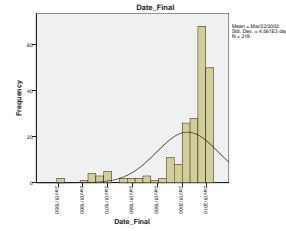
```
Temporary.
SELECT IF (Gender = 'Montreal, QC, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 04/06/2001  
Std. Dev. = 3.6633e6  
N = 25

EXECUTE.

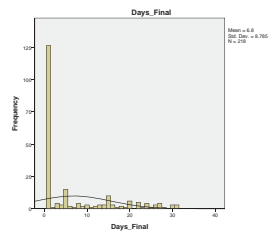
```
Temporary.
SELECT IF (Gender = 'Montreal, QC, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 10.31  
Std. Dev. = 3.148  
N = 25

EXECUTE.

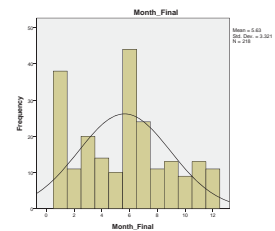
```
Temporary.
SELECT IF (Gender = 'Montreal, QC, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 18.81  
Std. Dev. = 4.786  
N = 25

EXECUTE.

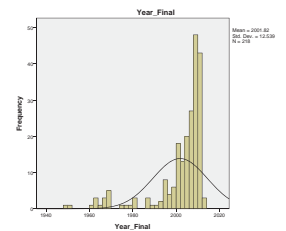
```
Temporary.
SELECT IF (Gender = 'Reaction, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 1.81  
Std. Dev. = 3.371  
N = 25

EXECUTE.

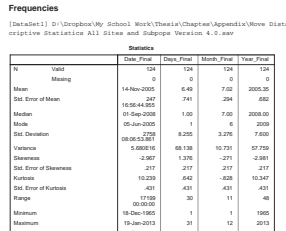
```
Temporary.
SELECT IF (Gender = 'Reaction, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 2001.07  
Std. Dev. = 12.018  
N = 25

EXECUTE.

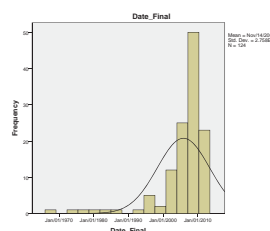
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Temporary.
SELECT IF (Gender = 'Reaction, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 2005.07  
Std. Dev. = 4.355  
N = 25

EXECUTE.

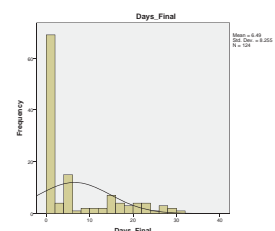
```
Temporary.
SELECT IF (Gender = 'Reaction, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 04/06/2001  
Std. Dev. = 3.6633e6  
N = 25

EXECUTE.

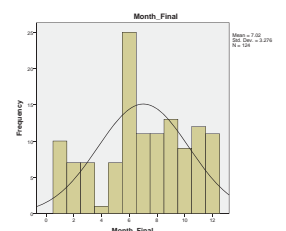
```
Temporary.
SELECT IF (Gender = 'Reaction, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 18.81  
Std. Dev. = 4.786  
N = 25

EXECUTE.

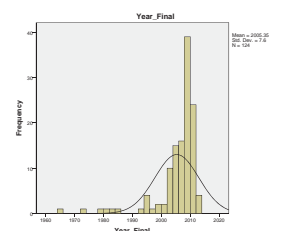
```
Temporary.
SELECT IF (Gender = 'Reaction, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 6.81  
Std. Dev. = 3.146  
N = 25

EXECUTE.

```
Temporary.
SELECT IF (Gender = 'Reaction, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



Mean = 2005.07  
Std. Dev. = 4.355  
N = 25

EXECUTE.

```
Temporary.
SELECT IF (Gender = 'Reaction, ON, Canada').
FREQUENCIES VARIABLES=Date_Final Day_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
/NTILES=4
/RESIDUAL= NORMAL
/ORDER=ANALYSIS.
```



```

/NTITLE=4
/ISTOGRAM NORMAL
/ORDER=ANALYSIS.

```

**Frequencies**

```

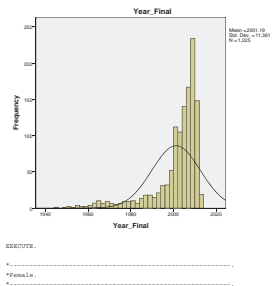
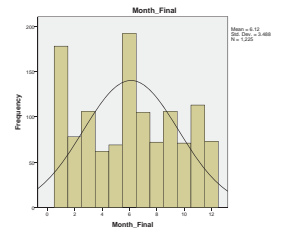
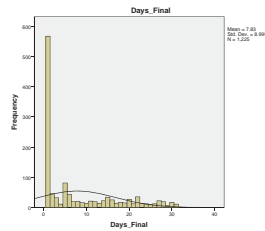
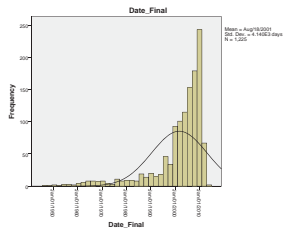
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

```

Statistics					
N	Valid	Date_Final	Days_Final	Month_Final	Year_Final
	Missing	1225	1225	1225	1225
Mean		15-Aug-2002	7.82	6.12	2001.19
Std. Error of Mean		.05	.257	.100	.315
Median		01-Jan-2005	2.00	6.00	2005.00
Mode		41-Jan-2005 <sup>a</sup>	1	6	2000
Std. Deviation		41-Jan-2005	8.999	3.488	11.391
Variance		02-Sep-2005	80.981	12.164	129.081
Skewness		-1.170	1.102	.062	-2.163
Std. Error of Skewness		.093	.070	.020	.076
Kurtosis		4.839	-1.138	-1.165	4.795
Std. Error of Kurtosis		.140	.140	.140	.140
Range		2482	30	11	88
Minimum		13-Jul-1945	1	1	1945
Maximum		19-Jan-2013	31	12	2013
Percentiles	25	24-Feb-2005	1.00	3.00	2000.00
	50	01-Jan-2005	2.00	6.00	2005.00
	75	31-Dec-2008	14.00	9.00	2008.50

**Histogram**

<sup>a</sup> Multiple modes exist. The smallest value is shown.



```

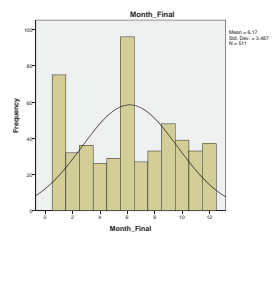
Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

```

Statistics					
N	Valid	Date_Final	Days_Final	Month_Final	Year_Final
	Missing	0	0	0	0
Mean		17-Feb-2002	8.98	6.17	2001.88
Std. Error of Mean		.09	.419	.154	.486
Median		09-Sep-2005	5.00	6.00	2005.00
Mode		01-Jan-2010	1	6	2010
Std. Deviation		21-Jul-2012	9.480	3.487	10.987
Variance		1.00E+17	89.874	12.159	120.720
Skewness		-2.341	.803	.071	-2.248
Std. Error of Skewness		.158	.108	.038	.130
Kurtosis		5.676	-.581	-1.138	5.733
Std. Error of Kurtosis		.216	.216	.216	.216
Range		2682	30	11	71
Minimum		19-Oct-1942	1	1	1942
Maximum		25-Feb-2013	31	12	2013
Percentiles	25	01-Jan-2002	1.00	3.00	2000.00
	50	01-Sep-2005	5.00	6.00	2005.00
	75	30-Apr-2009	10.50	9.00	2009.50

**Histogram**

<sup>a</sup> Multiple modes exist. The smallest value is shown.



```

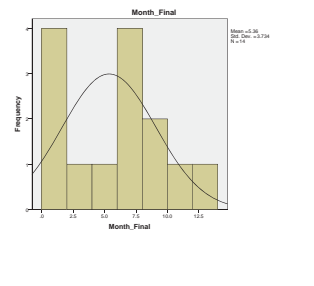
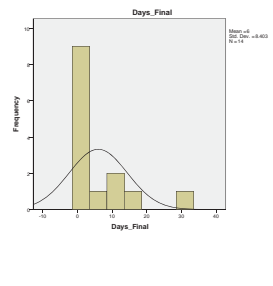
Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

```

Statistics					
N	Valid	Date_Final	Days_Final	Month_Final	Year_Final
	Missing	0	0	0	0
Mean		03-Feb-2004	6.00	5.36	2003.71
Std. Error of Mean		.065	.246	.098	1.847
Median		04-Nov-2003	1.00	6.00	2008.00
Mode		30-Apr-1997 <sup>a</sup>	1	7	2007
Std. Deviation		02-Oct-2002	6.403	3.734	6.911
Variance		4.66E+11	70.815	13.940	47.764
Skewness		1.040	1.886	.200	-1.024
Std. Error of Skewness		.557	.557	.557	.557
Kurtosis		.404	3.405	.304	.301
Std. Error of Kurtosis		1.104	1.104	1.104	1.104
Range		6062	00:00:00	28	11
Minimum		18-Apr-1990	1	1	1990
Maximum		01-Jan-2012	28	12	2012
Percentiles	25	18-Feb-2000	1.00	1.00	2000.00
	50	17-Jun-2006	1.00	6.00	2006.00
	75	01-Dec-2008	12.00	8.25	2008.50

**Histogram**

<sup>a</sup> Multiple modes exist. The smallest value is shown.



```

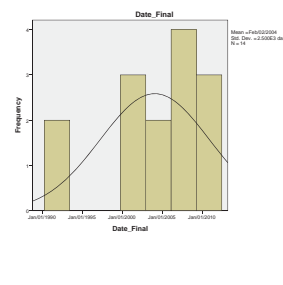
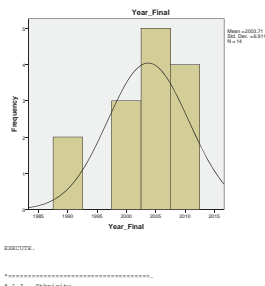
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Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

```

Statistics					
N	Valid	Date_Final	Days_Final	Month_Final	Year_Final
	Missing	0	0	0	0
Mean		02-Feb-2004	6.00	5.36	2003.71
Std. Error of Mean		.065	.246	.098	1.847
Median		04-Nov-2003	1.00	6.00	2008.00
Mode		30-Apr-1997 <sup>a</sup>	1	7	2007
Std. Deviation		02-Oct-2002	6.403	3.734	6.911
Variance		4.66E+11	70.815	13.940	47.764
Skewness		1.040	1.886	.200	-1.024
Std. Error of Skewness		.557	.557	.557	.557
Kurtosis		.404	3.405	.304	.301
Std. Error of Kurtosis		1.104	1.104	1.104	1.104
Range		6062	00:00:00	28	11
Minimum		18-Apr-1990	1	1	1990
Maximum		01-Jan-2012	28	12	2012
Percentiles	25	18-Feb-2000	1.00	1.00	2000.00
	50	17-Jun-2006	1.00	6.00	2006.00
	75	01-Dec-2008	12.00	8.25	2008.50

**Histogram**

<sup>a</sup> Multiple modes exist. The smallest value is shown.



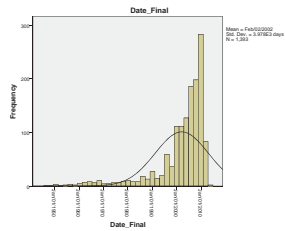
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/STATISTICS= STDEV VARIANCE RANGE MINIMUM MAXIMUM MEAN MEAN MEDIAN MODE S
KURTOSIS SKEWNESS
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Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

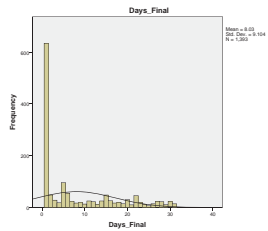
```

