**New mobile realities in mature staples-dependent resource regions: Local governments and work camps**

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**Abstract**

In resource-dependent regions, work camps have reshaped workforce recruitment and retention strategies and relationships with communities as they are increasingly deployed within municipal boundaries.  This has prompted important, but controversial, questions about local government policies and regulations guiding workforce accommodations to support rapid growth in resource regions.  Even as mobile workforces become more prevalent, however, few researchers have examined the development, operations, and decommissioning of these work camps.  Drawing upon the experiences of local governments in Australia, Canada, Scotland, and the United States, this research examines how mobile workforces are shaping the opportunities and challenges of planning and local government operations through work camps integrated in mature staples-dependent resource regions. Our findings reveal that while some industries have taken the initiative to implement new protocols and operating procedures to improve the quality and safety of work camp environments, local governments have underdeveloped policy tools and capacities to guide the development, operations, and decommissioning of work camps. Failure to purposefully address work camps as a land-use issue, however, is significant for mature staples-dependent towns that ultimately fail to capture taxation revenues while incurring the accelerating costs for infrastructure and services associated with large mobile workforces.

**Keywords: Work camps, mobile labour, rural planning, restructuring, boomtowns.**

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**Introduction**

Resource industry workforce accommodations have evolved significantly over time. These changes have not only reshaped workforce recruitment and retention strategies, but they have guided new expectations for relationships with communities. This is because work camps are not just used in remote settings, but are increasingly being deployed within, or adjacent to, municipal boundaries. In Fort McMurray, Alberta, Canada, for example, a municipal census indicated that the work camp population grew dramatically by 68.4% from 23,325 in 2010 to 39,271 in 2012 (Keough, 2015). This has prompted important, but controversial, questions for local leaders about policies and processes guiding work camps within resource-based communities. Even as mobile workforces become more prevalent, however, few researchers as yet have examined the development, operations, and decommissioning of these work camps. This is surprising given the rapid expansion of work camp use in recent years. In 2012, one estimate alone suggested that 1,809 industry-related work camps were operating in northern British Columbia, Canada (Beamish Consulting Ltd. and Heartwood Solutions Consulting, 2013; Northern Health, 2012). Research has been quite silent, though, about how local government leaders and staff are developing work camp policies and retooling bylaws and permitting processes to support these new labour geographies. As a result, this paper focusses specifically upon this local government context.

Drawing upon experiences from Australia, Canada, Scotland, and the United States[1], this research examines how local governments are working to accommodate work camps in rapidly growing resource-dependent communities.  The article begins by describing the industry restructuring processes that have transformed labour and settlement landscapes through the increased use of mobile workforces.  Our findings then reveal that while some industries have taken the initiative to implement new protocols and operating procedures that improve the quality and safety of work camp environments, local governments have underdeveloped policy tools and capacities to guide the development, operations, and decommissioning of these work camps. The result of this gap may be a failure to capture potential taxation revenues as work camps locate outside of municipal boundaries, while incurring the accelerating costs for infrastructure and services that large mobile workforces create.

**Context: Resource town development and labour geographies**

Work camps have a long historical role in the resource frontier development, especially in North America.  These have ranged from labour camps to establish national parks (Waiser, 1995) to construction camps to develop the hydro dams and resource industry facilities that would steer national economies in the post-World War Two era.  In some cases, hybrid camp towns or temporary villages emerged that adopted more sophisticated planning with separated land uses, as well as flexible plans suited to different typographies and climate-responsive strategies

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[1] In this research, we have focused on developed OECD countries that have more comparable economic and political systems.  This should not diminish the importance of investigating the relationships between work camps and communities in developing countries as they seek a broader transformation of their neo-colonial and resource-based regions (Brown *et al.*, 2011; Byambaa *et al.*, 2014).

(Brand, 2014).  As countries became more urbanized, however, industry found it increasingly difficult to recruit and retain labour into these more rural and remote settings.

The post-World War Two period of community planning in remote, resource-dependent regions coincided with significant government and industrial investments to support the expansion of the resource hinterland (Markey *et al.*, 2012).  The relative scale of these investments has not been experienced since.  The planning and local government culture of these places were strongly shaped by the notions of 'community' through permanent suburban-style settlement patterns, quality-of-life amenities, and spaces to nurture social interaction as part of place-making processes.  Ultimately, the goal was to create livable landscapes capable of attracting and retaining residents, businesses, and industry that can provide an adequate tax base to sustain these expectations.  The entire planning function is, therefore, strongly invested in places of permanence rather than temporary landscapes.

