

The workers' perspective: The impacts of long distance labour commuting in a northern Canadian small town

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ABSTRACT

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A significant economic downturn beginning in early 2008 resulted in the closure of all local forest industry operations in Mackenzie, British Columbia. Many forestry workers had to engage in long distance labour commuting (LDLC). For most, this was their first experience with LDLC. By 2011, most of Mackenzie's forest industry was back in operation. This research explores the impacts of LDLC on the experiences and personal development of workers in order to inform policies, programs, and community services to support workers during these experiences. It produces a greater understanding of how LDLC is reshaping the resiliency and opportunities for workers in rural labour landscapes. Key benefits of LDLC identified by workers included financial support, employment benefits, education and training, and work experience in other sectors. However, key concerns included transportation logistics, financial impacts, and safety. More attention is needed to develop flexible shift schedules; to support workers' ongoing capacity and skills development; to invest in communication, conflict resolution, and problem-solving skills for workers; to invest in fatigue management training; to broaden the infrastructure and opportunities for interaction to connect workers with support networks; and to ensure information about local and non-local supports is current and available in multiple formats.

Key words: long distance labour commuting, rural, resource-based development, capacity building

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1. Introduction

Since the 1980s, industrial and political restructuring has transformed labour relationships across rural landscapes. One of the key changes has been the growth of fly-in, fly-out (FIFO) operations and long distance labour commuting¹ (LDLC). This has been facilitated by the rise of flexible production techniques, changing worker and family expectations around desired community amenities, the declining role of senior governments in town development, and more cost effective transportation and communication (Markey et al., 2011). Many LDLC studies have focused upon factors motivating industry to pursue FIFO operations, as well as health and safety implications, and employment and income benefits for workers (Di Milia and Bowden, 2007; Storey, 2001; Wagstaff and Sigstad Lie, 2011). Other research has investigated many socio-economic impacts and concerns associated with long distance labour commuting on communities (Franks et al., 2009; Haslam McKenzie and Hoath, 2014; Storey, 2010; Taylor et al., 2011). This research builds upon this work and presents an alternative view of the broader impacts and implications that LDLC can have on workers.

In this paper, we draw upon research in Mackenzie, British Columbia (BC), Canada to explore the broader impacts of LDLC on workers from a series of different perspectives. This includes exploring positive dimensions, or the value that is added from new work experiences. It also includes a discussion of the potential cumulative impacts on workers engaged in LDLC. We

¹ LDLC describes a situation where the workplace is isolated by a distance of at least 200 kilometres from the worker's home community (Öhman and Lindgren, 2003).

start with a review of staples theory and resource restructuring literatures to provide an understanding about the transformative labour relationships and the evolution of LDLC in resource-based regions. This is followed by a brief review of previous research that has explored how LDLC has impacted workers in sending communities. The paper then builds upon this work and examines broader worker experiences with LDLC in order to explore how LDLC may or may not build worker capacity. Understanding the impacts of LDLC is important if local, regional, provincial, and federal stakeholders² are to collectively strengthen policies, programs, and other community services to support workers engaged in these experiences. Finally, the paper suggests areas for greater research and policy attention to develop new supports, relationships, and synergies that can purposefully and strategically deliver supports to workers that appropriately reflect the non-sedentary nature of this increasing phenomena in the rural landscape.

2. Staples theory, restructuring, and long distance labour commuting

Research into the changing dynamics of Canada's single-industry resource-based towns draws upon rich theoretical traditions. Staples theory provides a foundation for understanding the roots of long-term extraction of natural resource commodities in a Canadian context (Barnes et al., 2001; Innis, 1933); although, it has also been applied to understand extraction driven economies in other countries, such as Australia and New Zealand (Taylor et al., 2011). Developed by Harold Innis in 1933, it describes the dependence of the Canadian economy on the successive export of raw resources (mainly forestry, mining, and oil and gas in BC). These resource

² These stakeholders include local and senior levels of government, industry, businesses, service providers, and community groups that develop policies, programs, and services that shape LDLC worker experiences.

commodities are known as “staples” because they form the basic, or staple, inputs for advanced manufacturing processes. In the case of northern BC, there is a clear dependence on staples commodities as provincial policies through the 1950s and 1960s expanded resource-based development as an economic engine to facilitate expansion and growth in the hinterland economy (Markey et al., 2012).

A staples-based economy is weakened by its dependence on exported raw materials that are influenced by demands and prices that are set in countries equipped with more advanced technology and manufacturing infrastructure. This dependency upon external markets enhances the vulnerability of resource-based economies, and the towns built around those economies (Nelsen et al., 2010). With no impetus for diversification, many companies are also content to continue exporting raw commodities needed to meet market demands or as inputs into the other components of their international holdings (Markey et al., 2008). The ‘staples trap’ is where a resource hinterland remains just that, a resource hinterland with little economic diversification and decreasing local benefits (jobs and wages) over time (Carson, 2011).

In BC, many rural and small town places have been developed around a “staples economy” that is heavily linked to the export of minimally processed resource commodities such as forest products. In the post-World War II era, large-scale industrial sawmills and pulp and paper mills expanded throughout the province (Williston and Keller, 1997). Guided by a commodity export model, goals were to maximize economies of scale through the mass production of standardized products such as lumber, kraft pulp, and plywood using production line technology (Hayter, 2000). Provincial policies were tailored to large companies that had the capital to build regional manufacturing facilities and fulfill appurtenancy³ responsibilities that

³ Appurtenancy clauses are defined as agreements that tie timber harvesting rights to specific local and regional manufacturing facilities built and operated as a condition to acquire tenure (Ross and Smith 2002). The purpose of

smaller value-added operations were unable to fulfill. These provincial policies were designed to attract capital investment, as well as maximize local employment benefits and provincial revenues from corporate taxation and stumpage⁴ (Haley and Nelson, 2007).

However, by the mid-1970s, things were beginning to change. Fluctuations in currency levels, commodity prices, land prices, and supplies, as well as uncertainty generated by recessions and international trade agreements, have made it difficult for commodity producers to remain competitive in domestic and global markets (Prudham, 2008). Seeking to reduce operating costs, forest companies have pursued an increasing concentration on staples production. These pressures led to accelerated industry consolidation, the increasing adoption of labour shedding technologies, and a demand for flexible labour agreements that all have transformed the labour landscape (Hayter, 2000).