Statistics					
N	Valid	Date_Final	Days_Final	Month_Final	Year_Final
	Missing	0	0	0	0
Mean		02-Feb-2002	6.05	6.06	2001.65
Std. Error of Mean		12-Jul-2002	.244	.092	.302
Median		05-Jun-2005	3.00	6.00	2005.00
Mode		01-Jan-2010	1	6	2010
Std. Deviation		09-Jul-2007	9.104	3.432	10.902
Variance		1.88E+17	82.880	11.778	118.837
Skewness		-2.305	1.074	.061	-2.830
Std. Error of Skewness		.066	.066	.066	.066
Kurtosis		5.756	-.199	-1.107	5.725
Std. Error of Kurtosis		.131	.131	.131	.131
Range		26998	30	11	88
Minimum		13-Jul-1945	1	1	1945
Maximum		25-Feb-2013	31	12	2013
Percentiles	25	02-Mar-2000	1.00	3.00	2000.00
	50	05-Jun-2005	3.00	6.00	2005.00
	75	01-Jan-2009	14.00	9.00	2009.00

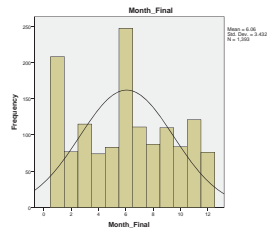
**Histogram**



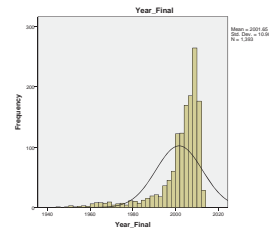
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```

EXECUTE.
*-----*
*Non-White.*
*-----*

Temporary:
Select if (PARTNER0_LISTORACIAL = 'Yes').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS=STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEANR MEAN MEDIAN MODE S
KENNESR SEQRW
/KURTOSIS SEQRW
/TTITLE=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.

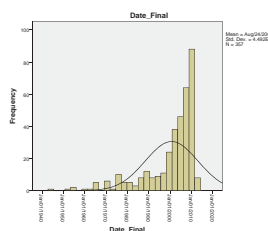
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**Frequencies**

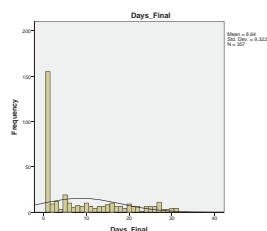
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	327	327	327	327
	Missing	0	0	0	0
Mean	24-Aug-2005	8.84	8.07	2005.18	
Std. Error of Mean	17.205728	.277	.493	.196	.854
Median	16-May-2005	4.00	6.00	2005.00	
Mode	01-Jan-2005	1	1	2005	
Std. Deviation	15.074871	4.881	9.322	3.895	12.349
Variance	1.50817	86.904	13.649	15.160	152.493
Skewness	-1.033	.324	-.038	-1.826	
Std. Error of Skewness	1.029	.129	.129	.129	
Kurtosis	3.234	-.536	-1.328	3.225	
Std. Error of Kurtosis	.287	.287	.287	.287	
Range	00/00/00	30	11	70	
Minimum	18-Oct-1942	1	1	1942	
Maximum	09-Dec-2012	31	12	2012	
Percentiles	25	02-May-1998	1.00	3.00	1998.00
	50	16-May-2005	4.00	6.00	2005.00
	75	01-Jan-2009	16.00	9.00	2009.00

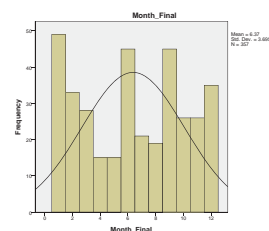
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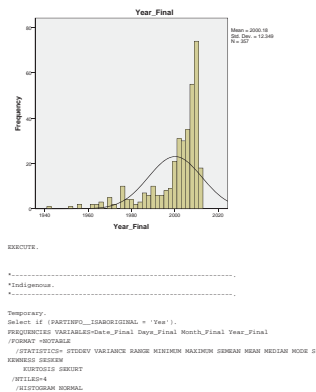
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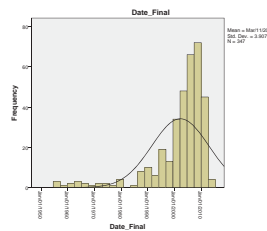
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**Frequencies**

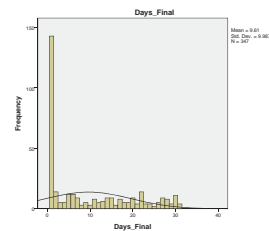
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	347	347	347	347
	Missing	0	0	0	0
Mean	11-Mar-2002	9.61	6.21	2001.73	
Std. Error of Mean	17.2748584	.299	.536	.192	.874
Median	01-Jan-2005	5.00	6.00	2005.00	
Mode	01-Jan-2010	1	6	2010	
Std. Deviation	16.0210252	9.987	3.959	10.884	
Variance	1.12817	99.731	12.737	114.138	
Skewness	-2.346	.772	.687	-2.341	
Std. Error of Skewness	.131	.131	.131	.131	
Kurtosis	6.114	-.873	-1.242	6.068	
Std. Error of Kurtosis	.381	.381	.381	.381	
Range	21-Oct-1954	30	11	58	
Minimum	23-Jul-1954	1	1	1954	
Maximum	20-Feb-2013	30	12	2013	
Percentiles	25	02-May-2005	1.00	3.00	2005.00
	50	01-Jan-2005	5.00	6.00	2005.00
	75	02-Oct-2008	16.00	9.00	2008.00

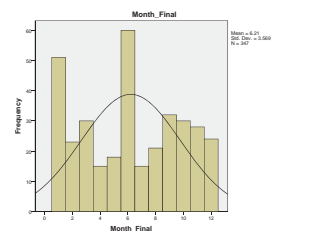
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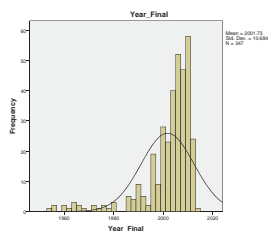
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**Frequencies**

[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Statistics			
		Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	123	123	123	123
	Missing	0	0	0	0
Mean	23-Mar-2002	7.75	5.99	2001.96	
Std. Error of Mean	21.5244227	.734	.287	.816	
Median	15-Mar-2005	4.00	6.00	2005.00	
Mode	22-Mar-1997	1	6	2008	
Std. Deviation	33.0215378	8.141	3.179	9.053	
Variance	6.14816	66.272	10.106	81.957	
Skewness	2.291	.853	.106	-3.237	
Std. Error of Skewness	.218	.218	.218	.218	
Kurtosis	7.562	-.395	-.983	7.413	
Std. Error of Kurtosis	.433	.433	.433	.433	
Range	00/00/00	30	11	56	
Minimum	08-Feb-1992	1	1	1992	
Maximum	01-Mar-2012	31	12	2012	
Percentiles	25	22-Jan-2000	1.00	3.00	2000.00
	50	15-Mar-2005	4.00	6.00	2005.00
	75	04-Apr-2008	16.00	9.00	2008.00

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```

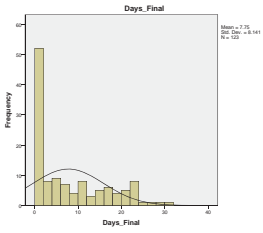
EXECUTE.
*-----*
* 1.4 - Small Sample.*
*-----*
*Top 10.*
*-----*

Temporary:
Select if (BOOK_TOP_10_PERCENT = 10).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/ORDER=ANALYSIS.

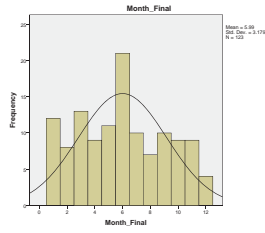
```

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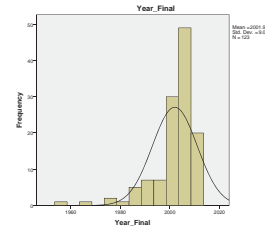
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/ORDER=ANALYSIS.

**Frequencies**  
 [Dataset1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Days_Final	Month_Final	Year_Final
N	Valid	22	22	22
	Missing	0	0	0
Mean		0.75	6.88	1990.95
Std. Error of Mean		.357	.987	1.042
Median		0	7	1990
Mode		0	6	1990
Std. Deviation		1.141	3.076	4.553
Variance		1.302	9.456	20.728
Skewness		-.201	.085	-.237
Std. Error of Skewness		.075	.075	.075
Kurtosis		1.134	-.427	-1.191
Std. Error of Kurtosis		.140	.140	.140
Range		20	11	20
Minimum		0	1	1980
Maximum		20	12	2000
Percentiles	25	0	6	1990
	50	0	6	1990
	75	0	6	1990

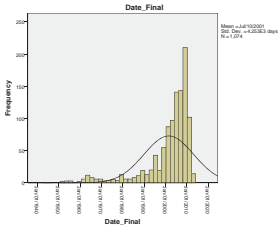
**Histogram**

```
EXECUTE.

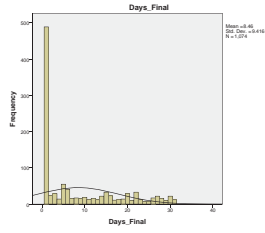
*****
Histogram saved.
*****

Temporary:
Select if (PARTINFO_MERGELEVEL = 'N0').
FREQUENCIES VARIABLES=Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEQRST
/RTILES=4
/ORDER=ANALYSIS
/HISTOGRAM NORMAL
```

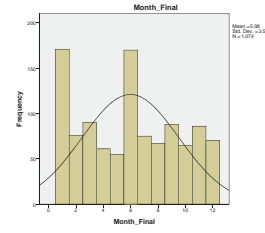
Page 372



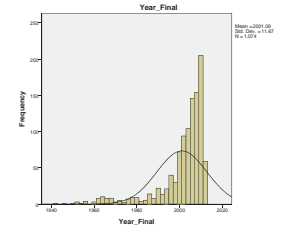
Page 373



Page 374



Page 375



Page 376

```
EXECUTE.

