‘Resources and energy development’: An *International Society for the Study of Rural Crime* Roundtable

Abstract

The extraction of natural resources and the development of large-scale energy projects has had destructive environmental and social impacts on some rural communities throughout the globe.

Convened by the *International Society for the Study of Rural Crime* (www.issrc.net), the roundtable brought together four leading experts who have researched the impacts of population increases and industrial development on rural communities, including the relationships between these booms and social impacts including antisocial behaviour and crime. The roundtable was held online on 8 December 2021 and was moderated by Dr Matt Thomas from the California State University, Chico.

The four panellists discussed the outcomes of their current research and the potential for any energy crisis we may enter in the future.

They responded to two key questions:

1. What are the impacts of natural resource and energy development on rural crime?
2. What can be done about this issue?

The following are transcripts of the four presentations from the panellists on this Roundtable. A video recording of the roundtable can be found at: https://www.youtube.com/watch?v=Pk12tkNKmrA&t=21s

Keywords: rural; boomtowns; oil and gas; law enforcement; International Society for the Study of Rural Crime; United States, Canada

Editors’ Note: This roundtable was organised by our much-missed friend and colleague the late Professor Rick Ruddell. We hope by publishing this edited transcript of the roundtable that his substantial work on rural boomtimes and crime will continue to have resonance, and that it might spark an interest in others to continue his work and build upon his legacy.

A tribute to Rick can be found in Volume 7 (Issue 2) available to download at https://doi.org/10.18061/ijrc.v7i2.9388

Jeffrey Jacquet

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Dr Jacquet is an Associate Professor of Rural Sociology in the School of Environment and Natural Resources at The Ohio State University in Columbus, Ohio, USA. One of the first to study the community-level implications of hydraulic fracturing, Dr Jacquet has gone on to examine the social ramifications of a range of renewable- and non-renewable-energy systems at institutions including the University of Wyoming, Cornell University, and South Dakota State University. At Ohio State, Dr Jacquet leads students through coursework, research and mentorship to examine the areas of energy, environment and rural societies. He is the lead editor of a collected volume titled Energy Impacts: A Multidisciplinary Exploration of North American Energy Development published in 2021 by the University Press of Colorado.

Rick Ruddell had asked me to give an overview to the concept of energy boomtowns and natural resource development and how it relates to crime and criminal justice. I just want to give you a brief introduction about myself. I cut my teeth studying the sociological impacts of natural gas development in western Wyoming for a number of years in the 2000s. I did a fair amount of work on the local community impacts from boomtown development in Wyoming, including working with sheriffs' departments and local law enforcement, emergency management services, as well as a whole bunch of other variables and factors related to boomtown growth in Wyoming.

After that, I decided to get a PhD at Cornell, right as the Marcellus Shale was heating up in New York and Pennsylvania and I was able to study the different types of growth that was happening as it relates to the Marcellus. I lived in South Dakota for a few years: I've done some work on the boom going on in North Dakota in Williston and also communities that were on sort of the outskirts of the boom, which we termed the Goldilocks communities, as it related to boomtown development. More recently, at The Ohio State University, I've been looking at, not so much boomtown communities, but communities that are impacted by coal developments and are sort of in the midst of the energy transition away from coal but that's a whole different story in a way.

For my talk, I want to go over the basics of this idea of the boomtown, drawing from a paper way back from 2014, published in the lovely Canadian journal, *Journal of Rural and Community Development*, which is open access (see suggested readings). So where does boomtown get its name? We usually think of boomtown as this explosion, a boom, in developments which happens very quickly. But, really, boomtown is all about the boom rats working on timber booms, that were the big timber rafts that would float downstream. Towns would spring up where timber rafts were being either loaded up or unloaded at the sawmill and so these towns that would spring up during this time would be called boomtowns. This is not to be confused with the Irish eighties punk band, The Boomtown Rats, although presumably that is what their name is referring to.