After 2000, forest-related employment experienced a steady decline that is attributed to industries responding to competitive pressures induced by the Softwood Lumber Dispute, the imposition of US duties, and the increasing participation of low-cost production regions in the global marketplace. Despite community concerns, industry lobby groups advocated for the 2003 elimination of the appurtenancy clause to facilitate further industry consolidation (Prudham, 2008). They argued that appurtenancy affected their competitiveness as it forced inefficient mills tied to a particular license to continue to operate (Binkley, 1997). While such policy changes have been blamed for rises in unemployment and community decline, some argued that BC's former tenure system was based on false premises that long-term tenures could sustain jobs and regional economic growth through appurtenancy clauses without considering the constraints that

appurtenancy was to generate as much local benefit as possible from local resources and avoid the problem of exporting both logs and jobs that had plagued earlier forest industry periods (Nelles, 2005).

⁴ Stumpage rates are resource royalties charged to forest companies for harvesting timber on Crown land (Wilson et al., 1999).

such stipulations would have on the manufacturing efficiency, innovation, responsive operational and management strategies, and competitiveness of industries (Nelson et al., 2006).

Within this context of industrial and policy restructuring, there is a strong sentiment across northern BC that government and industry are simply drawing down from the resource bank without making adequate re-investments (Gunton, 2003; Halseth et al., 2007). The benefits received by communities in the form of employment and property taxes are no longer guaranteed (Gale and Gale, 2006; Ross and Smith, 2002). The foundation of BC's post-World War Two industrial forest policy was a balance of benefits to the Provincial Treasury, corporate capital, and local communities. In response to a host of changing pressures within the global economy, BC's policy response has been to privilege benefits to the Provincial Treasury and corporate capital (Halseth, 2005). As small forestry-dependent communities faced extended shutdowns, downsizing, or closures, there were numerous calls to create more value-added forest manufacturing employment. With limited access to fibre, as well as limited support for education, training, technology, and marketing development, diversification and transition of these mature staples economies has remained limited (Hayter, 2000).

2.1 The shift towards long distance labour commuting

In addition to the inherent pressures within a staples economy, significant social, economic, and political restructuring since the early 1980s has transformed the nature of work and community relationships in Canada's northern resource hinterland. Originally designed to accommodate the workforces of local resource industries (Bradbury, 1980), resource towns built during the 1960s and 1970s are now immersed in much more fluid flows of both labour and capital. Following the

global recession of 1982-1984, government and industrial restructuring focused on shifting away from building new single industry communities, or ‘instant towns’, in Canada’s resource frontier regions (Storey, 2010). Rising costs, lengthier approval processes, increasingly strict environmental regulations, changes to tax regulations, and an increasing absence of senior levels of government from town development⁵ all supported a shift in preference towards LDLC operations (Eklund, 2015; McDonald et al., 2012; Storey, 2010). Similarly, from an industry perspective, issues of cost, improvements in (and long-term cost reductions to) transportation and communication, the adoption of flexible production techniques, the adoption of extended shifts to support year round operations 24 hours a day, lower turnover and absenteeism, and access to a larger supply of qualified workers also helped to make LDLC appealing (Aroca and Atienza, 2011; Storey, 2001; Tonts, 2010).

The use of FIFO workforces have varied. In Queensland, Australia, for example, 40% of the workforce in the Bowen Basin is estimated to be FIFO (Barclay et al., 2013). Another study completed by the Chamber of Commerce and Industry Western Australia in 2005 found that 47% of all mining employees were employed as FIFO workers (House of Representatives, 2013). Since the late 1990s, industry has been pursuing 100% FIFO workforces for construction projects to respond to labour and skill shortages, to more broadly spread the socio-economic benefits of resource development to a wider range of communities, and to diffuse the costs and impacts associated with industry closures (Morris, 2012; Wilson, 2004). These workforce

⁵ Canada has a long experience with planned resource towns and instant towns (Markey et al., 2012). BC, in particular, put considerable effort into the planning and construction of post-World War II towns to create attractive communities in isolated regions that could better recruit and retain young workers and their families (Gill, 2002). In BC, the Instant Towns Act was created in 1965 to allow the province to “establish a municipality in conjunction with the development of a natural resource” (British Columbia, 1998). Resource-based companies also supported the development of these ‘instant towns’ in order to stabilize their workforce and reduce their responsibility for maintaining company towns or work camps. It became increasingly costly, however, to deliver programs to maintain the infrastructure in these communities. In 1983, Tumbler Ridge became the last ‘instant town’ developed in British Columbia.

policies have been controversial and viewed by some as efforts to de-unionize workforces and reduce benefits for resource-based regions (Argent, 2013). In some cases, mandatory FIFO positions have uprooted rural workers who needed to relocate with their families to staging areas (House of Representatives, 2013; Validakis, 2013). In response, some have called for legislation to cap the percentage of FIFO workers permitted, particularly where industry work sites are located near communities (Morris, 2012).

2.2 Impacts of long distance labour commuting on workers

While Staples theory once conceptualized localized and traditional labour markets, the ‘staples trap’, as portrayed by limited diversification and declining job benefits, has precipitated and reinforced mobile labour in competitive regional, national, and global labour markets. Research in Europe, Australia, and the United States has explored some of the physical and mental health impacts of LDLC on workers. The findings suggest that LDLC may result in less sleep, fitness, relaxation, or social participation, as well as increased stress, fatigue, sick leave, and absenteeism (Hanoa et al., 2011; Magee et al., 2011). Night shifts are routinely associated with chronic sleep loss with serious implications for long distance driving, road safety, and accidents due to the impacts it can have on reaction time and mental performance, vision, and hand-eye coordination (Di Milia, 2006). Shift length, extended work rotation systems, driving time, and weather conditions are also important factors that influence occupational health and safety for LDLC workers (Di Milia and Bowden, 2007; Newhook et al., 2011; Wagstaff and Sigstad, 2011). Goldman et al. (2009) argue that labour turnover, fatigue, inadequate communication, and

constant changes in a work environment have the potential to create chaotic work environments that can result in mounting disruptions, confusion, and stress. In this context, they further argue that developing relationships and networks of support are critical to functioning in chaotic work settings. In many ‘instant’ or company towns established during the post-World War II era, the ability to nurture strong cohesion and relationships amongst resource-based industry workers was strongly connected to community events, such as barbeques, sports teams, and family programs (Halseth and Sullivan, 2002). This can be a difficult goal to achieve, however, when workers do not remain in the area once their work rotation ends.