*****
Histogram saved.
*****

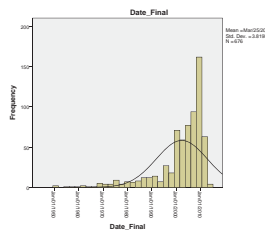
Temporary:
Select if (PARTINFO_MERGELEVEL = 'N0').
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEQRST
/RTILES=4
/HISTOGRAM NORMAL
```

/ORDER=ANALYSIS.

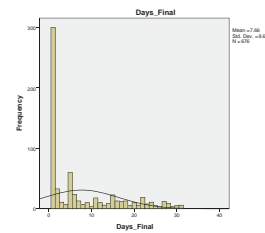
**Frequencies**  
 [Dataset1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Days_Final	Month_Final	Year_Final
N	Valid	22	22	22
	Missing	0	0	0
Mean		0.75	6.88	1990.95
Std. Error of Mean		.357	.987	1.042
Median		0	7	1990
Mode		0	6	1990
Std. Deviation		1.141	3.076	4.553
Variance		1.302	9.456	20.728
Skewness		-.201	.085	-.237
Std. Error of Skewness		.075	.075	.075
Kurtosis		1.134	-.427	-1.191
Std. Error of Kurtosis		.140	.140	.140
Range		20	11	20
Minimum		0	1	1980
Maximum		20	12	2000
Percentiles	25	0	6	1990
	50	0	6	1990
	75	0	6	1990

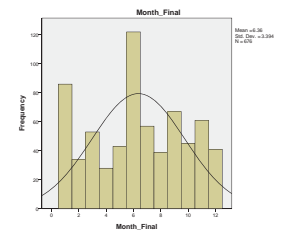
**Histogram**



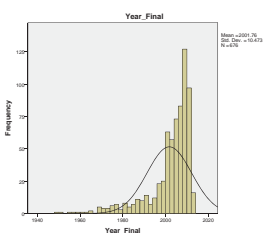
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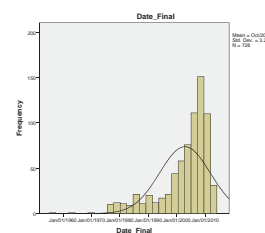
Page 381

```
/STATISTICS= STDEVY VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEQRST
/RTILES=4
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

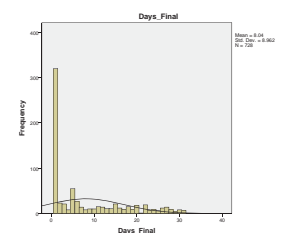
**Frequencies**  
 [Dataset1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

		Days_Final	Month_Final	Year_Final
N	Valid	22	22	22
	Missing	0	0	0
Mean		0.75	6.88	1990.95
Std. Error of Mean		.357	.987	1.042
Median		0	7	1990
Mode		0	6	1990
Std. Deviation		1.141	3.076	4.553
Variance		1.302	9.456	20.728
Skewness		-.201	.085	-.237
Std. Error of Skewness		.075	.075	.075
Kurtosis		1.134	-.427	-1.191
Std. Error of Kurtosis		.140	.140	.140
Range		20	11	20
Minimum		0	1	1980
Maximum		20	12	2000
Percentiles	25	0	6	1990
	50	0	6	1990
	75	0	6	1990

**Histogram**



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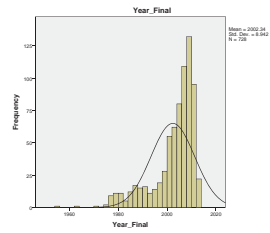
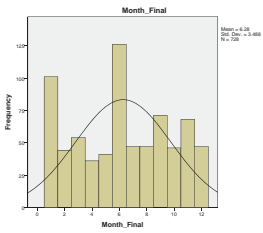


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```
EXECUTE.

*****
Histogram saved.
*****

Temporary:
SELECT * FROM (PARTINFO_DOB, date.day(17,8,1975), date.day(10,10,1991)).
FREQUENCIES VARIABLES=Days_Final Month_Final Year_Final
/FORMAT=HISTOGRAM
```



```

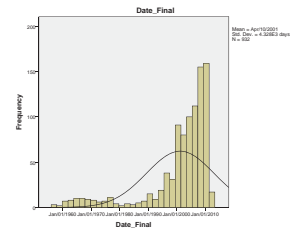
/ORDER=ANALYSIS.

Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics

```

	Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	520	520	520
	Missing	0	0	0
Mean		10-Apr-2001	8.32	6.00
Std. Error of Mean		.041	.307	.113
Median		01-Apr-2005	3.00	6.00
Mode		01-Jan-2000	1	6
Std. Deviation		4.228	9.359	3.442
Variance		17.98117	87.583	11.880
Skewness		-2.589	1.064	.077
Std. Error of Skewness		.690	.690	.260
Kurtosis		3.517	-3.980	-1.132
Std. Error of Kurtosis		.860	.860	.360
Range		30705	30	11
Minimum		25-Dec-1995	1	1
Maximum		01-Sep-2012	31	12
Percentiles		25	01-Jan-2000	1.00
		50	01-Apr-2005	3.00
		75	01-Jan-2000	15.00



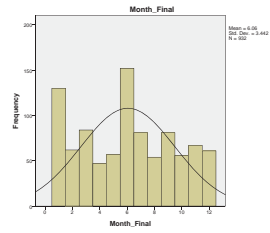
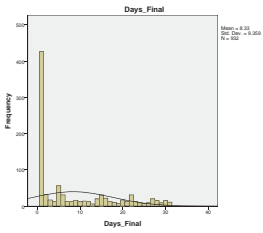
```

EXECUTE.

*-----*
* 20-04 *
*-----*

TEMPORARY.
SELECT IF RANGE (PARTINFO_DOB,date.day(3,8,1955), date.day(19,2,1976)).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEWESS
/TTITLE=4
/ISTITGRAM NORMAL

```



```

/ORDER=ANALYSIS.

Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics

```

	Date_Final	Days_Final	Month_Final	Year_Final
N	Valid	142	142	142
	Missing	0	0	0
Mean		26-Feb-1999	7.42	5.62
Std. Error of Mean		.11207055	.724	.313
Median		16-Aug-2004	3.00	6.00
Mode		01-Jan-2000	1	1
Std. Deviation		8.602	8.628	3.724
Variance		2.50217	74.443	13.939
Skewness		-2.227	1.217	-.242
Std. Error of Skewness		.203	.203	.203
Kurtosis		4.174	272	-1.333
Std. Error of Kurtosis		.604	.604	.604
Range		25458	29	11
Minimum		19-Oct-1942	1	1
Maximum		01-Jul-2012	30	12
Percentiles		25	11-May-1998	1.00
		50	16-Aug-2004	3.00
		75	26-Nov-2008	13.25

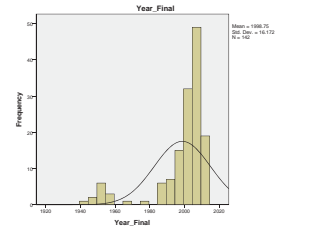
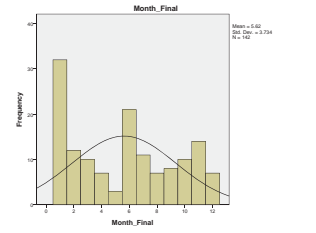
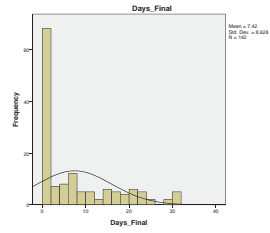
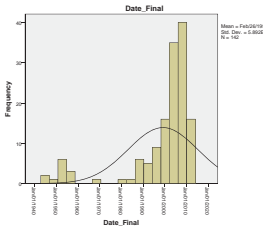
```

EXECUTE.

*-----*
* 19- *
*-----*

TEMPORARY.
SELECT IF RANGE (PARTINFO_DOB,date.day(28,7,1942), date.day(25,12,1955)).
FREQUENCIES VARIABLES=Date_Final Days_Final Month_Final Year_Final
/FORMAT=HISTTABLE
/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEWESS
/TTITLE=4
/ISTITGRAM NORMAL

```



```

EXECUTE.

*-----*
* 3. Descriptive Statistics for Number of Moves Per Participant *
*-----*
* 2.2 - Sites. *
*-----*

TEMPORARY.
SELECT IF SITE = 5.
FREQUENCIES VARIABLES= SUBJECTNUMBER
/FORMAT=HISTTABLE

```

```

/STATISTICS= STDDEV VARIANCE RANGE MINIMUM MAXIMUM SKEWNESS MEAN MEDIAN MODE S
KURTOSIS SEWESS
/TTITLE=4
/ISTITGRAM NORMAL
/ORDER=ANALYSIS.

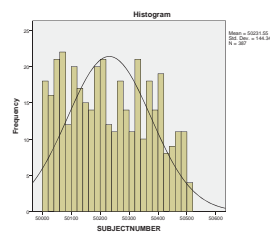
Frequencies
[DataSet1] D:\Dropbox\My School Work\Thesis\Chapter\Appendix\Move Distance Descriptive Statistics All Sites and Subpage Version 4.0.sav

Statistics

```

SUBJECTNUMBER		Statistics
N	Valid	307
	Missing	0
Mean		50231.05
Std. Error of Mean		7.207
Median		50218.00
Mode		50001 <sup>a</sup>
Std. Deviation		144.240
Variance		20803.884
Skewness		-.160
Std. Error of Skewness		-.124
Kurtosis		-1.158
Std. Error of Kurtosis		.247
Range		501
Minimum		50001
Maximum		50922
Percentiles		25
		50
		75

a. Multiple modes exist. The smallest mode is shown.



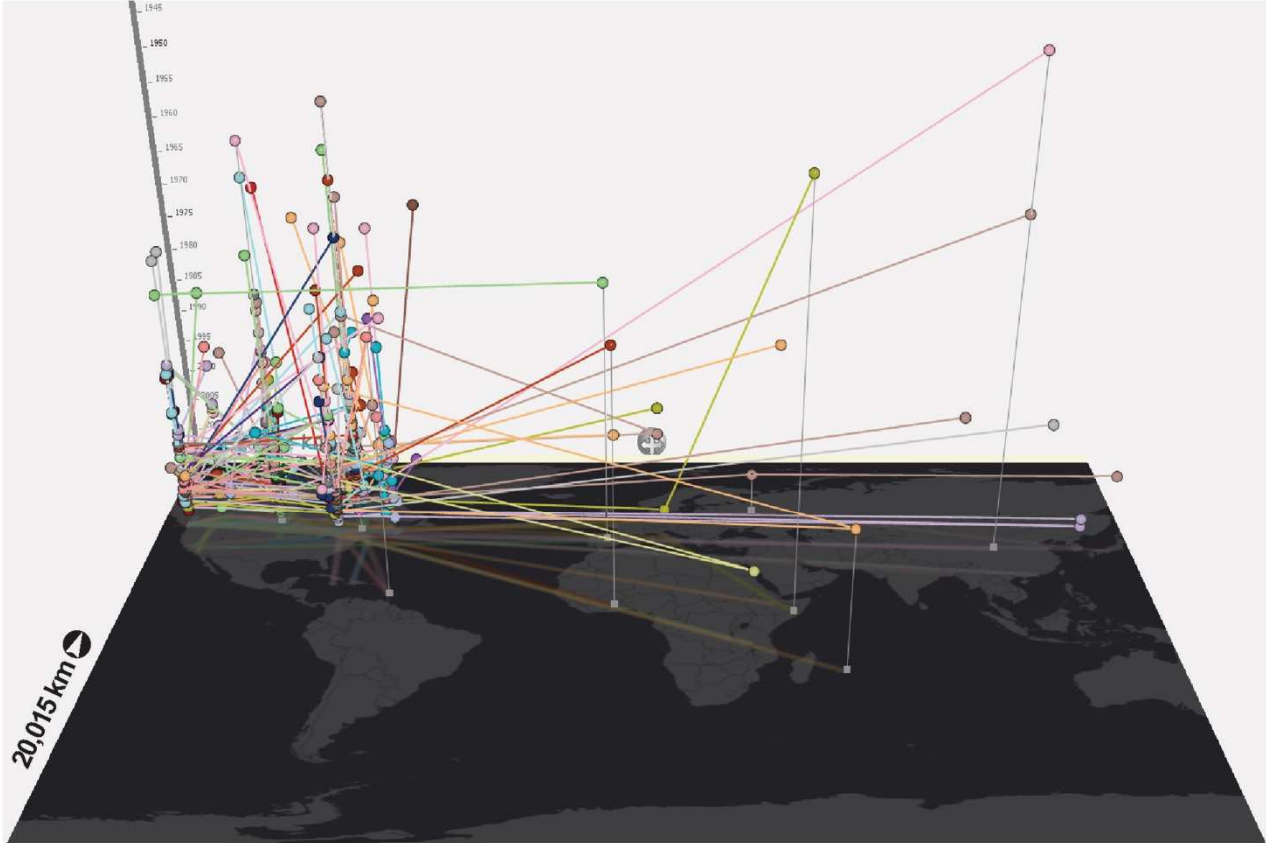
```