Hamlin Garland talks about his boomtown, a timber boomtown in Onalaska, Wisconsin, in the late 1800s. “It’s a rude, rough little camp filled with raftsmen, loggers, millhands and boomsmen. Saloons abounded and deeds of violence were common, but to me it was a poem”. I love that quote because I feel like it summarises so much of the activity in these boomtowns. I also love this logger’s vocabulary – they termed a “boomer” as “A man who doesn’t stay long on any job, generally three days to three weeks. One who works just long enough to get a liquor stake and the wrinkles out of his belly” and I’m not exactly sure what that means but sort of get the idea when it comes to these sort of short-term transient workforces.

The timber boomtown during this time period in the late 1800s had certain boomtown qualities. Generally speaking, they had lots of unemployment or lots of employment opportunities which leads to rapid population growth, which also leads to stressed government community services, high wages but also high cost of living and generally poor quality of life in that the housing stock is busting at the seams, the community’s struggling with the growth, the grocery stores are short staffed and the education system is under stress and so on. Inequalities abound in terms of who’s benefitting from the development and who’s not and that the growth is very volatile and unpredictable and often leads to sort of sharp declines, hence the boom and the bust.

So why increases in crime in these energy boomtowns? I give three perspectives here. One is the demographic perspective, another is a social perspective and then a theoretical perspective.

The demographic explanation is that there’s more people, which means there’s more everything. There are more heart attacks, there’s more people giving birth, there’s more – all sorts of stuff and there’s going to be more crime. In a lot of these communities, it’s unclear if the temporary workers or residents are being counted in the population. So, you see this huge increase in crime but if you were to actually also factor in all these transient workers, then maybe the huge increase actually per capita seems a lot lower. Also, a lot of these workforces tend to be predominantly young men, predominantly with less education. People who study the criminal justice system will tell you that a huge proportion of crime is carried out by younger men, especially like in their early twenties, which is also what a lot of these workforces depend on.

With social explanations – you have lots of newcomers, lots of transient residents, people don’t really know each other, they don’t have a close bond to the community, sort of a work hard, play hard culture, lots of alcohol and drug abuse, increased stress and depression, long work hours. Again, a rough quality of life with overcrowded housing and community services that are under strain and so forth. And also increased fear, distrust of the newcomers and that there just might be more crimes perceived and reported in these places, even regardless of whatever might actually be going on. You saw a lot of this in like the 1970s and the 1980s in the United States, this idea of Gillette syndrome, which were the futility and the

despair of these communities and people living in these communities, that just basically the stress sort of leads to violence and crime and these types of social ills.

Now the theoretical explanation I'd point to. We've got our old dead sociologists, Ferdinand Tönnies and Émile Durkheim and both of these guys were sort of looking at the same thing, which was this transformation from a rural agrarian traditional community-based society to a more industrialised urban society and looking at the changes in how people interact in these different circumstances and Tönnies' Gemeinschaft versus Gesellschaft. In the Gemeinschaft, these small communities where everyone knows each other, they're all very close and there's a strong, group solidarity versus the big city life, where people don't know each other and the bonds are very impersonal and often based off of employment or trade and there's not very strong social mores or traditional values.

And that filters down to social control and how these societies regulate themselves and the informal controls in these traditional societies, social sanctions from the leaders and from elders and from family members. These strong norms and shared values and traditions keep people in line and the worst thing that can happen, you can be ostracised from the community, disowned from your family. These are really important, these informal social controls. Compare this with the big city life, where it's all laws, rules, regulations, bureaucratic systems, the criminal justice system where things like penalties and punishments are often the things that keep people in check in this sort of perspective.

So, in a sense, you could think of these natural resource communities being forced to rapidly modernise or rapidly urbanise, in a way, and that law enforcement, the criminal justice system is called upon to provide these more formal social controls. That there just needs to be more law enforcement, which ends up being more arrests and more crime, so to speak. There are less personal interactions, and the law enforcement is less likely to know people by name and understand their backgrounds and so things proceed more by the book. Instead of DUIs, where they just call the wife to come get them and send them home, they end up putting the guy in jail, for example, which just leads to more strain on the system. These are all just generalities but all three of these theoretical perspectives and all of these changes I've mentioned I have definitely witnessed in the places that I've looked at.