Other cited health impacts on LDLC workers include heart disease, mental health issues, depression, and gastrointestinal disorders (Hanoa et al., 2011; Newhook et al., 2011). The work rotation system⁶ may also contribute to increased levels of alcohol and drug abuse, which can impact worker performance, as well as family and community relationships (Storey, 2001). In this context, some research suggests that resource-based industrial sites that are more unionized are less likely to have longer work rotation systems (Peetz and Murray, 2011).

Research has also explored the motivating factors, such as maintaining social networks in source communities, maintaining dual income households, as well as career development, that may drive some workers to continue to engage with LDLC over long periods of time (Sandow and Westin, 2010). LDLC workers have further benefitted from the flexibility that extended shifts provide in terms of generating more options in how LDLC workers spend their leisure time and where they may choose to live (Di Milia and Bowden, 2007), thereby changing the nature

⁶ Work rotation systems have been adopted by resource-based companies to ensure that industry facilities operate 24 hours a day, 7 days a week. For example, industries have scheduled 2 – 3 shifts each working 8 or 12 hours a day to maintain operations. A second component to the work rotation system concerns the number of days that an individual works before they have time off. For example, this may consist of working four days on before having four days off. Workers may also switch from day shifts to night shifts.

and prevalence of core-periphery relationships so often depicted in Staples-dependent economies.

While some research suggests that factors associated with LDLC can lead to out-migration (Spies, 2006; Storey, 2010), other research is moving away from a simple examination of factors to explore how new labour relationships are changing the interdependencies of both people and place (Spies, 2009). Furthermore, despite the growth in LDLC as a result of the industrial and government restructuring and transportation improvements noted earlier⁷ (Eklund, 2015; Sandow and Westin, 2010), limited attention has been given to how these experiences can shape the human capital or personal development of workers. For workers in single industry towns that experience fluctuations in their local economy, the LDLC activity that can emerge from industrial and economic restructuring processes can employ bridging social capital as an opportunity to renew and expand human capital⁸, such as leadership and job skills of workers (Emery and Flora, 2006). In this context, social capital refers to social processes and networks between individuals and groups that provide opportunities to build trust, share resources and information, facilitate cooperation, and develop skills (Schuller, 2001). Through participation and interaction in new networks and workplace environments, LDLC workers can be exposed to new processes and experiential learning opportunities (Lukic et al., 2010; Olsson et al., 2008) that can enhance their capacity.

⁷ Despite estimates and reports that long distance labour commuting has been increasing across OECD countries (Sandow and Westin, 2010), accurately determining the scale and scope of long distance labour commuting has been challenged by Census data that does not capture the shadow population of mobile workers in communities, including those who may be living in work camps, illegal suites, private rooms, and other shared accommodations (Nichols Applied Management, 2003; Province of Alberta, 2006; Rolfe and Kinnear, 2013). This is because the Census does not request mobile workers to identify resource-based communities that they spend time in throughout the year (House of Representatives, 2013). Instead, contractors and workers may record the company's headquarters on the Census form. As mobile workforces become an increasingly common feature of the labour landscape, there are calls for Census forms to request people to identify a second place of residence.

⁸ Human capital refers to the physical health, knowledge, skills, training, and experience (including paid and voluntary) that improve individual well-being and capability (Coleman, 1988).

3. Context

Mackenzie is one of BC's 'instant towns', built in the late 1960s to house the workforce for a new regional forest industry (Halseth and Sullivan, 2002) (Figure 1). It is located in north-central BC, approximately a two hour drive from the closest regional centre in Prince George. Since the 1980s, the population of Mackenzie declined due to an economic recession and a repeated set of 'jobless' recoveries in BC's forest sector (Hanlon et al., 2007). A significant economic downturn in Mackenzie beginning in early 2008 resulted in the closure of all major forest industry operations (sawmills and pulp and paper mills) in the community (Hoekstra, 2010). In response, many forest sector workers chose to engage in LDLC. For many of these workers, this was their first experience with LDLC practices. By 2011, however, most of Mackenzie's forest industry was back in operation. Most, but not all, of the forest sector workers returned to their previous jobs. Some have chosen to continue with LDLC. The timing of these events and the dynamics at work in the community's mature staples economy provide the project with the opportunity to explore the implications of LDLC from the workers' perspective.

Figure 1
Location of study site



Map credit: Kyle Kusch.

With an interest in the future of the rural economy, this research is about developing a better understanding of how LDLC is transforming rural and remote landscapes either through the long-term transformation of the workforce or as a stop-gap measure until the return of traditional resource activities. This speaks to the future of small communities and how LDLC will shape the next rural economy. When LDLC becomes common practice, there are impacts on families, communities, workers, local organizations, government, etc. In this paper, we focus on the impacts of LDLC on workers themselves in terms of how it shapes their development, as well as how those experiences influence their decisions about how they wish to participate in the labour force. In turn, this will provide a better understanding about how the LDLC phenomenon is shaping the opportunities and challenges in mature staples-dependent regions.

To explore the impacts and benefits of LDLC for workers in Mackenzie, BC, we distributed a household survey in May 2012 to learn more about the scale and characteristics of LDLC workers in the community. For many policy and program decision-makers, understanding

the scale of a particular issue is a critical component in order to determine the extent of needs, and hence demand for supports, and whether a particular issue warrants the investment of time and resources by various stakeholders. It is also important in order to obtain a better understanding of emerging changes in the rural labour landscape.