Resource regions in the post-1980s period, however, have become re-negotiated as mature staples-dependent landscapes – shaped by political and economic restructuring processes and debates between globalized industries and various levels of government.  In order to trace the foundation of resource-led development and track the various trajectories of impact and change, staples theory, in this context, provides a foundation for understanding natural resource commodity production in extraction driven economies, such as Canada, Australia, and New Zealand (Innis, 1933; Taylor *et al.*, 2011). Developed by Harold Innis in 1933, staples theory describes the dependence of the economy on the export of raw resources (i.e. forestry, mining, and oil and gas). These resource commodities are known as staples because they form the basic, or staple, inputs for advanced manufacturing processes. A staples-based economy is weakened by its dependence on 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 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 Canada, the foundation of post-World War Two industrial policy was a balance of benefits to the Provincial Treasury, corporate capital, and local communities. This approach was based on a localized and traditional labour market. In response to a host of changing pressures within the global economy, however, new policy trends privilege benefits to the Provincial Treasury and corporate capital (Halseth, 2005). As resource towns faced extended shutdowns, downsizing, or closures, community stakeholders advocated for more value-added manufacturing employment. While Staples theory once conceptualized localized and traditional labour markets, restructuring of these industries, declining job benefits, trends towards short employment contracts, and limited access to forest fibre and mineral deposits nearby, has precipitated and reinforced mobile labour in competitive regional, national, and global labour markets (Ryser *et al.*, 2016).

As such, resource towns that were once built to accommodate large local workforces are now immersed in much more fluid flows of labour and capital (Haslam McKenzie and Rowley, 2013). Following the global recession of 1982-1984, government and industrial restructuring focused on shifting away from building new single industry communities in rural resource regions (Peetz *et al.*, 2012; Storey, 2010). Rising costs, lengthier approval processes,

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increasingly strict environmental regulations, and a reduced role for senior levels of government in town development all supported a shift towards mobile rotational workforce practices (Humphreys, 2000; McDonald *et al.*, 2012). Similarly, from an industry perspective, 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 / 24 hours a day operations, improvements in recruitment, lower turnover and absenteeism, and access to a larger supply of qualified workers also helped to make mobile workforces more appealing (Aroca and Atienza, 2011; Markey, 2004; Rolfe and Kinnear, 2013; Tonts, 2010). Industries are also able to write off mobile workforce expenses, such as the costs of work camp accommodations, and avoid paying capital gains on 'developed' properties (House of Representatives, 2013; Storey, 2001).

Industry use of mobile workforces has been accelerating since the 1980s (Measham *et al.*, 2013). Mobile workforces have been used by many resource-based industries, starting with the oil and gas industry and expanding to other sectors such as mining, forestry, fishing, hydro, and construction (Shrimpton and Storey, 1992). Within this context, many different forms of workforce accommodations have been used by industry, including the provision of homes, caravan parks, campgrounds, hotels, cabins, bed and breakfasts, boarding rooms, and the use of barges, boats, or 'floatels' (Province of Alberta, 2006; Sommers and Cullen, 1981; URS Australia, 2012; Wanjek, 2013). There are also many different types of camps such as exploration camps, construction workforce camps, and operations workforce camps (Access Consulting Group, 2008). There are closed camps (open only to client workers for the duration of a project), as well as open camps that provide temporary accommodations for anyone on a daily, weekly, or longer-term basis. Work camps have also varied in size from forestry camps that

accommodate less than 20 workers to LNG projects that have plans to establish camps for more than 5,000 workers (Beamish Consulting Ltd. and Heartwood Solutions Consulting, 2013).

Work camps are increasingly used for both construction and operations phases of resource development projects (House of Representatives, 2013). Industry has found it particularly useful to provide accommodations for large-scale, temporary workforces in work camp settings in order to reduce infrastructure and housing pressures for nearby communities where limited housing options are available (Anglo American Services, 2012; Province of Alberta, 2006). There are some cases, however, when industries are located within commuting distance, but there is no connective road in place; thereby prompting the use of work camps. Work camps also play an important role in the construction of pipeline projects where the location of the work constantly moves, making it impractical to relocate workers from one community to another (House of Representatives, 2013).

Even as mobile workforces become more widely used, however, research on the development, operations, and decommissioning of work camps is very limited (Brand, 2014). Instead, research has focused on the implications of large workforce accommodation needs on broader community housing issues, in addition to other community and family impacts (Ennis *et al.*, 2013; Markey *et al.*, 2015; Power *et al.*, 1980). Measham *et al.* (2013: 189) argue that "unwilling engagement or tardy planning by government to early signs of growing pains, and even market failure in the case of the housing market, were root causes of some of the issues". Labour restructuring trends that have increased patterns of mobile labour and migration have also not transformed our understanding about housing markets and new approaches to workforce housing policies (Haslam McKenzie and Rowley, 2013).