Christopher O'Connor

Associate Professor, University of Ontario Institute of Technology (Ontario, Canada)

Dr O'Connor is an Associate Professor of Criminology at the University of Ontario Institute of Technology (Ontario Tech University). He received his PhD in Sociology from the University of Calgary where he studied school-to-work transitions and perceptions of crime in the energy boomtown of Fort McMurray, Alberta. His research examines energy resource boomtowns, people's use and perceptions of emerging technology, policing, and young people's participation in crime, perceptions of the environment, and school-to-work transitions. Dr O'Connor has recently completed a SSHRC Insight Development Grant examining the risks and opportunities of hydraulic fracturing and related renewable and non-renewable energy technologies. He is currently co-director on a SSHRC-funded Partnership Development grant examining facial recognition use by the police which involves working with a range of multi-disciplinary stakeholders to examine the viability of the technology for police use.

I've been researching boomtowns since 2006 or so. I've done a lot of research in Canada, a lot in Fort McMurray, which is more of a city than maybe a rural area, but also I've done some research in British Columbia and Saskatchewan and North Dakota a little bit as well. Today what I'm going to focus on, though, is young people and how they specifically navigate this sort of environment. I'll give you a bit of an overview but Jeffrey gave a great summary of some of the key issues going on in boomtowns.

Boomtowns are mostly rural environments, often focused around oil and gas, hydraulic fracturing or fracking, mining and, yes, some of the key aspects really relate to young people. I'm going to talk about population growth, this sort of explosion of people coming to these areas, what the community members would perceive as sort of an idyllic rural setting and disrupting the community norms and that sort of thing, which often leads to crime and a host of other issues.

I've often framed a lot of my research around the rapid change that goes on in these communities. It's the speed of the change that often is hard to adjust to in these communities, so you have a lot of social and economic issues, a lot of new people coming into these communities and it really depends on the type of community as to whether they can adjust appropriately to some of these new changes and that'll vary from community. It will vary by resource, et cetera.

I think young people are really attracted to these areas for the job opportunities. There are so many different types of employment opportunities that come up in these boomtowns. A lot of them do not require a whole lot of skill, so there's an opportunity there to really take advantage of some of that. And there's an attractiveness to these areas if you do have skills as well, because you're given a lot more responsibility in a boomtown to take on projects, to

show your skills, whereas if you're in a city sometimes it takes years and years and you're not going to be able to showcase and get right away involved in some of these things.

So, there's an incentive to go and really show off some of their skills and get some of that experience they're looking for. And, of course, the jobs are high paying and that's an incentive for young people to come there. Some of the risks associated with that and particularly for young people – some are delaying education, some are maybe taking advantage of some of the opportunities, so instead of going to post-secondary school, maybe postponing it or going to try and make some money to pay for post-secondary education. Some are not finishing high school and going out to work and trying to get some cash fast and so there are educational aspects that are impacted from the boom.

Often these booms are going to go bust at some point, right, so there's going to be a consequence to that. It's sort of inevitable that the boom will eventually end and so what to do after that and where to go is an issue for young people. Maybe they haven't thought that far ahead. Another key thing for young people is a lack of supporting social services to address social problems like drug use and maybe just recreational activities.

A lot of young people are moving there, but with not a lot of things to do in these areas then they maybe turn to criminal activity and a lot of petty drugs and other crimes. So the crime increases that accompany this often are associated with young people. There are young males concentrated in one area and you get a lot of crimes like simple assaults, driving under the influence, that sort of thing that you would typically find associated with young men.

Interestingly, though, there's not a whole lot of research specifically on youth crime and how that is impacted by resources and energy development. We have a bit but not as much as you would think and so a lot of what has been done has been around the impacts on young people and even this is sparse but it's sort of in and around crime. A lot of young people will have negative views of the community. From some of the research we've done and some of the early stuff from Freudenburg (1986) (see suggested readings), we really found that young people had more negative views of their community and of growth than non-boomtown young people. They felt more alienated in these types of communities and a lot of it has been attributed to a lack of social control on the part of the community.

It used to be this sort of peaceful, rural setting – or at least it was perceived that way – and then with a lot of the migration, that informal social control kind of breaks down and the formal controls as well. Police are overwhelmed and social services are overwhelmed from just the sheer amount of people in the community.