EXECUTE.

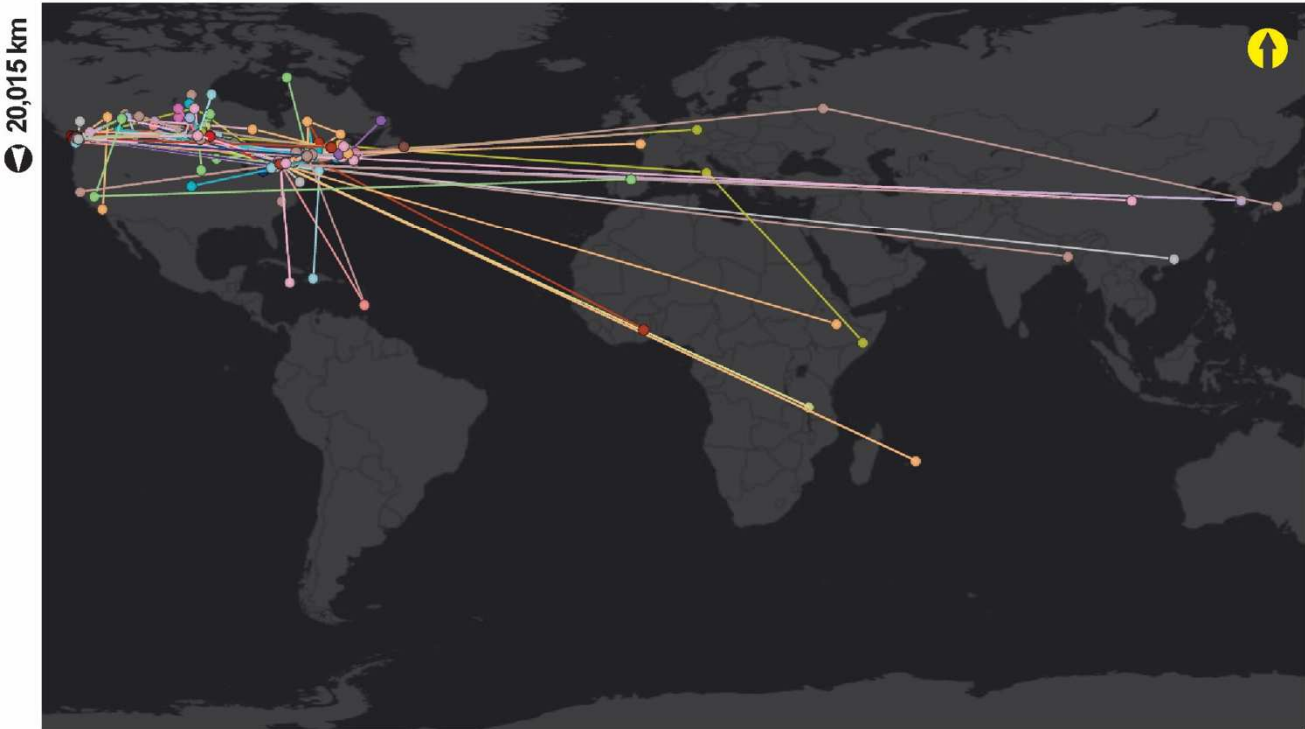
```

Appendix G: AHCS Maps, Socio-Demographic Groups

MAPS 20 AND 21: ALL AT HOME SITES, FEMALE (SELF-IDENTIFIED) PARTICIPANTS' MIGRATION PATTERNS



30,382 km



20,015 km

- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

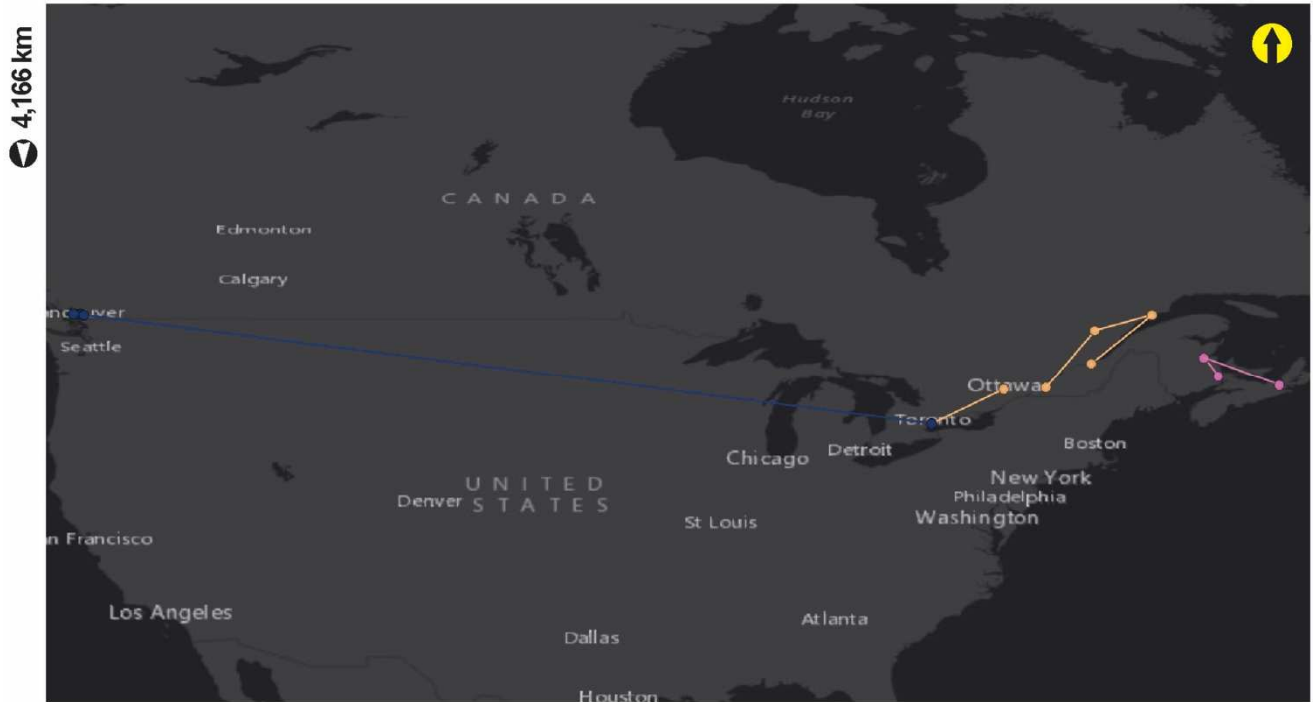
Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

Prepared By: Andrew Kaufman

MAPS 22 AND 23: ALL AT HOME SITES, NON-BINARY (SELF-IDENTIFIED) PARTICIPANTS' MIGRATION PATTERNS



4,820 km



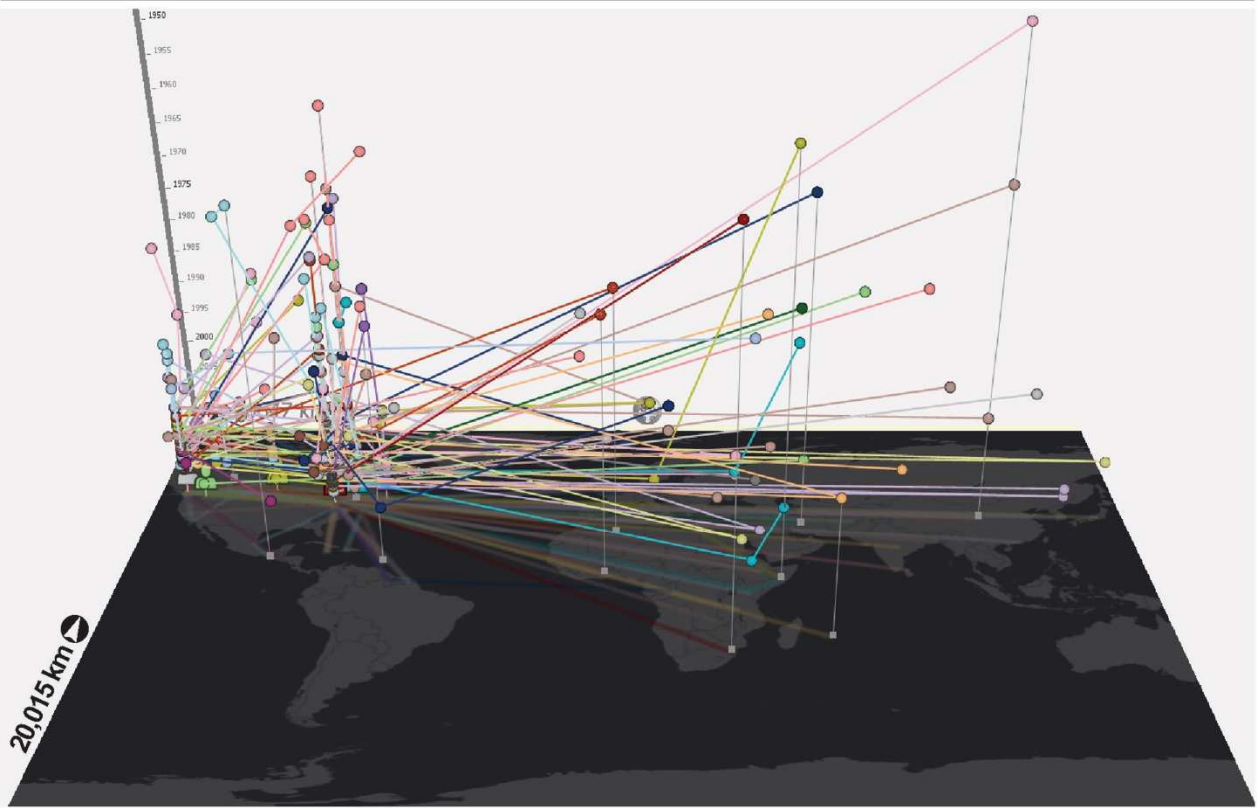
- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

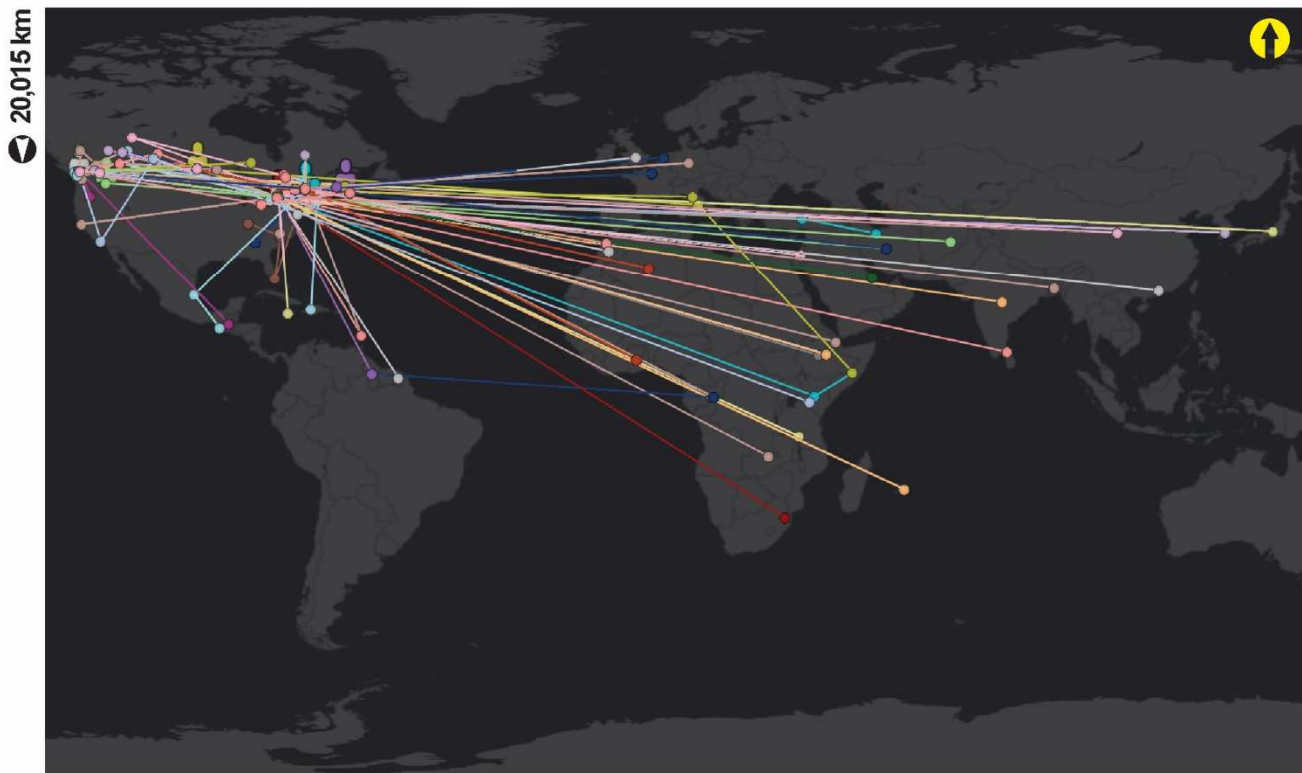
Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

Prepared By: Andrew Kaufman

MAPS 24 AND 25: ALL AT HOME SITES, NON-WHITE PARTICIPANTS' MIGRATION PATTERNS



30,647 km



- Space-Time Path
- Move Event (Location)

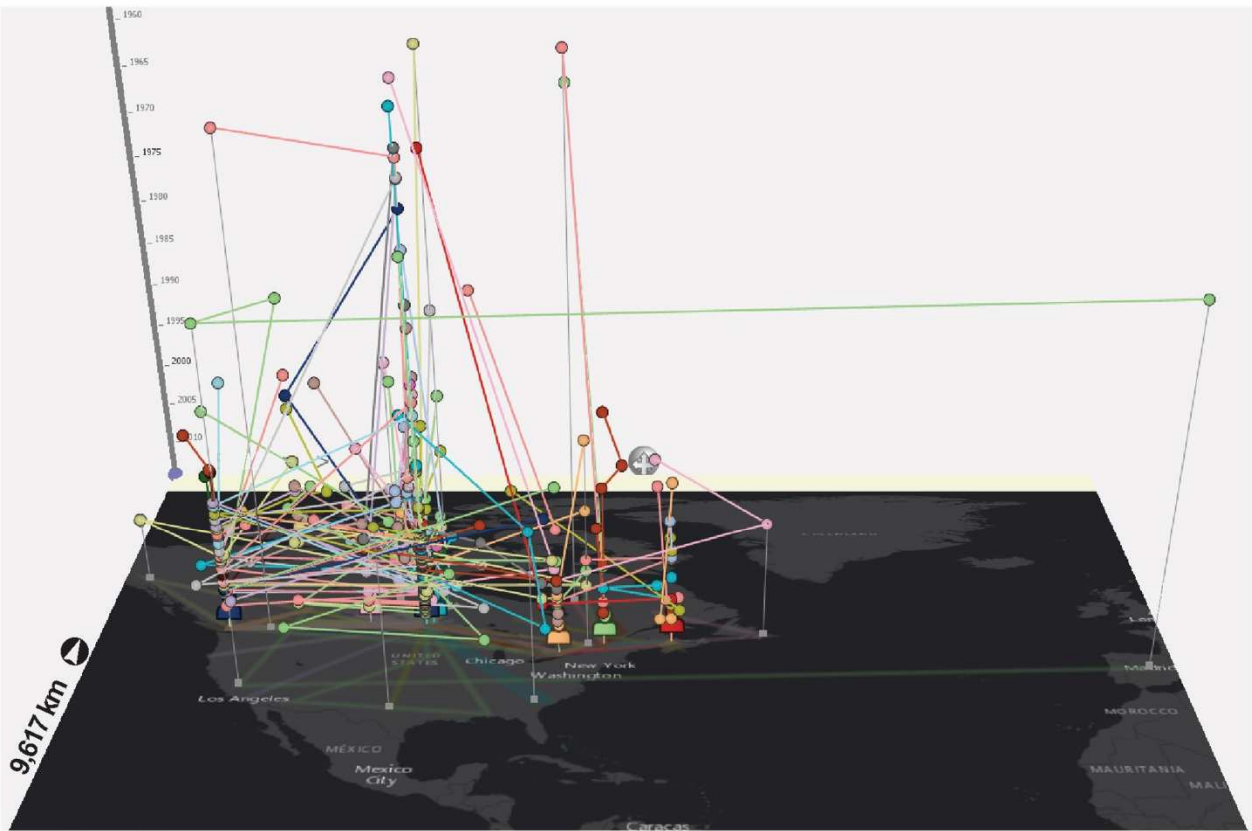
Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

Prepared By: Andrew Kaufman



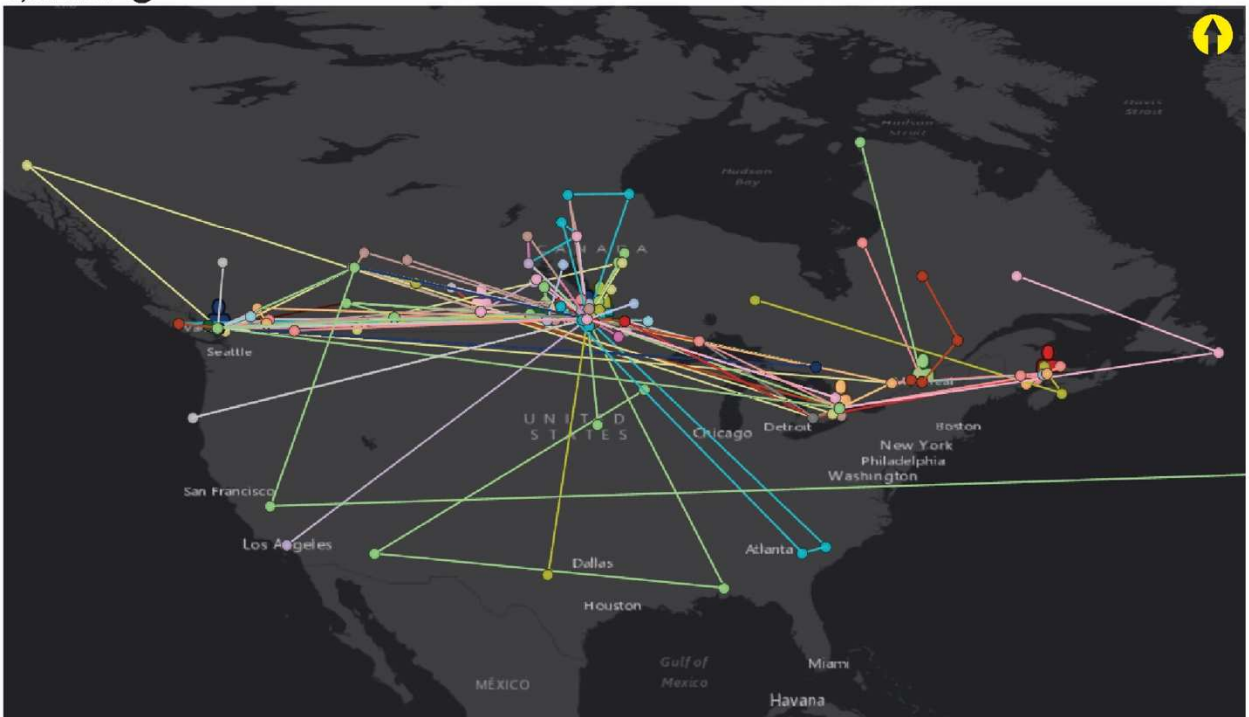
MAPS 26 AND 27: ALL AT HOME SITES, INDIGENOUS PARTICIPANTS' MIGRATION PATTERNS



8,985 km

6,382 km

6,200 km



- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

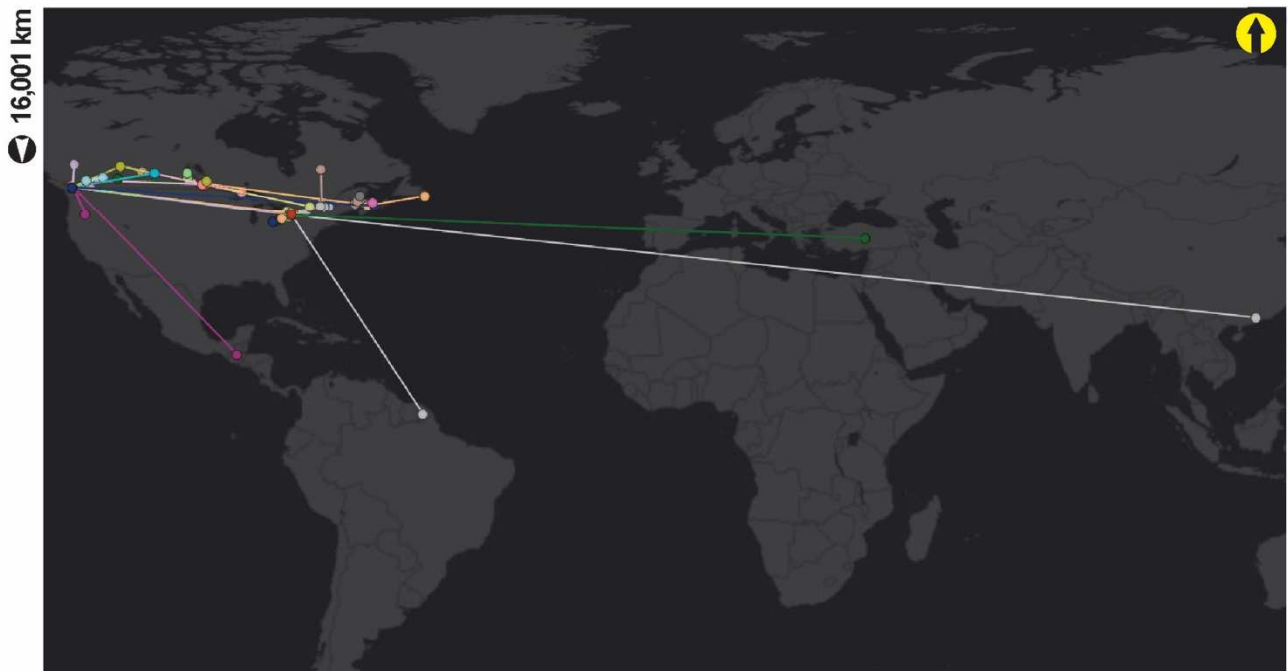
Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

Prepared By: Andrew Kaufman