The omission of research on work camps themselves leaves a void in understanding work camp development, and how the operations and decommissioning of these camps impacts community development processes.  As resource regions engage in rapidly changing contexts, there is an urgent need to renew local government policies and planning processes in order to capture more benefits and mitigate some of the socio-economic impacts associated with large mobile workforces.  This is particularly important given that many resource-dependent regions have multiple resource sectors.  Rather than coping with the pressures of growth or contraction across a single sector, local governments may be forced into a perpetual state of readiness to simultaneously respond to regional waves as represented by dys-synchronous boom and bust cycles across many resource sectors (Ryser *et al.*, 2014).  This research seeks to provide a better understanding about how new labour geographies, as renegotiated through mobile workforces and work camps, are shaping the opportunities and challenges of planning and local government operations in mature staples-dependent regions.

Drawing upon stakeholders from eleven communities across Australia, Canada, Scotland, and the US, 30 in-depth key informant interviews were conducted (Table 1).  Two-thirds of these interviews were conducted with community leaders, while the remaining interviews were conducted with industry associations, work camp operators, and labour in order to learn more about issues shaping work camp policy development, operations, and decommissioning practices. The communities that participated in the study ranged from just over 1,800 people to roughly 125,000 people. Industry activity was equally variable across these regions through the production of oil and gas; liquefied natural gas pipelines; as well as metallurgical coal, gold and iron ore mining.  Participants were recruited through multiple methods. First, interviews with industry associations, work camp providers, union, and host community stakeholders were

recruited using publicly available lists. Some participants, however, were recommended through

snowball sampling (Goodman, 2011). The length of interviews varied from 30 to 90 minutes,

with an average of 55 minutes.

**Table 1.** Interview respondents (by region)

| Sector | Number of respondents | % of respondents |
| --- | --- | --- |
| Alberta | 13 | 43.3 |
| Newfoundland and Labrador | 3 | 10.0 |
| USA (Pennsylvania) | 3 | 10.0 |
| USA (North Dakota) | 4 | 13.3 |
| Australia | 4 | 13.3 |
| Scotland (Shetlands) | 3 | 10.0 |
| Total | 30 | |

Participants were asked open-ended questions to explore mobile workforce pressures,

work camp / accommodation arrangements, and specific requirements or issues raised by

industry, community, and government stakeholders. In this respect, questions were posed to

explore the positive or negative nature of relationships between the camp and the community, the

factors that contributed to this relationship (i.e. protocol / behavior agreements), zoning and

related planning and design issues raised by local governments, and the final arrangements that

were put in place for the work camp facility and related infrastructure. Participants were

provided with a copy of the consent form that outlined the purpose of the study, how the research

process addressed their anonymity and confidentiality, and the voluntary nature of their

participation. During each interview, comments were recorded and notes were taken. A summary

file was created for each interview and was sent to individual participants for review to ensure

accuracy. After a final summary file was created for each interview, latent and manifest content analysis (Krippendorff and Bock, 2009) was done to identify, code, and categorize patterns and themes that emerged from the data. In terms of manifest content analysis, the research team consolidated information about key issues associated with work camps. 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.

Our findings, though, must be placed within some study limitations. Work camps are subject to various regulatory controls and different levels of jurisdictions (Beamish Consulting Ltd. and Heartwood Solutions Consulting, 2013; Western Australia, 2013). There are, of course, also many camps outside of municipal boundaries. While acknowledging this diverse landscape, our focus is on local government responses to new mobile workforce realities within their communities. We also acknowledge our selection bias from the convenience sampling through publically available lists and the impacts that this can have on the external validity of the issues identified through key informant interviews (Reed *et al.*, 2003). Through triangulation with academic articles and reports completed by industry, government, and other organizations (Roe, 1998), however, these approaches provide a more comprehensive portrait of the complexity and insight into how work camp policies and regulations are shaping the readiness to support mobile workforces. Furthermore, given the qualitative nature of the study's design, our goal is to not to assign quantitative values to open-ended questions, but rather to identify a series of issues to guide future research across a broader range of industry and community contexts where a greater generalizability of results can be pursued.

**Findings**

While work camps are increasingly being pursued as mechanisms to support the construction and operation of large-scale resource industry developments, this renegotiated housing landscape is often poorly understood or supported by appropriate local government policies and processes. In our findings, we discuss five key issue areas that were raised by stakeholders, including factors shaping pressures with work camps, zoning, development permit processes, work camp protocols and code of conduct agreements, and the decommissioning of work camps.