With the assistance of the District of Mackenzie, the local government, we distributed the household survey along with municipal tax assessment notices in order to enhance the visibility of the project. A total of 1,537 surveys were distributed to residents. The survey was approved by the Research Ethics Boards at the University of Northern BC (UNBC) and Simon Fraser University (SFU). Drop-off boxes were placed at the District of Mackenzie office and at the Mackenzie Recreation Centre. The research team also set up a booth at the local shopping centre to provide residents with an opportunity to return a completed survey. A total of 633 households returned surveys, yielding a response rate of 41.2% and a sampling error between 2.4 and 4.1 percent, 19 times out of 20 (Babbie, 2004). The survey involved closed- and open-ended questions that probed respondents' household participation in LDLC, the demographic characteristics of LDLC workers, the location and length of time that they worked out-of-town, their sector of employment, their shift rotation schedule, and how LDLC impacted their work experiences. Closed-ended questions were entered into an SPSS database, whereas additional comments were evaluated through latent and manifest content analysis by two members of the research team (Fereday and Muir-Cochran, 2006).

While the household survey was being conducted in Mackenzie, we conducted in-depth key informant interviews with 24 workers, including 5 women, who had experience with LDLC (Patton, 2002). Through these interviews, the research team collected complementary information and important insights about how LDLC can shape experiences, challenges, and

opportunities for workers in this restructured labour landscape. While some key informants were recommended through snowball sampling (Goodman, 2011), posters were distributed around the community and a research table was set up at the local shopping centre to help workers self-identify themselves to the research team. Participants were asked open-ended questions to explore their LDLC experience, new skills learned, the benefits and concerns with LDLC, and how it may have changed their views about, and contributions to, the workplace.

During each interview, comments were audio recorded and the draft text was provided to interviewees for review to ensure accuracy. We then evaluated responses through latent and manifest content analysis by two members of the research team (Krippendorff and Bock, 2009). To improve consistency and reliability, members of the research team worked in the same office to code and categorize themes emerging from early interviews in order to develop a common coding approach. As new codes and themes emerged, they were shared and discussed across the coding team and evaluated against the interview texts during the course of multiple rounds of coding. In terms of manifest content analysis, the research team consolidated information about LDLC experiences for a range of subject areas. By highlighting key words, the research team was able to create a series of categories and sub-categories (Andersen and Svensson, 2012). In terms of latent content analysis, the research team explored deeper meanings and connections across themes.

Due to the in-depth exploratory nature of these interviews, our intention is not to produce empirical evidence about the impacts of LDLC on workers, but to provide a foundation for a more comprehensive investigation and development of policies and services to support an increasingly mobile workforce in resource hinterlands. Our findings, though, must be placed within some study limitations. For example, non-response bias was encountered with some

surveys as people either skipped, did not answer, or were not sure of the accurate response to the question (i.e. date when LDLC began for household members). Furthermore, due to the difficulty of reaching LDLC workers who spend a lot of time outside of Mackenzie, the research team chose to use multiple methods to recruit LDLC workers. This produced some important caveats for our work, including selection bias from the convenience sampling at the local mall and the impacts that this can have on the external validity of the issues identified through key informant interviews (Reed et al., 2003). Combined, however, these two approaches provide a more comprehensive portrait of LDLC activities and experiences, as well as more insight into how the rural labour market in this region is changing in response to resource restructuring pressures.

4. Findings

4.1 Scale and characteristics of LDLC workers

We begin our findings by exploring the scale of LDLC in Mackenzie, BC. Based on the household survey results, this includes a brief description of the demographic characteristics of LDLC workers and characteristics of their out-of-town work. When survey respondents were asked if any member of their household worked out-of-town for an extended period of time following the 2008 mill closures in Mackenzie, 26.9% said ‘yes’ (Table 1). In fact, some households had multiple members engaged in LDLC. As such, our sample has a higher proportion of people who commute out-of-town for work compared to trends revealed in 2006 Census data; although, this is not surprising given the mill closures in 2008 that prompted much of the labour force to search for employment in other communities.

Table 1

Mackenzie residents who commute out-of-town for work

Number of survey respondent households with a LDLC worker:	170
Total number of survey respondents:	631
% of total survey respondents who commute:	26.9
Number of residents in 2006 Census who commute out-of-town:	95
Total labour force 15 years and over by commuting flow (2006 Census):	2240
% of labour force 15 years of age and older who work out-of-town:	4.2

Source: Mackenzie Community Survey, 2012; Statistics Canada, 2006.

Note: Data on commuting flows from the 2011 National Household Survey have not yet been released by Statistics Canada.

When we asked respondents to describe the demographic characteristics of household members who were engaged in LDLC, approximately 85% of the family members who worked out-of-town were male (Table 2). In terms of age, a significant proportion were older workers 50 years of age and older (43.1%). An additional 29% were middle aged workers between 40 and 49 years of age, while another 28% were under 40 years of age.

Table 2

Characteristics of Mackenzie residents who commute out-of-town for work

	% of respondents
Gender	
Male	85.4
Female	14.5
N=186	
Age	
Under 30 years	13.8
30-39 years	13.8
40-49 years	29.3
50-59 years	30.4
60 years and older	12.7
N=181	

Start date of LDLC

Before 2008	9.5
2008	55.0
2009	16.6
2010	8.3
2011	6.5
2012	3.0
Other	1.1

N=169

Do LDLC workers still work out-of-town?

Yes	40.1
No	59.9

N=172

Date LDLC workers returned to work in Mackenzie

2007	1.0
2008	4.9
2009	17.5
2010	32.0
2011	16.5
2012	7.0
Other	21.4

N=103

Source: Mackenzie Community Survey, 2012.

Note: respondents who had multiple LDLC workers in their households provided multiple responses.

Just over half (55%) of the family members identified as LDLC workers began to work out-of-town in 2008 when the mills closed in Mackenzie, with an additional 17% of LDLC workers beginning their work out-of-town during the following year. Of interest, however, is that almost 10% of the LDLC workers in our survey had already been commuting out-of-town for work prior to the 2008 mill closures. When asked if their family members are continuing to work out-of-town, approximately 40% said 'yes'. Amongst those who said 'no', 32% of the LDLC workers in our study reported that they had returned to work in Mackenzie in 2010, followed by roughly 18% who returned in 2009, and 17% who returned in 2011. It is important to note,

however, that amongst those who said ‘no’, approximately 21% had ‘other’ reasons for returning to Mackenzie, including job losses, retirement, or temporary breaks from out-of-town work.