MAPS 28 AND 29: ALL AT HOME SITES, TOP 10% PARTICIPANTS' MIGRATION PATTERNS



25,492 km



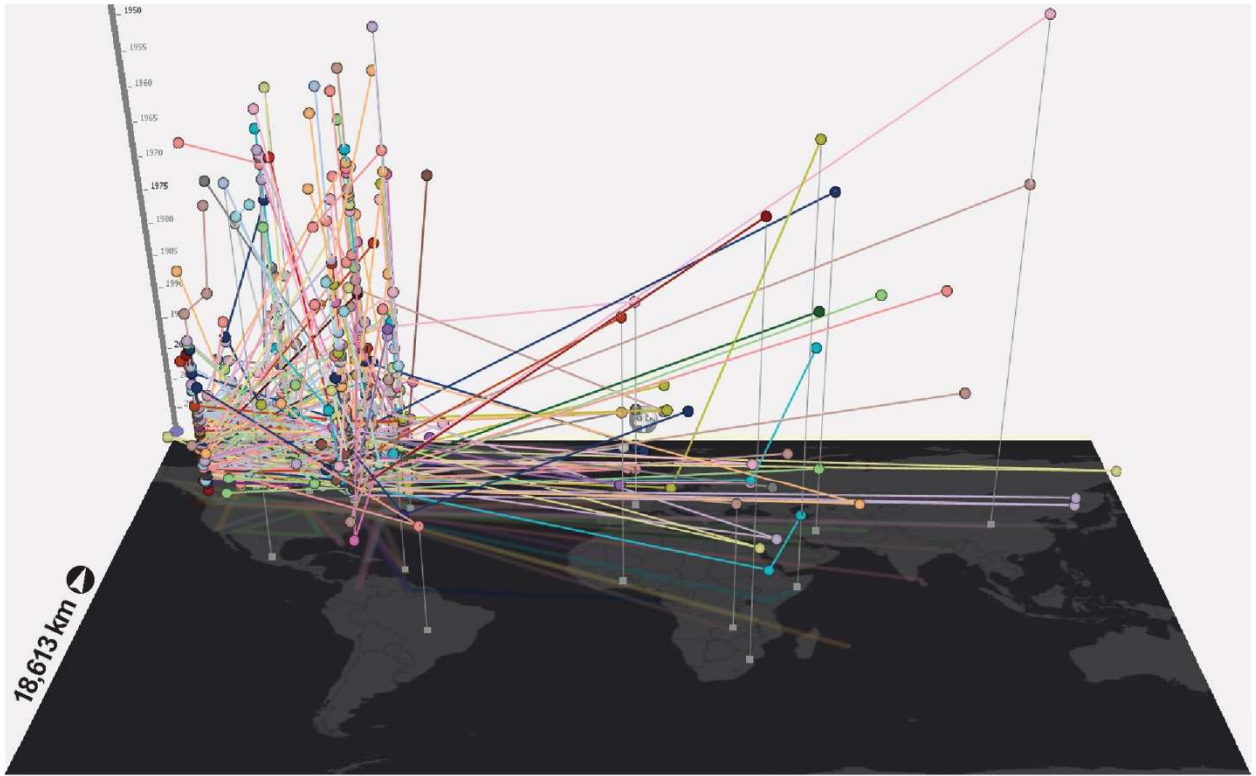
- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

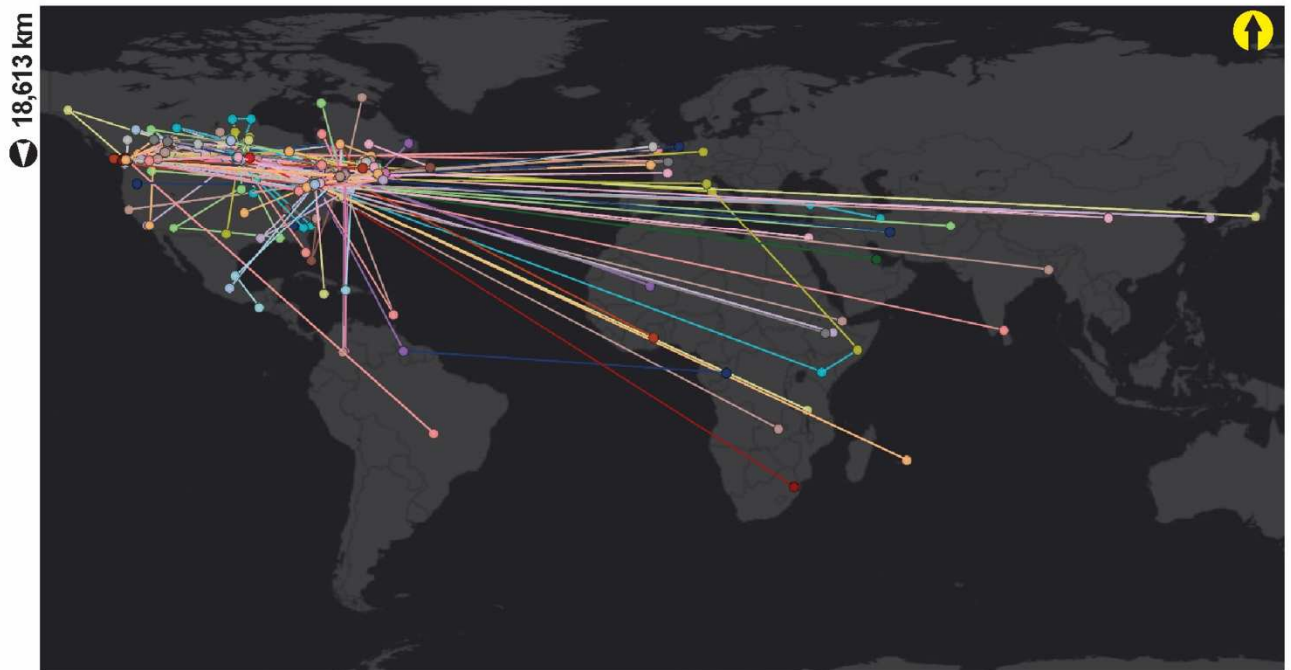
Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

Prepared By: Andrew Kaufman

MAPS 30 AND 31: ALL AT HOME SITES, MODERATE NEED PARTICIPANTS' MIGRATION PATTERNS

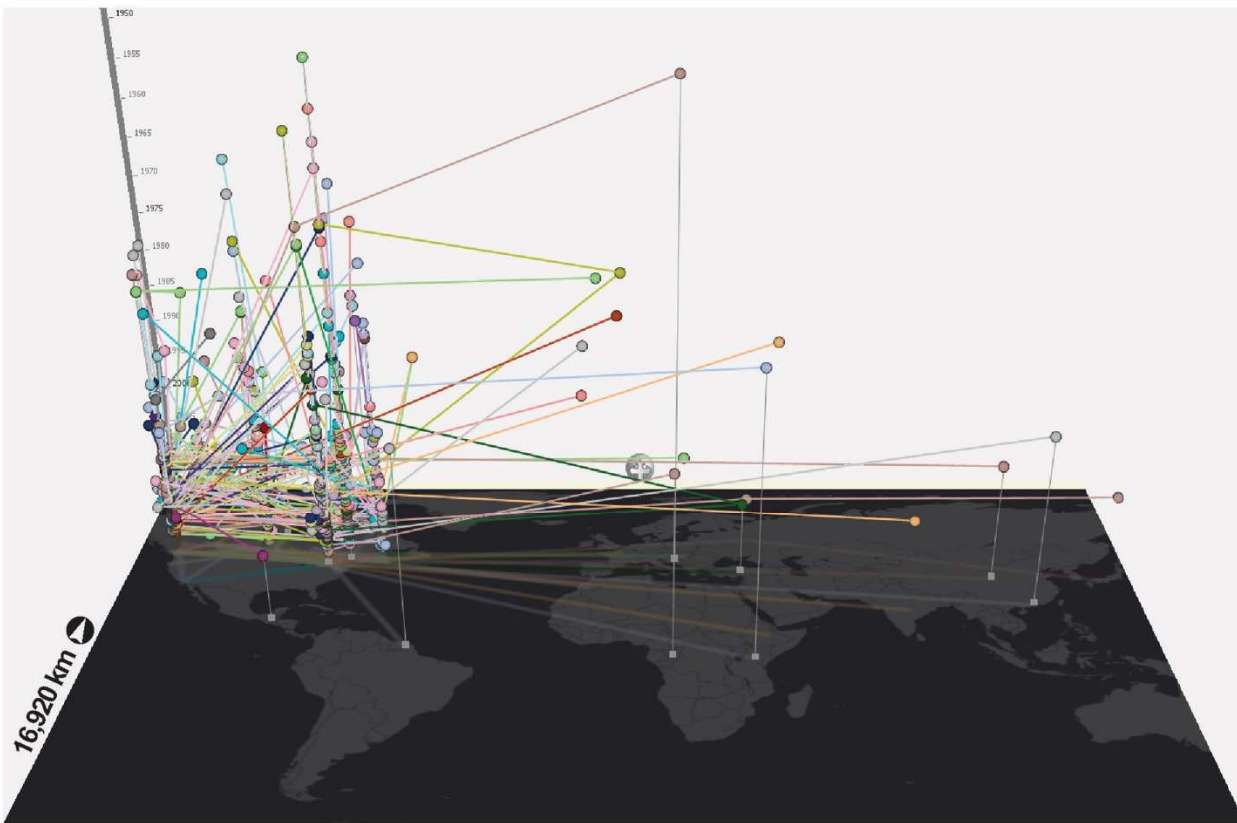


31,665 km

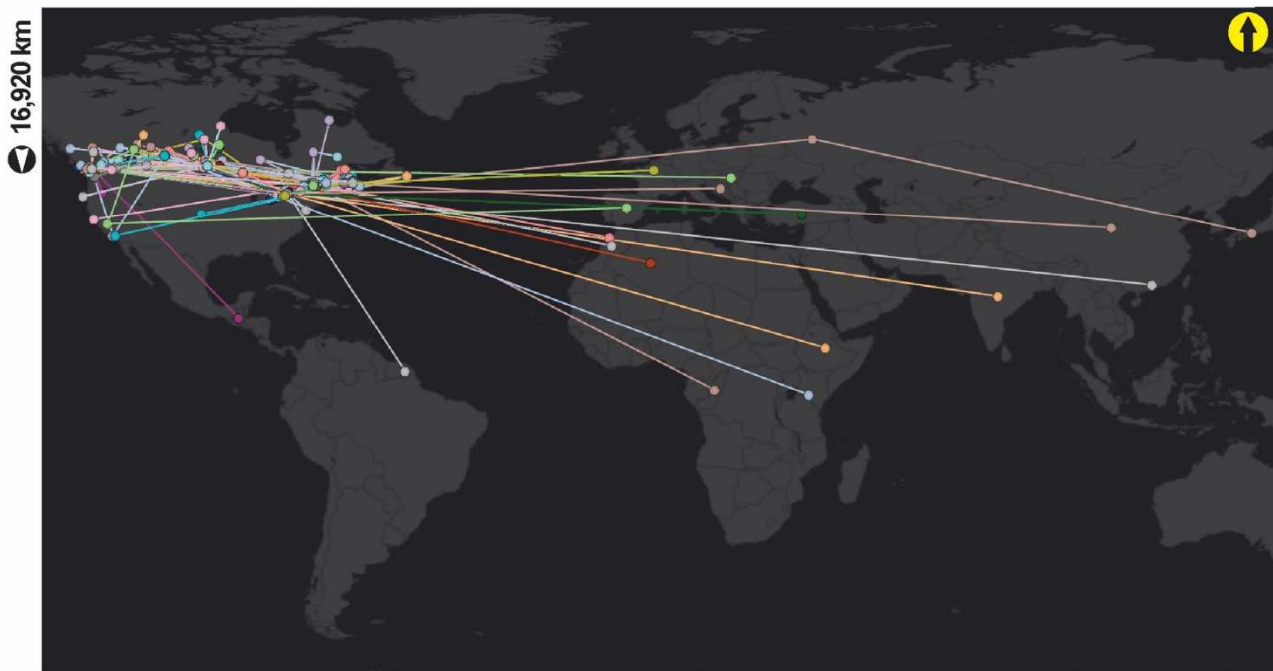


- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.  
 Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).  
 Prepared By: Andrew Kaufman



29,840 km



- Space-Time Path
- Move Event (Location)