From some of my research, a lot of the crime and disorder that is actually going on in boomtowns is often attributed to outsiders or newcomers. That is sort of the issue. It's as if the crime didn't exist to a certain extent before the newcomers came and so it's often attributed to this outsider. I think there's a good argument that a lot of the resource and

energy developments impact young people to a greater degree than adults. I think adults might have a little bit more experience navigating some of these life challenges and young people are still learning and so that is something that they often struggle with.

I wanted to just talk a little bit about some of my research on young people's perceptions of the environment. I see all these topics sort of related and school to work transitions, crime, perceptions of the environment and whether they want to come to these places for jobs. This is one of the new areas of my research and I'm trying to get a sense of how do young people think about these towns that they're living in.

From what I've done so far, a lot of young people are calling for a balance between environmental risks and economic growth. They want to see the environment respected but they also want to see that economic growth because they have a stake in the economic growth. They have jobs attached to it. Maybe their families are attached to some of these jobs and so they really stake out a middle ground. There are risks to mining and fracking and oil and gas but there's also a lot of growth there as well or potential for growth.

One of the interesting things I'm seeing is that the environmental risks tend to be highlighted for a lot of young people who have experienced harms directly and I'll just give an example. I mean, one of the young people I talked to, their dad had cancer, and that was attributed to the company they were working for. They had direct experience with the potential harms and then they really talked about the environmental risks associated with this. If we think about climate change, this is a key element. Maybe climate change will start to become more and more prevalent as each of us are touched by it on a more regular basis and young people are going to experience this climate change differently. Some are going to be participating in some of these resources that are promoting more climate change, fossil fuel industry in particular and then others might be working in some of these areas that are working on more renewables and that sort of thing.

I'm going to conclude with a few thoughts and some questions that I still have and really I would just make a pitch for more research on young people in these sort of environments. I think it's badly needed. I think we've got a little bit started but if anyone's interested, I think this is a good area to explore. There's lots of questions left and I mean some of the ones that I've been thinking about lately are like: will young people continue to see rural places as attractive places to work?. This is especially depending on if they're associated with more dirty types of mining. Will this still be a desirable place? The pandemic has pushed a lot of people to rural areas; it'll be interesting to see if that sort of sticks or if people end up coming back to the cities. And what sort of new resources and energy developments will be needed to sustain the green economy? I think that's an open-ended question around what sort of new mining, new boomtowns are going to emerge as we try to find new sources of lithium, for example, for batteries.

Thomasine Heitkamp

Emeritus Faculty and licensed clinical social worker, University of North Dakota (North Dakota, USA)

Professor Heitkamp served as a faculty member at the University of North Dakota for 39 years, achieving the highest rank of Chester Fritz Distinguished Professor. She is currently an Emeritus faculty and a Licensed Clinical Social Worker in North Dakota. She also serves as a Behavioral Health Research Specialists for the University of North Dakota – Office of Research and Economic Development. Professor Heitkamp served as Co-PI for a National Institute of Justice-funded three-year study to examine the impact of oil development on inter-personal violence in the Bakken Oil fields of North Dakota and Montana. She has served as the PI on several large grant-funded projects including her service as PI and Co-Director of the Mountain Plains Mental Health Technology Transfer Center and Addiction Technology Transfer Center (ATTC). She has published in a host of peer-reviewed journals with a focus on workforce development serving tribal and rural communities.

Rick asked me to talk about my experience in working in the boomtowns of Montana and North Dakota. This was a National Institute on Justice funded study to look at the impact, particularly on interpersonal violence and what was occurring in Montana and North Dakota. We had done a preliminary study about this, so securing the funding was good because we had done some study about this. Currently I'm at the University of North Dakota. I've retired from my faculty position but I am working as a behavioural health research specialist at UND and pleased to use some of my experiences out in the oil patch of North Dakota and Montana to really underscore some of the behavioural health needs.