*Factors shaping pressures with work camps*

Work camps have evolved considerably, but they can still vary significantly from those that resemble institutional settings to others that function more like resorts (House of Representatives, 2013). The quality of camps can be driven by commodity market prices, the degree of competition for labour, and regulatory frameworks. For communities, pressures associated with work camps are shaped by the size of the work camp, the size of the community, the type of work camp (open vs. closed), and the duration over which the camp operates. Work camps of roughly 200 people are more easily accommodated within local physical infrastructure and services. When work camps exceed 2,000 or 3,000 people, however, the population of those work camps can exceed the population of towns and impose significant concerns about the pressures and impacts they will have on local infrastructure and services. As one work camp operator described, "The biggest camp offers 3,000 rooms in [Community X]. The camp is 10 times the size of the community" (Work camp operator, Australia, 2014).

An important issue is that communities do not have accurate or sufficient information about forecasted industrial growth to help guide policy development and budget planning. This can be complicated by the use of different growth forecasting models used across various industries, communities, and even senior levels of government. Understanding forecasted growth, however, can inform local government policies for both open and closed work camps that may be needed to support mobile workforces during different phases of resource development and alleviate local housing pressures. As one industry stakeholder from Fort McMurray, Canada told us:

From a camps perspective, there's definitely some differing opinions in terms of where camps should be feasible, where they should be located in nearby towns and so forth. Depending on whether its construction, maintenance, or operations workforce, companies are making a number of decisions that may not see some of the growth in the communities that was previously anticipated. Industry may have their own private camp but depending on the phase of the operation, construction, etc., they may have a larger demand than they can provide so then they go to open camps and so on. But how do you forecast growth? Everybody wants to know how much their area is going to grow by when. Unfortunately, many different methodologies are used to forecast that and whether it's the municipalities, the provincial government, industry… and one of the things that we want to engage with the communities on is trying to get the common process in place. We want to use the current and forecasted production level and have some methodology for determining workforce and splitting that out from mining to in situ and then construction, maintenance, and operations. Then the third step is the population forecasting based on that. Camps come into that. Location, size, purpose, closed camps,

open camps, and of course then from a municipal perspective, we want to work toward a more collaborative and coordinated approach between industry and the municipality to develop the principals of what we think is the kinds of vibrant community that we want. Communities know growth is coming, but they don't have a level of detail that's going to guide their policy, planning, budgeting matters at this point (Industry Stakeholder, Canada, 2014).

Local government and community stakeholders often feel conflicted about work camps in their community. Communities that do not develop appropriate policies and processes to accommodate mobile workers, however, fail to capture tax revenues from camps that subsequently locate outside of municipal boundaries but still draw upon community services and infrastructure. Just under half of the local governments we spoke with had developed work camp policies (45.5%). Decisions to avoid the pressing issue of accommodating large mobile workforces through work camps can have profound, yet unintended impacts on the recruitment and retention of other residents. This is because companies and workers have greater financial resources that can be quickly mobilized, thereby intensifying the competitiveness of the local housing market – often beyond the capacity of other residents. As one stakeholder from North Dakota described:

As far as selling it to the public, it was pretty easy to do that… to change their perception. Like even myself, when we first heard crew camp, I was like no way letting these things come into the community because I had a misconception of what they actually are. And I think because the larger ones get involved in the community. They will do tours any time

you ask them. They are very open about their camps. You can walk through them
anytime you want when you call them and set up an appointment. I think that was the
easier thing was to change public perception. Because if you don't have camps in town,
the companies are buying single family homes and putting guys in single family homes
and that takes away your family aspect in your community. If you have a family that's
going to do traditional financing for a home and you have a business that has 15 guys that
gotta go to work tomorrow, they're going to pay cash for it and that family's going to lose
out on the home and rentals too (Community Leader, US, 2014).

*Zoning*

Local governments are increasingly adopting their own regulations and standards to guide work
camp and industrial development (Williams County Board of Commissioners, 2011). Through
official community plans, some communities encourage work camps to adopt universal housing
design principles in order to enable those facilities to be converted to retirement or accessible
accommodation options once the construction workforce leaves (Australia Pacific LNG, 2012c).
This requires local government leaders to engage in early conversations with industry and work
camp operators to arrange for the transfer of such assets to the community as a legacy of the
project. Communities need to understand that such assets are owned by work camp operators,
rather than by industry, and are frequently moved from one project location to the next. If there
is interest to acquire any work camp assets as a legacy from the project, they need to be costed
upfront.

Other local governments are developing zoning for temporary workforce accommodations in order to reduce noise, dust, light, and other concerns for residents (Australia Pacific LNG, 2011). Previously in Moranbah, Australia, there had been limited cooperation to address concerns about noise and air quality due competitive advantages. There were also challenges convincing industries that while individual mines do not exceed any pollution levels, the cumulative impact of dust and pollution associated with mines, as well as the noise, flow of pollutants, and air quality impacts associated with transportation to and from work camps, had exceeded acceptable levels. The Moranbah Cumulative Impacts Group (http://mcig.org.au) has been effective to bring industry stakeholders together to investigate noise, dust, and air quality issues.