The most prominent locations for out-of-town work included places across British Columbia, such as the Peace River Region, Prince George, and the Kootenays, as well as places in Alberta, such as Fort McMurray and Grand Prairie (Figure 2). In terms of commuting distance, this meant that just under 30% of the LDLC workers identified in our study travelled up to 250 kilometres to their worksite, followed by an additional 40% of LDLC workers who commuted up to 500 kilometres (Table 3). However, almost 30% of the LDLC workers identified in our sample commuted more than 1,000 kilometres to their worksite. LDLC workers in our survey were predominantly employed in forestry, oil and gas, and mining. However, there were also a number of individuals who worked out-of-town in various trades, construction, transportation, and community services. Most LDLC workers in our survey (64.1%) also had a shorter shift rotation schedule where they were out-of-town for less than one week. However, 30.6% were required to work a longer shift rotation schedule as they were out-of-town for two weeks or more at a time.

Figure 2
Prominent locations for out-of-town work



Map credit: Kyle Kusch.

Table 3
Mackenzie LDLC workers' commuting distance to worksite

Distance Range (km)	# of Responses	% of Responses
250 km or less	49	28.8
251 km – 500 km	68	40.0
501 km – 750 km	17	10.0
751 km – 1,000 km	22	12.9
1,001 km or more	49	28.8

N=170

Source: Mackenzie Community Survey, 2012. Note: some people identified multiple locations.

4.2 Impacts

Given the range of people who were engaged in LDLC, we next asked our key informant interviewees a series of in-depth questions about the impacts of LDLC. Responses focused on six topic areas, including employment benefits, transportation logistics, education and training, social networks, communication, and safety.

4.2.1 Employment benefits

In terms of employee benefits, participants appreciated having an income during difficult economic times, as well as travel and living allowances to support their work out-of-town. The income obtained from LDLC enabled workers in this mature staples-dependent town to retain their home during a period when there were a number of home foreclosures. In contrast, some participants incurred additional costs for commuting to the job site that were not covered by the company, as well as additional costs for maintaining multiple households. The wages also strengthened the retirement security of older workers in the community. Some LDLC workers also received an hourly contribution towards their RRSPs. In terms of employment benefits, some LDLC participants benefitted from greater coverage and flexibility with their health benefits. For example, one participant noted,

The benefit package in Fort McMurray is a flexible benefit package. Here, it's defined contribution. There, you can pick and choose. So maybe one year there, you didn't spend any money on teeth and dental, so you could afford to spend that much more on something else. It's where you want to allot your benefits. Whereas, here, it's basically one blanket. You're basically told you spend this much money on dental and then this

much money on massage therapy. There, you could spend all your benefits on massage therapy and little on dental or the other way around (LDLC Interview #20).

Through LDLC, workers have been able to strengthen their health security through the coverage and flexibility of their benefits. Their exposure to other work environments, however, has heightened their awareness of the range of employment benefit options provided across different resource sectors, and is likely to only strengthen a more competitive and integrated labour landscape as demonstrated by our survey respondents who continue to engage in LDLC despite the renewal of the forest industry. Concerns were expressed, however, about the length of consecutive work days required to obtain employment benefits, and some participants who had contract work did not receive any benefit coverage from the LDLC job.

4.2.2 Transportation logistics

A second issue discussed by participants concerned transportation logistics. Some companies provided participants with either a company vehicle or company bus in order to facilitate travel between Mackenzie and other periphery job sites. Other participants were able to take advantage of car pools that were arranged with workers on the same shift. Some workers were also provided with longer shift rotation schedules in order to accommodate travel. This can reduce the frequency in which transportation costs accumulate for out-of-town work. With considerable camp growth in northern BC⁹ (Beamish Consulting Ltd. and Heartwood Solutions Consulting, 2013), however, some workers were no longer allowed to bring their personal vehicles and were required to fly into camp. Others did not have direct flights to their worksite and often spent just

⁹ Northern Health estimated that there were 1,809 industry work camp sites in northern BC; however, there is no reporting system in place to inform multiple governing bodies that a camp has been approved, as well as to track the status of the camp in terms of its location, size, operations, and closure (Northern Health, 2012).

as much time commuting by air as they would commuting by their personal vehicle. As one participant told us,

It takes you so long to do it. Like from Fort McMurray to Mackenzie, it would take you from 11 to 14 hours. That was on your day off. Like on one day, if you left at 12 o'clock, you wouldn't arrive until after 2 o'clock in the morning. I could've driven to Fort McMurray. This was flying. If we had a flight from Edmonton or Calgary to Prince George. And not just small planes, use jets. We go from Fort McMurray to Edmonton to Calgary to Vancouver to Prince George all in the same day (LDLC Interview #24).

For those commuting with their personal vehicle, financial impacts were compounded by transportation concerns about the distance and long hours required to commute to the job site.

4.2.3 Education and training

Participants also received training and gained new skills through their LDLC job. Some participants expanded their social or public relations skills by engaging with political leaders, senior executives, and different stakeholders. Others noted that they benefitted from a more supportive on-the-job, team-learning environment. In fact, some workers noted that they relied on each other for support. For example, one participant explained,

When you're trained at [job site], you're trained as a team. At the mill, you're trained as an individual. That's one of the things I brought back. My training to work as a team instead of as an individual. There can be that "It's not my job, it's somebody else's". There's that union blah blah blah. But when I was trained at [job site], it was like work as a team (LDLC Interview #11).

These collaborative and social skills are then applied to create a more integrated, supportive work environment conducive to mentoring, faster problem-solving, and succession planning – processes that will be instrumental to renew the capacity of smaller, flexible workforces as older workers approach retirement in mature, staples-dependent industries.