I just want to do a shout out to Rick because he's just the most wonderful person to work with, always kind, always thoughtful, always engaged. He wanted me to talk about my qualitative piece of the study. There was a quantitative piece and a qualitative piece and I did over a hundred interviews in the oil patch, talking with people really in the peak of the boom, it was sliding off a little bit that last year but looking at some of their perceptions of oil boom and the impact (Ruddell et al., 2014 – see suggested readings)

Towns such as Williston and Watford City have experienced boom and bust and that creates a community culture, a different type of Gemeinschaft, maybe, in terms of the relationship within the community. The purpose of the study was to look at the impact of the boom on, particularly, interpersonal violence. Some of these communities included Mandaraee, North Dakota, and New Town, North Dakota. That was a new town developed because of Garrison diversion. Other places were Stanley, Trenton, Tioga, Glendive, Glasgow, Helena, Poplar, Sidney, Wolf Point. These communities exist and some of them have that Goldilocks syndrome, more particularly in Montana, but certainly in the heart of the Bakken, you saw all kinds of impact.

I would mention that a lot of the study I did was on tribal lands. It is the predominant minority ethnic culture in both Montana and North Dakota and you see even in the current census how rural these states are: that North Dakota has 762,062 people. So, when we look at our counties, 38 of 53 have less than seven people per square mile. In Montana, 46 of 56 counties have less than seven people per square people. And I would say, I think kids are happier in these communities if they have good broadband and I think that's an issue too: access to technology for kids so they can get Reddit and game and some of the things that they're interested in doing. So in some of the communities, we didn't have good broadband.

A tribal elder, who has since died from COVID-19, spoke about some of the impact on communities because of this boom and bust. You see in the Mandan, Hidatsa and Arikara Nation, which is in central North Dakota, the Lewis and Clark Expedition, fur traders and trappers, the steamboat industry, the settlement of the west, the homesteading, the industrial revolution which eventually brought custom combines, missile silo camps, construction works. All of these things clash and can clash with community culture. So, you see that impact, not just because of fracking which was occurring, and this tribe was hoping to become energy efficient with their own refinery during that time.

Concerns were expressed about those of us who do research, what we do with it, how we explain it. One of the things we made a commitment to doing with this research is we went out to the community. I drove out there four or five times with colleagues to present the findings, talk with people about the findings, we got media around the findings, so the public felt like they can share in the findings. Comments were gathered – many, many pages of data, run through NVivo, inter-rater reliability, hours at the computer.

But I want to share some tribal elder quotes because I really appreciated their involvement and I have tribal resolutions. I met with the Tribal Council to do the study on tribal lands, which I felt was so important. How you involve that community and explaining who you are and the meaning of you being present there in the community when you're doing qualitative research is really important to get those voices.

So just the isolation. I mean, even though a boom is occurring, there is isolation. Gravel trucks are pulling off gravel roads and throwing rocks on to your car, crashing your windshield, right. I was interviewing someone one time and I said, "Well, what's irritating you the most about the boom?". This was in Williston and she said, "That people think they can make a left-hand turn. There's no way you should be making a left-hand turn". Because the traffic's backed up, because these aren't people used to waiting through a couple of streetlights, right, and there's new streetlights going up. So again, maybe some of that Gemeinschaft changes, right, then a lot of concern.

Our research did find an increase in domestic violence and I'm not going to go over the quantitative research today. But the law enforcement: I learned a lot about law enforcement. My background is social work and what I learned was this was putting a lot of stress on law enforcement and stress because they were dealing with a lot of behavioural

health issues. A lot of crisis, a lot of personal crisis and without any supports. If someone needed inpatient psychiatric treatment, the beds would be full and they'd drive eight hours to take them to a psychiatric facility and then have to drive eight hours back and lose that time on the beat. So just that access to addressing some of the behavioural health needs.

I like this quote: the Mandan, Hidatsa and Arikara Nation has one bridge connecting it and this person says, "Who the hell is covering New Town and Fort Berthold? And God forbid it happens in Twin Buttes. Either way, it takes two hours to get there." So, when we were studying domestic violence and interpersonal violence, what we see is the importance of having someone having access to 911, having access to support services and how far they were away.