The GIRG (Global Industry Response Group) was based upon land water holder issues, but it became based upon dust and noise issues. It was very successful. They stopped looking at just compliance. They realized that the noise – regardless of compliance with the statutory level – was difficult for people hearing trucks frequently, etc. It changed people's perception of nuisance because of the dust, noise, etc.. The Moranbah Cumulative Impacts Group focused upon dust issues. There are many health concerns about the coal dust, air quality, etc. At first, none of the companies would cooperate together. They were concerned about their competitive advantages or being viewed as responsible for something. They would blame others for the dust. The biggest success has been getting industry all in a room together and having an agreement to investigate concerns around dust and noise (Community Leader, Australia, 2014).

As a related issue, communities are concerned about the location of work camps. While some towns prefer to have work camps located in town in order to produce more benefits for businesses, other places prefer to have large construction camps located near the industry project site to reduce disruption to the community. There are several successful examples in Australia where local governments have worked with industry to identify suitable locations for work camps (Creating Communities PTY Ltd., 2012).

There is often confusion, however, about how to develop appropriate zoning for work camps in communities with many advocating for new hybrid zoning approaches that neither designate work camps for strictly industrial or residential areas. Despite decades of resource development, many local governments in resource-dependent regions are only now working with industry stakeholders to pioneer new appropriate work camp policies and zoning bylaws to guide the development and decommissioning of these structures. As one stakeholder explained:

Port Edward is poised to have Petronas build a LNG project. [Work camp operator] worked with them to rewrite the town bylaws and incorporate community concerns and meet industry goals. Industry, [work camp operator], the Mayor, the consultant were at the table to find a good framework that would work for everyone first. These were focused on land use bylaws. Work camps don't fit well within residential, commercial, or industrial zoning in most communities. It has different building codes, different density concerns, and its temporary in nature. So you can't call it a hotel or a house. They worked with XXXX Engineering to write a specific bylaw for work camps, so it became it's own zoning category (Work Camp Operator, Canada, 2014).

In addition to work camps, the rapid growth in the use of caravans and related recreational vehicles to support workforce accommodations has also exacerbated physical infrastructure pressures for stakeholders we spoke with in Canada, Australia, and the US. Few local governments have regulations in place governing the use of caravans for workforce accommodations. In Bradford County, however, the Bradford County Sanitation Committee and Pennsylvania Department of Environmental Protection have worked together to monitor situations where more than four RVs were using one septic system. In these cases, the land was then designated as a subdivision or land development so that more appropriate regulation and monitoring can be applied.

*Development permit processes*

Local governments must also consider the conditions under which development permits for work camps will be awarded. In Labrador City, Newfoundland and Labrador, Canada, for example, the local government will only allow temporary work camps during the construction phases of resource development projects. Under their regulatory framework, the municipality leases land to the company to develop a temporary work camp which generates revenues back to the municipality. Before a camp is approved, a 'score card' is completed to determine the need for, and benefits of, temporary work camps. As one local government stakeholder explained:

> Our council took the position that we would allow a temporary workforce for the
> construction phase of the projects, but any jobs that were long term or operational, we
> expected them to live, work, and play in Labrador West. That was the premise that we

weaved into the approvals for camp permits. The camps were located on leased land that we leased to the company; we didn't sell it to them. Plus, we gained revenues from the camps as well. And control through that process of how long we would allow them to stay in one place vis-à-vis the fact that we want the permanent workers to be living here and not in camps. We actually developed a score card for critiquing temporary work camps to see if it was really needed or not, and what the benefit would be to the community. If they reached a certain score, then we were permitted to go ahead, but we had removal agreements as well. It started with the mining industry but it wasn't long after that almost every sector was looking for temporary workers' housing because there was just no place to put your workers. We even had it for McDonalds. They were looking to put a few mobile homes on their property to house their workers. And we didn't allow that because it's operations (Community Leader, Canada, 2014).

Through local development permit processes, local governments are provided with information about the location and layout of the camp facility; the capacity of work camp accommodations; traffic route plans; construction, completion, and decommissioning timelines; service and infrastructure plans; and information about compensation arrangements for impacted property owners (Australia Pacific LNG, 2011; British Columbia and Yukon Territory Building and Construction Trades Council, and Construction Labour Relations Association of British Columbia, 2008). At times, however, work camps were established before permits are obtained. Furthermore, some work camps had not applied for appropriate permits that accurately reflect the number of people accommodated in camp.