Participants acquired safety tickets¹⁰ such as WHMIS¹¹, H₂S Alive¹², first aid, and mine rescue. A number of participants learned to drive different types of trucks and to drive through difficult, mountainous terrain. In terms of trades training, participants learned construction skills and obtained new tickets related to their trade or work in the oil and gas industry. One participant cautioned, however, that some tickets expire after a three year period and may not be readily useable in future employment settings. Concerns were also expressed about costly on-site training programs.

Some participants reported that their work experiences out-of-town impacted the types of opportunities available to them when they returned to Mackenzie after the mills re-opened. Participants reported that their expanded skills in new industries, new vehicles or equipment, or leadership gave them an edge with transferrable skills and experience to regain employment, and even advancement, once they returned to Mackenzie. Participants, for example, noted that their roles and responsibilities were different with their LDLC as they were given new tasks. They gained experience with fixing, purchasing, and operating new equipment; testing resources and infrastructure; and working more efficiently. As one participant explained, “I learned how to meet deadlines and get things done on budget, so that’s helped me out a lot now” (LDLC Interview #15). Others gained more experience managing operations. In fact, some participants

¹⁰ Safety tickets are required for basic entry level work in resource-based industries.

¹¹ WHMIS stands for Workplace Hazardous Materials Information System. It is a national standard labeling and safety program to enhance worker awareness and safety around hazardous materials.

¹² H₂S Alive is a safety course for workers who may be exposed to hydrogen sulfide. It is geared to enhance worker understanding of H₂S properties, as well as to inform responses to detection and strategies for rescue.

were given more responsibilities as they gained experience with supervising and training staff. These were opportunities that were not readily available in their prior work settings where operational structures became more horizontal with fewer opportunities for advancement as the forest industry trimmed their flexible workforce. Some also described conflict management and social skills that were required in their LDLC job environment as they needed to work in teams or engage with ‘difficult’ people.

By engaging in diverse work settings, LDLC workers obtained more skills that expanded their employment options. For a number of LDLC workers, new skills, such as mine rescue, an aerial lift operations ticket, testing high pressure well systems, or new driving skills, were not attainable in sawmill or pulp mill operations in Mackenzie. With these new skills, they were no longer bound to work in the single sector, but instead they were better positioned, and more resilient, to respond to fluctuations in employment across resource sectors. As one LDLC worker explained, “I’ve got new skills that I can use if the forest industry declines again, especially with the mines opening up near Mackenzie now (LDLC Interview #6).” Some even noted that new opportunities were created to pursue contract work.

Not all participants, however, reported that their LDLC work experiences had an impact on their employment opportunities in Mackenzie. This was particularly the case for workers who had fewer or no supervisory responsibilities compared to their former job in Mackenzie. There were also participants whose LDLC job did not impact their employment opportunities back in Mackenzie as they were simply recalled by their union to work in the same job position hierarchy they had previously occupied.

4.2.4 Social networks

In some cases, the ability to expand networks and contacts through their LDLC job helped some participants to enhance their reputation prior to starting their own business, to acquire a different support network, and to improve their ability to more efficiently access key decision-makers and senior staff in distant centres. As one participant told us,

One of the key things is when you actually work in [job site], you get to personally know the gatekeepers in those offices in [job site], that makes a big difference. I can call up people I got to know quite well personally. It's a different world. I now know who to call and they know who you are and so there are some real benefits to that (LDLC Interview #5).

In this circumstance, commuting to work in the main offices made it easier to develop working relationships with office staff who looked after the schedules, or were the gatekeepers, to higher levels of management. By developing those working relationships in person, the participant also obtained more knowledge about communication protocols. Once the worker returned to Mackenzie, they were able to mobilize the new knowledge and social networks they had developed in other places in order to support their work in the community.

4.2.5 Communication

Information and communication strategies can affect workplace satisfaction. In this context, participants valued more open and routine communication offered at remote worksites. This helped to keep workers engaged, committed, and invested in their work environment. In terms of worker development, participants appreciated daily feedback, annual performance reviews, and

close consultation between supervisors and trainers to monitor and alter worker performance (Lukic et al., 2010). One participant told us,

You're supposed to, where I work at now, have an annual performance evaluation. The company that I worked at in Fort McMurray actually was diligent to make sure that was done annually. Here, they're trying to. But I've been doing the same job for a few years now and I haven't had one yet. I've asked for one, but it hasn't happened (LDLC Interview #20).

LDLC exposed workers to common practices in other work environments in order to support worker development, and thus, altered their expectations to obtain support for worker development. Routine feedback can play an important role to not only nurture worker development, but to enhance workers' confidence in applying those skills. In a work environment that can experience considerable labour turnover through work rotation schedules and through labour retention issues, routine feedback also strengthens the framework to implement common and consistent practices in the workplace.

In addition to routine feedback and evaluations, participants identified other communication issues that were important for work environments that have LDLC workers. Having worker concerns or issues addressed immediately by supervisors and management staff helped to maintain smooth operations and reduce stress that can quickly accumulate from both long work hours and from the stress of commuting long distances. Clear regulations and standards also helped to maintain consistent operations. Participants further valued positive communication approaches rather than the demeaning or foul language used in some workplace environments. Of interest, some female participants conveyed that they were provided with more positive communication in their workplace compared to their male colleagues. Many of these

communication opportunities and practices come about as a product of the LDLC context where new workers move into places on a routine schedule (Storey and Shrimpton, 1994). This is very different from the historical case in pulp mill or sawmill towns where the same person does the same job every shift (Bratton, 2001; Halseth, 2008). Overall, previous work experiences lead participants to have greater expectations for more frequent and positive communications amongst workers, supervisors, and management about workplace issues.

4.2.6 Safety

Participants also stated that they were more safety conscious than they had been at their previous worksites in Mackenzie. This was influenced by a number of safety concerns that had been observed during the commute, during time spent in living quarters for LDLC workers, and during time spent in the worksite. For example, there were safety concerns about driving with little sleep (especially in winter conditions) after a long shift rotation. One LDLC participant also talked about the combined impact of topography and weather on influencing driving conditions.

There's one hill on the road on the way to the mine. The sun doesn't hit the hill and frost develops. People slide back down that road. One truck went off the road. He brought his safety concern to their attention, but nothing's changed. It's a hazard. It's good that they're now using buses to reduce traffic on the road, but money should be spent to grade the hill down (LDLC Interview #3).