Since the focus of this roundtable is on crime: a lot of frustration with increased gang activities, increased drugs, increased sex trafficking, drug cartels. "With the oil business now, there's more drugs, more gangs, gang involvement. Like the Mexican cartel is here." You see law enforcement making these quotes or providing this information and I want to say I was just so impressed that they interviewed me and I'd wait sometimes at the sheriff's office for a couple of hours because they'd be busy giving tickets to overweight trucks. And then they'd be busy with one crisis call that was several miles away. So the fact that they participated was really appreciated. And Minot had just experienced a flood just right before the boom really hit, so we had all kinds of issues with just access to services.

Increase in sex trafficking – a lot of the human service workers and law enforcement said, "I think it's sex trafficking". It was the new area or new to defining it really. So, thinking about how you provide those supports and how you do that in very limited domestic violence space. The centres were throwing mattresses on the floor to make room for everyone. Even if they could get money to expand their centre, they couldn't get contractors, they couldn't get equipment. It's some of what we're experiencing now, what we're calling that supply chain, right, they couldn't get it out there. So the trafficking was very much of an issue and they were apprehensive about integrating human trafficking victims with domestic violence victims. Kids were involved. A colleague and I do have a piece published in Child Welfare about child abuse and neglect in the oil patch (Heitkamp & Mayzer, 2018 – see suggested readings).

Illicit drugs – if I could wave a wand, in terms of my perceptions after analysing the data, that was probably the biggest problem. Increase in drug use, particularly methamphetamine and alcohol and the problems with not having treatment. If you needed a psychiatric consult, you had a physician assistant that would do a telehealth in Williston from Minot, which is two hours away. So just getting the kinds of behavioural health supports you needed was very difficult. I like this quote because I think it gets to some of what we're talking about. "I rough-necked in the 70s and anything you wanted you could get on the rig. And so, it was smaller then, but I mean it's here now. This is way beyond anything we had, you know, it's way beyond."

Abuse and neglect – I think we've talked some about that. Impact on health care, emergency providers, ER rooms were full. We interviewed healthcare providers. All of this occurs in a larger context and because as a social worker you're taught to think systems and look at all these systems around the impact, childcare, too expensive to access childcare. It wasn't available. Taking women out of the workforce. Access to addiction services was very limited. Isolation, social policies that hadn't been developed to adapt to a transient population.

Gender based impact of men – the men have wives, they have daughters, they have families. So, we need to think about the impact on the whole family system. And then an increase in diversity. The context was, we have limited labour force, we have a huge housing problem, people were in – you heard about the man camps and you've been to that area to study and so you know about the man camps. In fact, the National Institute of Justice used to say "The man camp study" and you'd say, "Well, it's not the man camp study". But I was able to spend some time there and get to know folks there and some of them were better than others.

Rick asked me to talk about the future. If I had my way, I'd expand affordable housing for people moving into boomtowns. You need housing. We know how to do housing in natural disasters to many degrees, churches do a good job working with the FEMAs (Federal Emergency Management Agency) and with other agencies to expand housing. We're better with telehealth now that we've had the pandemic, so we can more effectively use telehealth with good broadband. We've started to pay attention to childcare now because more women are out of the labour force.

We need to stop the notion that substance use disorders aren't a chronic disease – and treating them like we would diabetes or any other disease, really paying attention to these twenty somethings that you talked about that work in the oil fields that maybe to look at their drinking behaviours or their drug behaviours and need some motivation to change. VAWA (Violence Against Women Act), of course: the full implementation of VAWA and the tribes often talked about the arrests there.

Building restrictions are an issue, transportation barriers. I just read a study: a fifth of our rural roads are in bad shape now and the need to include roads. Primary care providers, if people are struggling with depression and have substance use, are the first place people often go in rural communities and we saw that in the oil patch it is their physician, their family practice physician. So, integrating your behavioural health care with the physical care, and having a cultural piece for that is very important as well.

So when I ended the study, I said, "These are some things I want to do". I looked at rural intimate partner violence in rural communities, looked at law enforcement. I could just see how absolutely exhausted law enforcement was, in particular, tribal law enforcement. A product that we put out recently is called *Healing Our Protectors* (Fox et al, 2021 – see suggested readings) that describes some of the impact on law enforcement with some

suggestions to address compassion fatigue. And this has also been published: *Traumatic Brain Injury and Substance Use* (Lemsky et al, 2021 – see suggested readings). So a whole host of resources based on some of the needs that I saw when I did this research that I expanded.