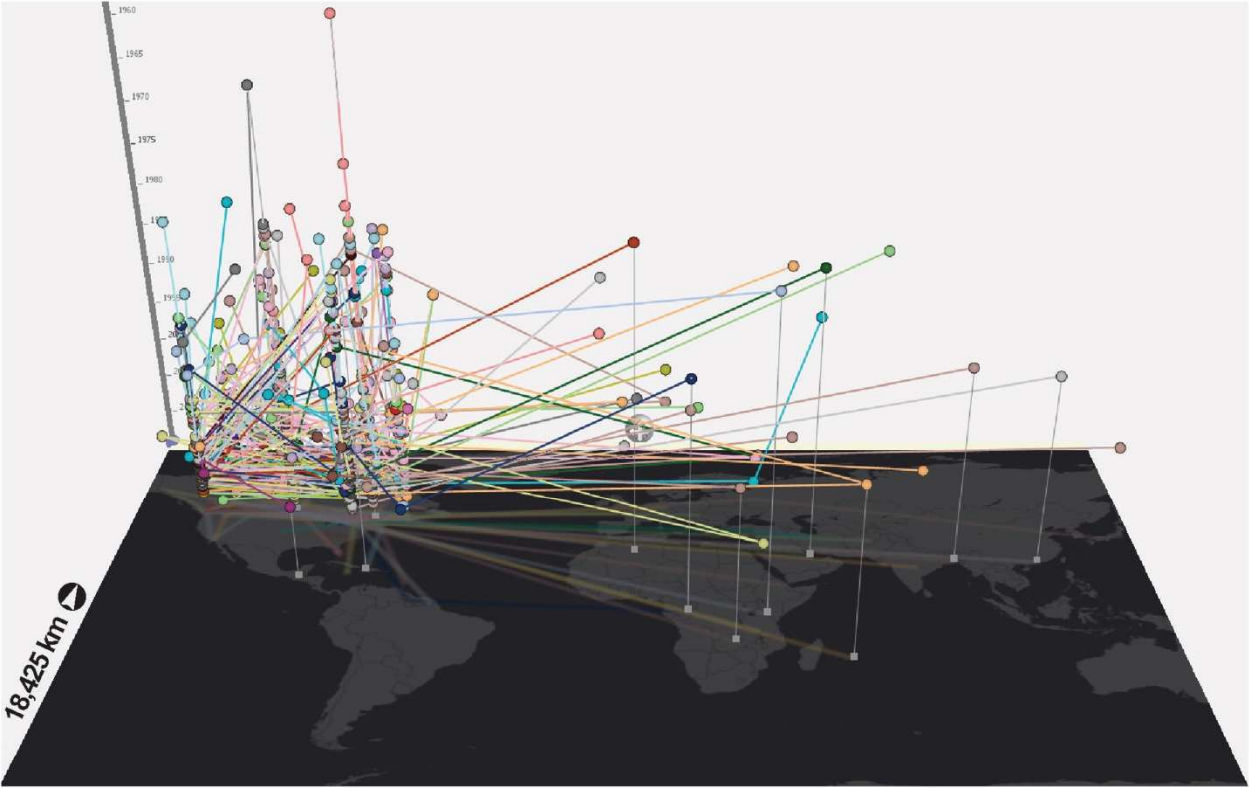
Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

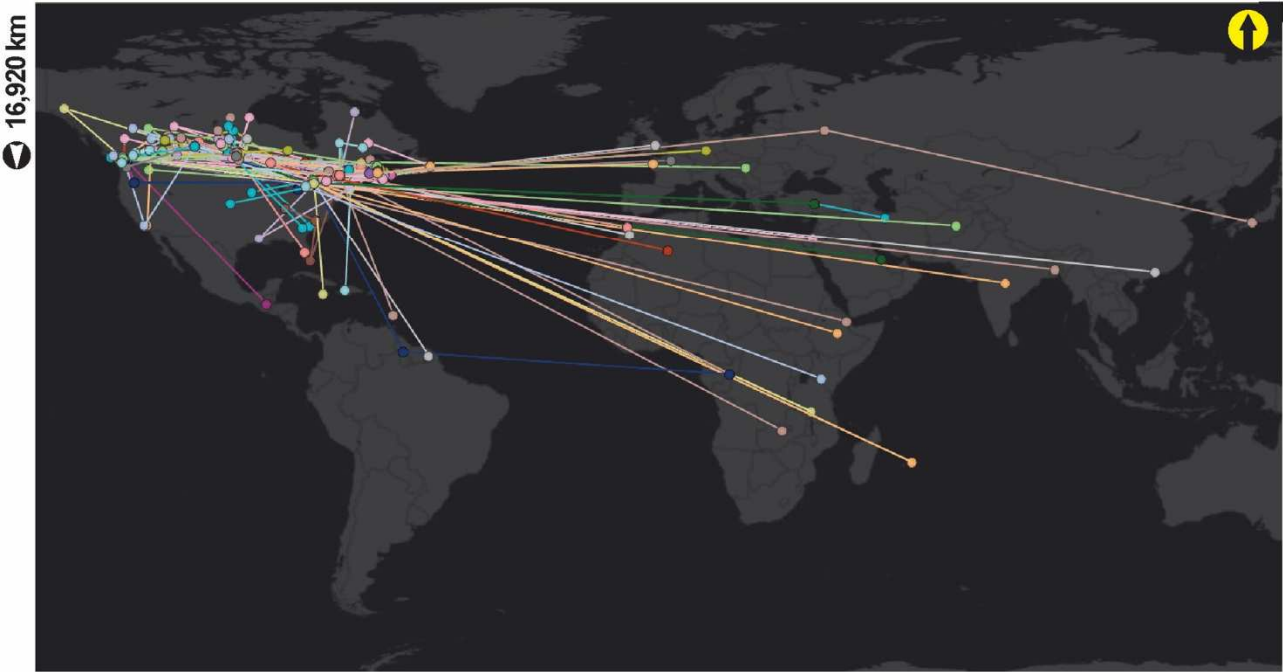
Prepared By: Andrew Kaufman



MAPS 34 AND 35: ALL AT HOME SITES, PARTICIPANTS' MIGRATION PATTERNS, AGE 18-34



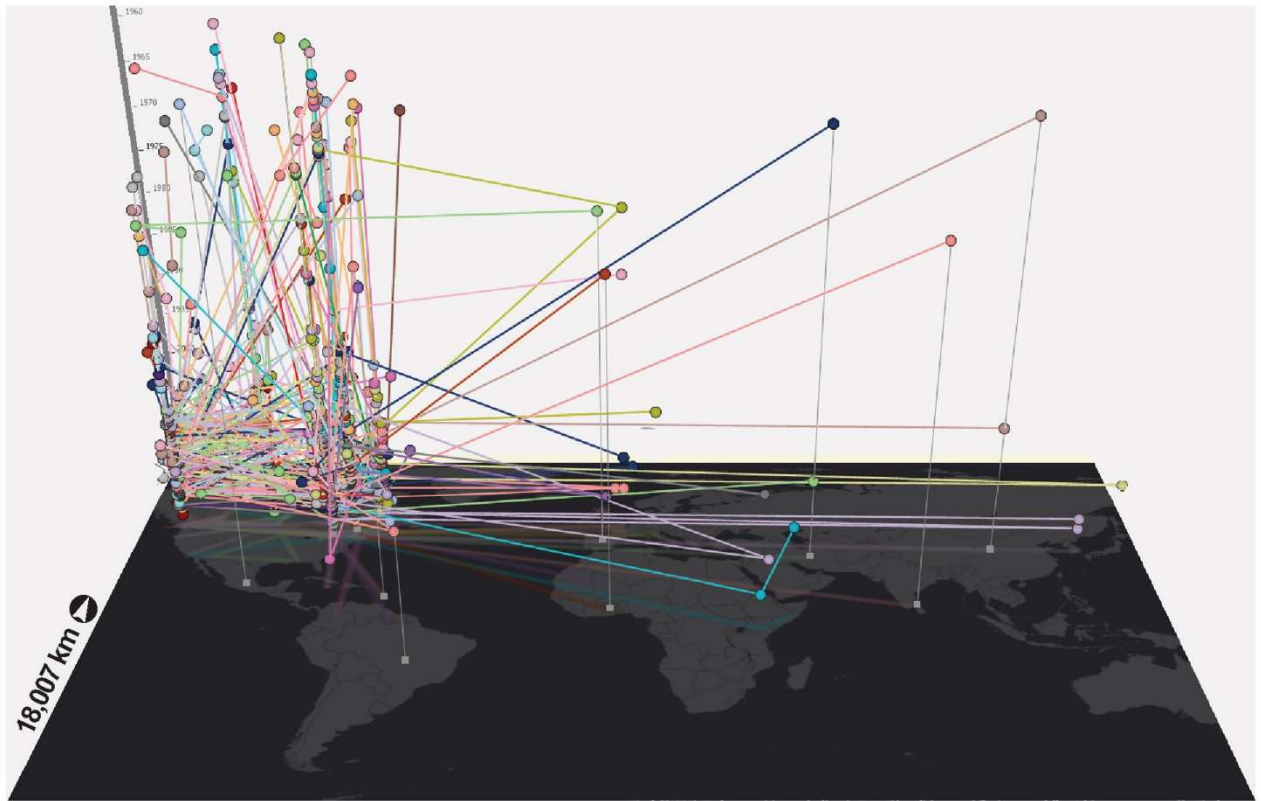
31,242 km



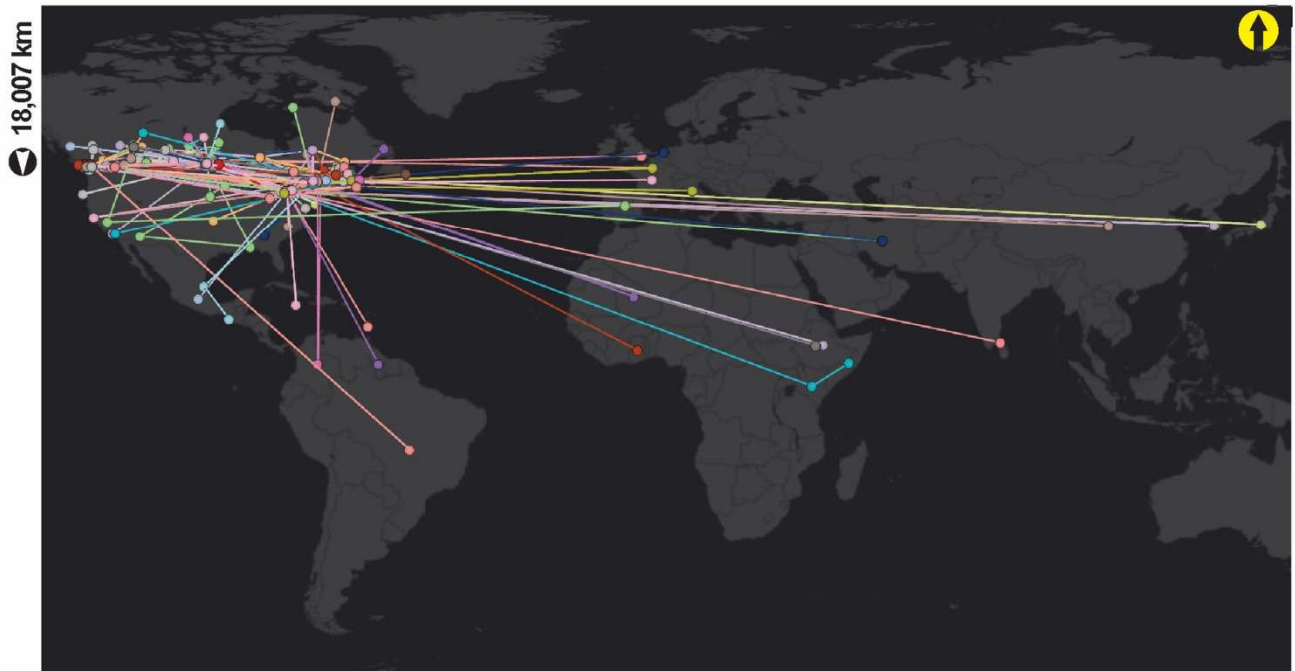
- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.  
 Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).  
 Prepared By: Andrew Kaufman

MAPS 36 AND 37: ALL AT HOME SITES, PARTICIPANTS' MIGRATION PATTERNS, AGE 35-54



30,278 km

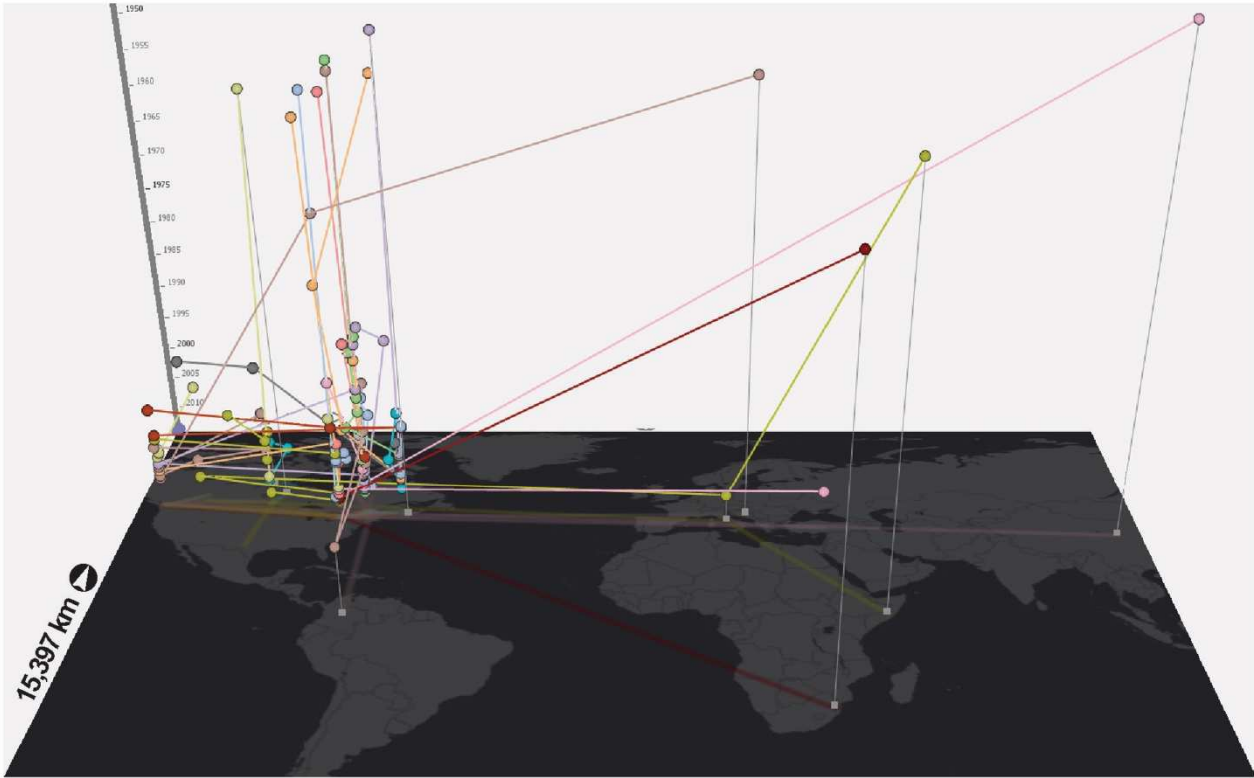


- Space-Time Path
- Move Event (Location)