In this case, the participant highlighted not only how the topography and weather can produce icy and unsafe driving conditions to these remote worksites, but there is a lack of confidence in the effectiveness of reporting mechanisms through industry and WorkSafeBC to

address the safety of LDLC workers. There is also an underlying concern about industry's approach to address the symptoms of unsafe driving conditions through the provision of bus transportation instead of the underlying cause. Greater collaboration is needed across workers, industry, and government transportation departments to discuss and promote safe driving, to design and maintain safe driving corridors, and to ensure that adequate signage is in place to identify potentially hazardous road sections for both highway and company roads.

Secondly, some female participants talked about the safety concerns they had while living in work camps that were largely dominated by male workers. In this context, a number of issues, including the design of the camp living facilities, the presence of alcohol, limited protocols and mechanisms to report safety concerns with living facilities, and the absence of on-site support services collectively affected some female participants' perception of safety in these camps. As one participant explained:

In the first camp I worked at, there was one bathroom with twenty men. There were few women working in the first camp. I would make friends with the biggest guy on site so the other men would leave me alone. There was drinking in the first camp, so that affected how safe you felt. One time a guy came into the washroom and made me feel uncomfortable. But there's no access to counselling out there, especially if anything was going on. It can be very isolating. I was told to go home because I talked about it. But now, there's no drinking allowed at the second, bigger camp. They have drug and alcohol testing even before you get hired on (LDLC Interview #14).

Overall, participants reported that other job sites had stricter drug and alcohol testing as part of hiring and operating procedures in order to maintain safe worksites. Such restrictions enhanced female participants' perception of safety on the job site. Despite the considerable

changes implemented in work camps over the past few years, governing regulating agencies must work with remote industry sites to ensure that occupational health and safety guidelines are not just developed and implemented for worksites, but also for living facilities that host LDLC workers.

Furthermore, in terms of the work environment, events had been observed when other workers had exceeded the maximum hours for highway truck driving; even though there are regulations in place to fine people who exceed those limits. Some participants commented that safety standards in the oil and gas field were not consistently implemented and complaints were not addressed in an adequate and timely manner. Concern was also expressed about the limited training workers received before engaging in worksite activities. As one LDLC worker told us, “I used to get 16 days of training with Abitibi. Now after 4 hours of training, you’re on the job (in the oil patch)” (LDLC Interviews #17). When concerns about limited training are considered with labour turnover, as well as the potential impacts of fatigue, inadequate communication, limited supervision and feedback, and unsafe driving conditions, there can be important implications for the occupational health and safety of LDLC workers. Moving forward, research is needed to track and understand how industry, unions, and other labour organizations are advocating and / or working with senior levels of government to address these integrated issues.

After discussing a number of safety issues, participants noted that they were now more open to having more stringent safety procedures implemented in their workplace. In fact, participants valued more frequent, even daily, safety meetings to address potential hazards on the job site. As one participant told us,

[The oil company] was overboard with safety. You couldn’t go out without signing a paper. It’s more relaxed at the mills here. There’s less safety concern at the mills. But the

mill accidents in Burns Lake and Prince George changed all that. Workers are now scared to go to work because of all the dust and dry wood. Esso was always safety-oriented and had safety meetings at the start of every day. In Mackenzie, you just go to work. With [the oil company], feedback was provided to employees at the daily meeting. With [the oil company], workers would raise concerns on the job site and they were addressed right away. You couldn't afford not to when you're dealing with pipelines and pressures (LDLC Interview #8).

The issues raised by the participant above compliments research that suggests hazardous work environments require highly engaged training to enhance procedural knowledge and skill development (Burke et al., 2011). Job sites in the oil and gas and mining sectors were also perceived to have more safety coordinators hired for the size of the workforce. In some cases, incentives were also provided for workers to build up safety points based on safe work procedures and the number of safe work days in order to purchase gear or equipment. In other circumstances, awards were provided for the attention that workers invested in safety protocols and assessments. As one participant explained, "I've got more confidence to go into a mining environment. I'm more familiar with safety protocols. Every morning, I had to write a field hazard assessment and I won prizes because of the detail I put into my field hazard assessments (LDLC Interview #14)." Several safety measures were undertaken in remote work sites to address transportation safety, including fatigue management workshops and special permits that were required to limit the length of highway truck driving. As the forest industry in Mackenzie has an opportunity to regain workers who temporarily engaged in LDLC, renewing safety procedures and supports for safe work sites will be instrumental to remain competitive in local and non-local labour markets.

5. Discussion

Industrial and political restructuring continues to transform rural and small town places across Canada's resource hinterland. Boom and bust periods have become deeper and more frequent (Bhattacharyya and Williamson, 2011; Joseph and Krishnaswamy, 2010). With the adoption of labour shedding technologies, highly automated industries are able to wind down or start their operations quickly in response to market conditions (Markey et al., 2012). At the same time, an increase in LDLC operations has forced labour to be more mobile and flexible. Our research focused upon the need to understand workers' perspectives about these transformative changes, as well as exploring the relatively untold story concerning the impact and contributions that LDLC can make to support worker development. As Amankwah-Amoah (2011) argues, most research has focused on experiences within current workplace environments, while ignoring the effect of knowledge and experience acquired in other job sites.

Our case study is situated in a mature, staples-dependent town with industry and community infrastructure, as well as multiple generations of resource sector workers, already in place. In Mackenzie, people left to pursue LDLC work experiences because there were no jobs locally after a series of mill closures. Our survey demonstrated mobility across multiple resource sectors and to various peripheral communities and regions. In this complex region, we are seeing integrated impacts where the economic boom in one industry impacts other industries through the poaching of mobile labour (Ivanova 2014). In Mackenzie, the temporary decline of the forest industry provided a regionally-based alternative pool of labour to support recruitment in broader resource sectors. The staples trap persists, however, as workers move from one

industry (in this case forestry) to another (i.e. mining, oil and gas) and back again with no diversification in manufacturing outputs. In this context, there are two parallel pathways that need further exploration, including the transition of long-term staples driven communities and the uptake of 100% FIFO workforces in new operation sites. A much better understanding is needed of how these intersect and impact each other in tight labour markets, as well as how policies shape each of these trajectories that have very unique capital, investment, and policy needs.