Rick Ruddell

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Dr Ruddell served as the Law Foundation of Saskatchewan Chair in Police Research at the University of Regina, Canada. Prior to this appointment he served as Director of Operational Research with the Correctional Service of Canada, and held faculty positions at Eastern Kentucky University and the California State University, Chico. Prior to his academic career, he served with the Saskatchewan Ministry of Corrections, Public Safety and Policing as a supervisor and manager. Dr Ruddell's research has focused upon policing, criminal justice policy, and juvenile justice, and he has published over 150 articles and technical reports. He has written extensively about the impact of natural resource booms on rural communities and published 'Oil, Gas, and Crime: The Dark Side of the Boomtown' in 2017 *(Palgrave Macmillan – see suggested readings).*

That's a hard group to follow! All that insight that you have and most of it was gained from qualitative research, actually being in the communities and talking to people and I think that's so valuable and that's something that we've missed a lot of times.

Most of the research done on boomtowns has looked at crime and has found that most offences tend to be fairly minor. Chris and I are actually working on something that we call The Big Four or The Big Five: DUI; assaults; disorderly conduct; drugs; larceny; and we're trying to assess the impact of that on boomtowns. But as at least two of the other presenters have mentioned, there's a lot of emphasis now looking at intimate partner violence and domestic violence and I know that Joe Donnermeyer and Walter DeKeseredy, they're working specifically on issues about intimate partner violence, domestic violence, including some new theories of violence. So I think that that work is going to be really well received.

There's a lot more awareness of the vulnerability of women in boomtowns. I also, just to follow up on what Chris has talked about, raise as an issue what happens after a boom busts and what are the social outcomes. So this is the sort of area that we probably need to take a little bit of a look at, because I think that we see that the boom ends and everyone sort of relieves and think that things go back to normal. However, a lot of these small rural communities are finding that the boom leaves but all of a sudden there's this giant addiction problem that's in the community that never got managed. And then there's an increase in – because everybody's livelihood's been obliterated – what's happening with a lot of the domestic violence going up because all of a sudden the stress increases because of bankruptcies and money problems.

A lot of people I think are going to start taking a little bit closer look at the boom and what happens when it busts. One of the limitations in our knowledge is mostly of the study on boomtowns which have happened in North America. A little bit of work in Australia and New Zealand has been done as well. So, we really have little awareness of the social impacts of booms in other places and I know that Professor Perez-Sindin did some work on Spain and

looked at a longitudinal 30 or 40 years of boom from a big energy project. I think that there's a real value to that.

We really need to increase our knowledge about what's happening in places other than North America. Africa, Asia, Eastern Europe, South America and just what are the impacts of resource extraction and energy development on the peoples. And a point that Thomasine had talked about was vulnerable people. Women specifically and Indigenous people were finding that what in the United States you'd call Native Americans, we'd call Aboriginal or Indigenous people in Canada, but there's a lot of challenges around there and in South America, there's a lot of illegal mining happening right now and a lot of these peoples are just being displaced from their lands by these illegal mines that are happening.

These are big, much more serious crimes than the sort of drunk driving and assaults and drugs and disorder things that are happening in some of the North American boomtowns. Also, talking about issues of environmental and human rights and this isn't really a fair statement but I saw it on a blog. It said, "For each Tesla that's sold, a child dies in the Congo". Now, the person who wrote that was trying to make a point about cobalt mining and we need all sorts of cobalt for the new green economy and I'm going to talk a little bit about the green economy and energy prices and how that might be affecting boomtowns.

Prices for coal, liquid natural gas and electricity in Europe and Asia are skyrocketing and even in Canada, propane is going up 300 percent. Most of these people who need to heat their homes and whatnot are suffering from this and we know that as soon as energy prices go up or commodity prices go up, there's going to be renewed interest in booms. So, we can sort of predict that. Now, I don't know whether this is going to be sustained for a long time but I know that India and China have completely run out of coal and so there's going to be probably an emphasis on extracting more minerals and more mini-booms that are going to be created.