The work camp industry has also been impacted by the volatility of global commodity prices and resource development project timelines. To bring more stability and resilience to the work camp industry, more companies are developing open camps to capture clients from multiple resource sectors and contractors, as well as business and tourism travel in resource regions. It can be more difficult, however, to address behavioral and safety concerns in open camps. In Williston, North Dakota, the local government does not permit open camps. Permits are only awarded to closed camps solely occupied by the company running the camp. If concerns develop with workers in these closed camps, the local government directly engages with industry to remove the individual from the site. As one local government stakeholder in Williston explained:

> We have a couple crew camps located in city limits. The regulations are very strict in that crew camps located in the city can only be located in industrial areas. And then our biggest thing is a crew camp has to be fully occupied by the company that's running it. So if Haliburton wants to do a crew camp, it has all Haliburton guys. And what that does for the city is if we have a problem with it, we just go to the company and they deal with someone as an employee issue (Community Leader, US, 2014).

*Work camp protocols and code of conduct agreements*

The location of large work camps within communities can produce several social concerns for residents and local government. Protocols, policies, and code of conduct agreements have become key components of workforce contracts and orientation for both employees and

contractors to address community concerns around safety (Australia Pacific LNG, 2012b; 2011; Creating Communities PTY Ltd., 2012).  Issues that are addressed in protocols or code of conduct agreements can vary, but may include zero tolerance for drugs and alcohol; zero tolerance for harassment; respect for co-workers, residents, and local culture; zero tolerance for bribery; zero tolerance for illegal activities (i.e. prostitution, weapons, illegal gambling, fighting, vandalism); respecting speed limits; restrictions concerning unauthorized site personnel; and strict use of camp / work vehicles (Anglo American Services, 2012; Northern Health, 2012; URS Australia, 2012).  Some policies are enforced through random drug and alcohol testing.  In Labrador City, Newfoundland and Labrador, Canada, however, a local community advisory panel insisted on mandatory hair follicle drug testing for work camps.  This method was preferred over urine testing as it is able to provide a longer history to detect drug use.

Code of conduct agreements are not just being developed to influence behaviors within the work sites and work camps, but also to guide behaviors and interactions in communities. Communities are increasingly requesting that mobile workers sign social contracts as a condition for the project (House of Representatives, 2013). For example, in Australia, the Wheatstone Workforce Management Plan required all Chevron employees and contractors to sign a 'Code of Conduct' agreement concerning appropriate behavior in town (Haslam McKenzie, 2013).  In Labrador City, Newfoundland and Labrador, a social code of conduct vetted by the community advisory panel contained curfew restrictions, restrictions omitting guests from work camp sites, and limited tolerance for public intoxication.  As one stakeholder from the community told us:

The social code of conduct had curfews in it. You weren't allowed to bring anybody from the community on site, i.e. no women were allowed in there unless they were workers,

and vice versa, no men were allowed into the camps unless they were workers. They weren't necessarily dry camps but it had to be controlled. Intoxication wasn't permitted in public. But they were certainly allowed to drink in their rooms and that kind of stuff as long as they drank responsibly. That was the biggest thing. There was a protocol in place, if there were concerns raised by residents or businesses in the surrounding areas, they had a place to go with their concerns and they would be addressed. There were not many instances but if anything happened, the person was on the flight the next day, very quickly removed (Community Leader, Canada, 2014).

To alleviate community concerns and monitor workforce behaviours, many companies, such as Total, have also hired security staff to accompany crews leaving accommodations during off-hour visits to communities. As one stakeholder from the Shetland Islands in Scotland further explained:

There was a period when the Total plant was shut down for 24 hours because there was a suicide on site or nearby. So they had to shut everything down. So all these men descended into the pubs and clubs of Lerwick and there was a lot of anti-social behavior and most of it wasn't too bad. But there were some women saying they were being harassed and just low levels of anti-social behavior and fighting and abuse and things like that. And so one of the things that Total has done is they've deployed security staff to go around to the pubs and clubs and monitor behavior and making sure people are behaving themselves (Community Leader, Scotland, 2014).

Work camps can also produce unique traffic patterns and pressures for small communities, especially during the rapid growth associated with construction periods of multiple projects.  Local governments have brokered industry working groups to coordinate different shift changes and mitigate traffic pressures for community roads, highways, and airports.