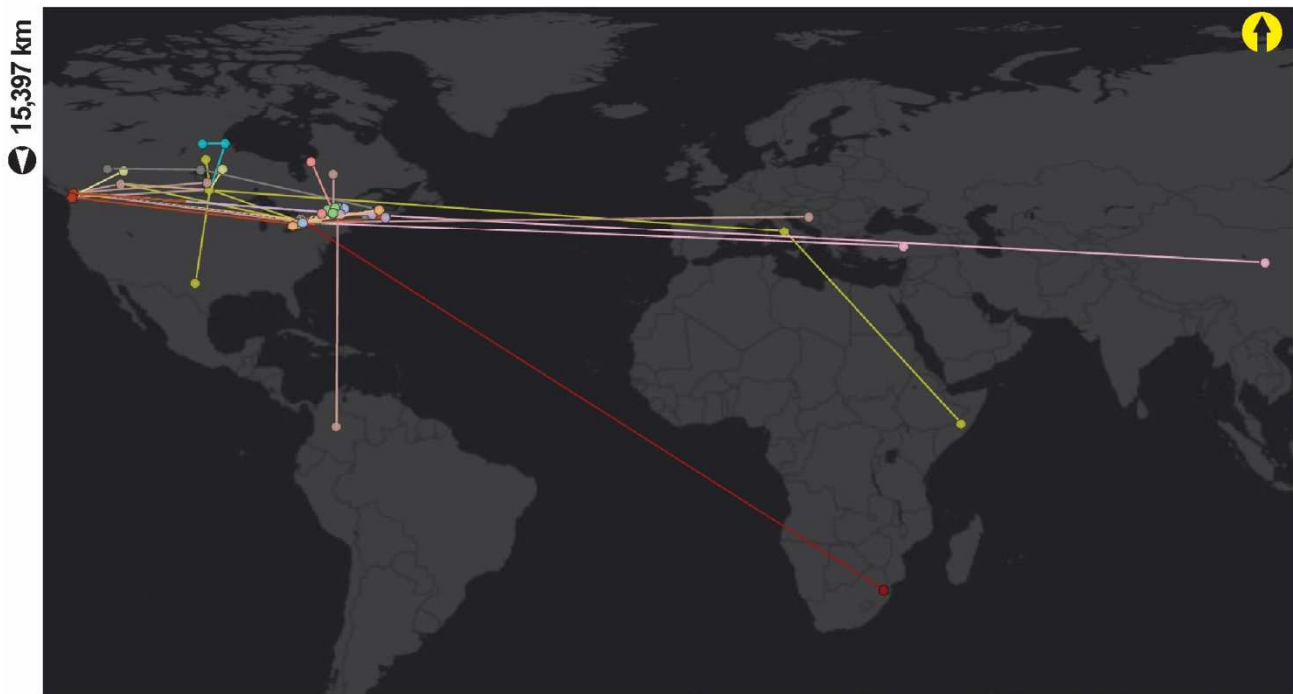
Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstration Project on Mental Health and Homelessness. Mobility History.  
 Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016).

Prepared By: Andrew Kaufman

MAPS 38 AND 39: ALL AT HOME SITES, PARTICIPANTS' MIGRATION PATTERNS, AGE ≥55



24,987 km



- Space-Time Path
- Move Event (Location)

Data Source: Centre for Research on Inner City Health, St. Michael's Hospital (2013). At Home/Chez Soi Demonstrator Project on Mental Health and Homelessness. Mobility History

Spatial Data Source: Esri, DeLorme, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community (2016)

Prepared By: Andrew Kaufman