There's also a big push right now for the green economy and to replace internal combustion engines with electric vehicles and this is going to lead to a whole bunch of more extraction of resources in rural areas and we've probably underpredicted the need for these minerals. I just did a little bit of digging the other day, and in 2030 half the vehicles sold in the United States are supposed to be zero emissions. So, everyone's looking at electric cars and there's about 17 million electric vehicles sold every year. If we're going to have 8.5 million electric cars and they all require one of these batteries, those are just the numbers of pounds of commodities that are needed for each one. There's going to be a real demand for new minerals in new places and there's some new areas throughout South America, Africa, Asia that are the sources of some of these minerals and the demands for minerals are going to increase in these places.

One of the things that we might not consider when we're thinking about rural crime is that in nations like Canada and the United States, we're pretty privileged in that we have fairly good rule of law, things are pretty stable and human rights are respected a little bit

better than some of these other places and where the governments are weaker and they're less able to maybe resist the big money that's coming in from some of these firms. The lives of these people are affected not only with the social impacts and crime but also the environmental impacts.

When I spoke about kids in the Congo, one of the problems in the Congo, it's been identified by Amnesty International, is you have these eight, nine, 10 year old kids working in mines full-time and they just have very few protections. The World Bank is estimating that production of battery metals is going to increase by about 500 percent in the next 30 years and one of the estimates out there – and I started scratching my head when I looked at this – is that 50 to 100 pounds of materials are mined, moved or processed for every pound of battery produced.

For every electric battery you have in a Tesla or a Ford or these electric vehicles, it can be quite disruptive to the environment. The lightest Tesla battery is over a thousand pounds. If you're looking at 100,000 pounds of mineral product having to be moved to generate this battery, it's going to have some pretty massive impacts on communities and most of these communities are rural. Amnesty International is pointing out some of the problems from cobalt mining, lithium, nickel and whatnot throughout the world and maybe we're going to have to change our focus as boomtown researchers from ordinary crimes to human rights violations and state crimes.

There is maybe a change there that we have to look at. Now, part of what we were hoping to achieve today is talk a little bit about identifying some solutions and I think a first step is developing some inventories of best practices of what seems to work at reducing the impacts of rapid population growth within these boomtowns. I think one of the big solutions is just getting on top of these things before the problem escalates too much and Thomasine obviously identified the big problems are housing and lack of good municipal services and whatnot.

But what happens is in these small communities, lots of times there's just part-time legislators and part-time council members and they get – this is the job that they do, might get a thousand dollars a year honorarium for doing this job and all of a sudden their communities are slammed with this massive increase of work because of population growth and industrialisation.

Thomasine also mentioned the roads and I think that that's a real good example of the hidden cost to real communities. So, what happens is a boom ends and all of a sudden these communities, counties are left with the roads totally destroyed. It takes about 3,000 trips from a semi-tractor to do one fracking well. 3,000 trips in the lifespan of that well and a lot of these big heavy trucks are just destroying the roads. Some states are dealing with it. Texas, I understand, is working to reduce – actually impose sort of taxes on these companies while the boom is happening and I think that we need to look at shifting the economic cost a little bit to the corporations that are profiting from these booms. I'm speaking as a pretty right wing

person when I'm saying that, so we have to really recognise the harm that's being done to these communities and the people who are profiting should have to pay some of the cost of cleaning these things up.

We also have to develop and refine some theories related to the social impacts of resource extraction and energy development. I think that all of the panellists have contributed in this way, like in terms of a little bit of theoretical development but I think that we need to look beyond what we've already done and look really seriously at developing a better understanding of the dynamics of these communities.

Suggested readings

Fox, L., Belgarde, L., & Heitkamp, T. (2021). *Healing our protectors: building resilience among tribal law enforcement officers through cultural interventions.* Mental Health Technology Transfer Center. Moutain Plains (HHS Region 8).

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Heitkamp, T., & Mayzer, R. (2018). Implications for practice: risks to youth in boomtowns. *Child Welfare, 96*(4), 47-71.

Jacquet, J., & Kay, D.L. (2014). The unconventional boomtown: updating the impact model to fit spatial and temporal scales. *Journal of Rural and Community Development, 9*(1), 1-23.

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