*Decommissioning of work camps*

Perhaps the most critical issue for local governments is the need to ensure that every work camp operator has a decommissioning plan in place.  In some cases where no decommissioning plan was developed, work camp structures have been sitting empty on sites for more than a year.  People we spoke with also identified concerns where new camps have been established and then disappeared following bankruptcy.  Communities become left with the burden of cleaning up waste that is left behind.  As some stakeholders from Alberta, Canada explained to us:

> There's gotta be an exit strategy for sure.  There have been instances where people have taken trailers in the woods, set them up to try and run a camp that failed.  They go bankrupt and disappear.  Now you've got propane tanks and boxes out in the middle of nowhere where it's very expensive to bring them back.  And towns don't want to be saddled with that expense (Work Camp Operator, Canada, 2014).

> The key concern from communities is that work camps will be built.  But once the project is finished, the community may be left with an eye sore.  So they wrote in the remediation and timelines for renewals and ground rules in place to monitor the process

prior to having to deal with the problem. So everyone looked at the end of the timelines of the project and ensured that an exit strategy was in place. Some local and regional governments are not used to the scenarios that are coming forth (Work Camp Operator, Canada, 2014).

In many cases, decommissioning agreements are tied to each camp permit. In Williams County, North Dakota, for example, conditional use permits for temporary work camps are approved for a period of two years and are used as a tool to ensure compliance with regulations (Williams County Board of Commissioners, 2011). Work camp operators are further required to submit a bond and a decommissioning plan to restore the site to its original condition. This includes attention to cleaning up contaminants, replacing the topsoil, and removing road infrastructure (Canadian Business, 2012).

**Discussion**

The rapid expansion in the use of work camps epitomizes the restructured and renegotiated labour landscape of contemporary natural resource development. During periods of rapid change, large workforces must be deployed quickly and then often moved to new sites to work on specific and time limited project components, making it unrealistic to expect workers to move themselves and their families. Industry decisions to locate work camps within communities have largely been used to accommodate large mobile workforces during construction periods, but in an era where workers and their families can choose where they live and work, these work camps have also been used to support operations. Local governments may face pressure to avoid

supporting work camps in favour of encouraging workers and their families to live in their communities. This approach, however, no longer reflects new labour arrangements where industry holds considerable control over their use of contract and temporary mobile labour to address construction, operations, and maintenance needs in response to fluctuating global market conditions (Ferguson, 2011; Keough, 2015). Resistance to the work camp model may also not be compatible with emergent lifestyle preferences of workers, in terms of flexible work patterns and location decisions related to dual-income families and quality-of-life.

Several researchers have also highlighted the housing pressures that result from rapid growth, with subsequent rising market prices, high rental rates, and renovictions leading to homelessness, out-migration, and affecting the recruitment and retention of a broader range of residents and workers in other sectors that are so vital to strengthening the long-term quality-of-life in these communities (Ennis *et al.*, 2013; Haslam McKenzie and Rowley, 2013; Lawrie et al., 2011). At the same time, an influx of mobile workers in these places can lead to lost taxation revenues for local governments and increased pressure on services and infrastructure as people develop illegal suites and allow motorized recreational vehicles to park in their homes or commercial parking lots (Beamish Consulting Ltd. and Heartwood Solutions Consulting, 2013; Haslam McKenzie et al., 2009). In this context, work camps have a role to play.

Few contemporary local governments in resource regions, however, have experience with these types of temporary developments. There is a need for local governments to develop work camp policies or appropriate zoning bylaws to guide the development, operations, and decommissioning of work camps in resource-based communities. The emergence of closed and open work camps does not fit the typical model of many land use policies and regulations. As industries have pursued new labour arrangements in response to global restructuring and

competitive environments, governments and communities have lagged behind. Local governments have focused too much on times when a single industry employer provided relative stability and good paying jobs. New industry and labour geographies call for local government transition from managerialism to entrepreneurialism to adopt and use different economic and community development strategies (Halseth *et al.*, forthcoming).

Many planning practices have been shaped by the growth challenges of urban centres. These approaches are not suited to the context of mature staples-dependent regions where industries can choose to locate work camps within or outside of resource towns that are already experiencing diminished benefits as industry adopted labour shedding technologies, consolidated facilities, and pursued high-skilled, flexible labour. Over time, resource-based communities may experience more frequent, on-going, and alternating up- and down-swings in activity across many resource sectors (Ryser *et al.*, 2014). As such, the context for planning and local government operations has been transformed and requires new place-based approaches to community development in these mature-staples communities. Local governments in remote, resource-dependent regions cannot afford to continue to deploy standard urban-based approaches to planning and community development.