In this mature staples landscape, labour from hinterland peripheries is now another asset being exported to other resource-producing regions; but unlike the limited investments made by senior governments and industries, with the potential to reinvest new human, financial, and social capital upon returning to their source community. LDLC experiences further strengthened workers' capacity by strategically using networks gained through LDLC experiences to perform job tasks when they return to work at home. These new capacity developments show the potential value of bridging social capital in order to connect with a broader range of expertise and experiential learning opportunities and to improve job performance (Raelin, 2008).

Through LDLC, workers were able to extend or strengthen their financial, retirement, and health security. As participants engaged in LDLC, they were exposed to team learning environments and new communication, trouble shooting, and coping skills that can help to transfer new knowledge and adaptive skills in chaotic work settings (Burke et al., 2011). For those temporary LDLC workers who returned to work in the local forest industry, these experiences have reshaped their expectations for their work environment in Mackenzie. Investments in communication protocols and conflict resolution processes will be important in order to enhance workers' perceived safety, to provide clear direction for daily tasks, and to

enhance a team working environment. Such actions by the forest industry will be instrumental to remain competitive in an increasingly integrated and mobile labour landscape. For the workers, these skills will also become increasingly important as the demand for mobile workforces increases, particularly in remote industry worksites. It also equipped workers with a broader set of transferrable skills that enhances their resiliency and ability to respond to fluctuations in employment across resource sectors. Exposure to other work environments, however, has also heightened awareness of employment practices and benefits across different resource sectors, thereby intensifying a more competitive and integrated labour landscape.

With more opportunities associated with service and supply contracts, another important question is whether more subsidiaries or contractors used by industry are being mobilized as place-based human capital assets. Many mobile workers in this mature industrial landscape have the high skills demanded to work across various resource sectors, though, they may not have the entrepreneurial or strategic business skills, or financial capital, to grow and improve their competitiveness in order to maximize benefits. Many services and supplies are sub-contracted to businesses in distant large centres, further exacerbating uneven development and core-periphery tensions (Tonts et al., 2013). Furthermore, while local and regional development policies should invest more strategically to develop both the entrepreneurial and job skills demanded by industry, educational institutions are continuing to withdraw their resources from satellite college sites and concentrate their resources in distant regional centres.

An important legacy of industry can be improved airport infrastructure and services that increase the connectivity of small towns and regional centres (Morris, 2012). These types of transportation routes, however, can reinforce core-periphery relationships and fail to connect experienced resource workforces from periphery to periphery. The limited ability or willingness

of senior governments to invest in smaller, regional airports to meet the demands of mobile workforces presents another symptom of underdevelopment and withdrawal from the resource banks of these periphery regions that concentrates in urban areas much of the wealth produced in larger distant centres (McDonagh, 2010). The challenge for mature staples-dependent towns that wish to retain workforces temporarily engaged in LDLC, then, is that despite investments in other support services and quality-of-life assets, the underdevelopment of transportation infrastructure to support internal regional mobility may function as a push-factor towards out-migration. Communities that fail to advocate for, adjust to, and support such mobile labour landscapes through infrastructure and services may be confronted with further out-migration and higher unemployment (Polèse, 1981). Communities need to work with industry and senior levels of government to guide royalty and revenue sharing programs that will leave a long-term legacy to strengthen local and regional resilience.

As the forest industry has increased efficiencies and reduced the size of its workforce over time, older and experienced workers remained in place while younger entrants to the industry were often the ones laid off. The result was a workforce that aged in place (Hanlon and Halseth, 2005). As this older workforce approaches retirement, further investigation is needed to track how such demographic changes in the workforce are disrupting operations, impacting recruitment and retention strategies, and potentially shaping LDLC trends of the next generation workforce.

While some research has discussed the use of LDLC to fragment workforces, provide opportunities for sub-contractors, and weaken unions in resource-based industries (Carrington et al., 2011; Houghton, 1993), our knowledge about how unions are advocating for the unique needs of LDLC workers is more limited (Ferguson, 2011). Overall, industry needs a

comprehensive strategy to help workers cope with the stresses associated with LDLC. A key component to this strategy will likely involve attention to developing flexible shift schedules, such as condensed work weeks or flexibility with the length of shifts that can help to reduce stress, commuting costs, or burnout (Peetz and Murray, 2011). While shift work is strongly influenced by shift length and rotation, commuting and worker safety should also be considered through investments in fatigue management training (Di Milia, 2006). Adopting stricter safety procedures will also enhance the safety of the workplace and reduce the stress of workers. This should include, among other things, greater attention to broadening awareness of fatigue issues in the workplace by all levels of staff and management, as well as ensuring that commuting times are incorporated into the occupational health and safety protocols of the workplace (Di Milia and Bowden, 2007; Gander et al., 2011). Other important lessons for workers and employers include the need for more on-site counselling, as well as opportunities for networking and collaboration to access adequate transportation for LDLC. The adoption of flexible benefit packages that are responsive to the needs of LDLC workers will also make workplaces more competitive for labour.

Overall, more research is needed into how contemporary regional mobile labour markets are produced and changed across different sectors and geographical scales in mature and transitioning staples-dependent regions. Given the exploratory nature of this study, more research is also needed to fully understand how, and the extent to which, LDLC work experiences shape workplace culture. The transferability and range of both implicit and tacit forms of knowledge (i.e. work habits) across different sector work environments are not yet fully understood (Berg et al., 2008). Further research is also needed to understand which of the issues raised in our study with LDLC workers are unique to Mackenzie, BC, and which issues resonate

across a broader range of rural and small town places. This should include more attention to how these issues resonate across a range of age and gender groups, occupations, different levels of seniority, as well as the length of time that an individual has spent commuting long distances. Furthermore, more investments in longitudinal research are needed to track the long-term cumulative impacts of employment benefits, capacity or skills development, transportation logistics, and health and safety outcomes for mobile workers who return to work in their home community.

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