Work camps present a challenge to comprehensive rural planning approaches, and are emblematic of a restructured and renegotiated labour landscape. In these rapidly changing contexts, large resource development projects across many sectors and timelines can be mobilized and withdrawn quickly, prompting a constant influx and change of large, rotational mobile workforces. Rural zoning and development permit processes, however, have been based on traditional settlement patterns and localized workforces that no longer reflect the new labour geographies in these regions. Under stress, these rapidly growing communities do not always

have time to wait for private sector interests or senior government processes to unfold to obtain the funding, or acquire and convert public lands (Province of Alberta, 2006), to support housing investments that can better position these mature staples-dependent communities to accommodate these fluctuating workforces.  Our findings also suggest that work camps can be an emerging economic sector for towns that have experienced declining job and taxation benefits from large-scale resource developments.  Strategic planning approaches need to recognize this rapidly changing context.  The need to develop appropriate local government policies for work camps is long overdue, but the current downturn in many resource sectors provides an opportune time period to retool.

The key issues highlighted by stakeholders involved in the study provide a road map to guide future ideologies, policies, and processes for mature staples-dependent resource communities.  Policies need to clarify under what conditions temporary work camps will be permitted.  The phase of development, the size of camp, the anticipated duration of the camp, parking needs, code of conduct agreements, and decommissioning plans are just some of the factors that need to be considered in designing new local government policies and processes. This will still require appropriate resources to invest in bylaw enforcement officers and ensure that camps are operating according to the conditions of their permit. A complication for planners is that work camps do not easily fit with traditional zoning categories.  They are not industrial or residential. Planners can create special districts or new zones, but there will still be several implications for broader community planning.  Establishing buffer zones and rerouting work camp traffic are just some of the issues that must be considered to strengthen the compatibility between work camps and other residential or industrial zone uses (Howland, 2010).

In preparation of multiple industry projects, communities do not have adequate and timely information about mobile workforces to support infrastructure investments. This has led to calls for new methods to be developed to accurately measure the extent of mobile workforce practices (House of Representatives, 2013). Municipalities, senior levels of government, and industry all use different methodologies to forecast growth. This information is needed, however, to determine the need for closed versus open camps. There also continues to be an underdeveloped framework to mitigate socio-economic issues associated with large-scale resource development projects (Gillingham *et al.*, 2016; Shandro *et al.*, 2011). Unlike environmental impact assessments, senior levels of government do not request or require industry to provide information that can guide planning and investments in infrastructure and programs in rapidly growing communities. While work camps should fall within the breadth of socio-economic impacts, there is not a lot of rigour or consistency in understanding their impacts across communities or by senior levels of government. Senior levels of government, however, have the power or regulatory authority to request information from industry that is otherwise not easily obtained by small local governments.

Understanding the positive and negative impacts of work camps has been particularly challenging for small local government staff (Brueckner *et al.*, 2013; Measham *et al.*, 2013). Local governments may not have enough planning and engineering staff in place to renew zoning, process development permits, track and update information about work camps, and respond to the safety and community dynamic complexities of operations associated with both closed and open work camps (Australia Pacific LNG, 2012c). Although it did not emerge in our findings, partnerships between industry and local governments to address local government staffing pressures have emerged in other communities (Australia Pacific LNG, 2012c). If local

governments pursue work camps as another local industry, they will not only need to ensure they have adequate staff resources in place, but also that job roles and responsibilities are renewed in order to develop and maintain long-term relationships with both open and closed work camp operators. Investing staff resources to foster cooperation to track and address cumulative impacts from multiple work camps will help to alleviate resident concerns.

During the construction phase of industry projects, small local governments do not have the tax base and financial capacity to upfront the extensive infrastructure investments that are needed to support work camps and broader industrial development (Morris, 2012). Local governments have been lobbying senior levels of government for more resources and appropriate policies to support growth. A key barrier continues to be senior government's emphasis on short-term funding programs (Dufty-Jones and Wray, 2013). In some jurisdictions, industry-government disputes and political maneuvering to determine who is responsible for investments in infrastructure and programs has left communities with underdeveloped infrastructure capacity and rising housing costs (Haslam McKenzie, 2013). Senior governments also need to step forward to develop appropriate building codes for these temporary structures. The delays in local and senior government responses to address community and economic development needs does little to optimally position resource-based communities to take advantage of the opportunities that are presented by large-scale industrial development.

Moving forward, however, resource regions are not equipped with a good understanding of these unique land uses – an issue that is exacerbated by the absence of interest with work camp issues in planning literatures and courses. Unless efforts are made to understand work camps as an important local government and planning issue, the next generation of planners and CAOs will be equally ill-equipped in their capacity to mitigate the structural, environmental,

health, and social qualities of these developments.  As more communities struggle to respond to the opportunities and pressures associated with rapid growth, there is a need to examine the effectiveness of work camp policies as a tool to improve the quality of work camp living environments and community relationships and development processes.  We need to better understand, however, the scale and scope of work camps.  Further research is needed to gauge the experiences that unfold with work camps that vary in size and proximity to rural and small town places.

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