

Problems and Progress: Analyzing Intermunicipal Collaboration Agreements as Complex,
Tightly Coupled Systems

When looking at a map of Edmonton, the first feature one may notice is the ringed highway surrounding the city. Or, one may notice the river running across the city from the top right corner down to the bottom left. Another viewer may notice the density of the streets in the core of the city, and the decreasing density on the outskirts. These highways, rivers, and roads all represent some of the arteries that connect the city. Other infrastructure such as LRT lines and bridges also represent channels that link Edmontonians together.

However, in today's networked civilization, there are a plethora of connections that cross borders and connect cities to other cities, provinces to other provinces, and nation-states to other nation-states. Electricity lines, train tracks, and pipelines cross these political borders, connecting people and resources globally. Khanna (2016) argued that the surest bet one could have made over the last five thousand years was the advance of a global network civilization (p. 35). A vignette in the opening of his book *Connectography* takes readers from Edinburgh to Cape Town without even stepping on a plane.

With connections becoming increasingly global, systems are simultaneously becoming more connected. Linked networks bring benefits such as systems that are more capable and co-operative. However, this increased connectivity also brings about its own set of challenges, as will be outlined in this paper.

Sturgeon County, a regional government in Alberta's Industrial Heartland, is currently negotiating this increased connectivity. The provincial government has mandated that regional governments must sign framework agreements with surrounding regions. By incorporating arguments from Clearfield and Tilcsik (2018), this paper will argue that while these agreements can benefit communities through economies of scale, co-ordinated planning, and shared funding, increased complexity and tight coupling through these agreements can lead to problems; therefore, Sturgeon County needs to reduce complexity and tight coupling by increasing time horizons, conducting face-to-face meetings, and making bilateral not multilateral agreements.

Connected Systems and networks:

Today, the world is more connected because of trade and movements of people and information (Dobbs et al., 2015). This set of interacting and connecting parts is called a system (Government of Alberta CoLab, 2016). This paper specifies that networks, like systems, involve interacting and connected parts, specifically focusing on the relationship of actors and the connections of networks between the actors.

Clearfield and Tilcsik (2018) describe how while some systems are linear, some are more complex. The differentiation between these two types are the ways that parts of the system interact with one another (p. 23). Linear systems proceed through expected ways; complex systems are less predictable, and interactions are often hidden.

Benefits:

There are benefits to increasing connectivity between systems and networks. First, with greater connectivity there are greater economies of scale. Some regions or actors may be better suited to produce or provide a service due to resources, labour, or knowledge. This also encourages people to specialize (Homer-Dixon, p. 112). Increased connectivity can also increase the speed in which goods and services can be produced, shipped, or purchased (p. 113). In addition, economies and societies are more resilient to shock. This is due to greater connectivity and more linkages that can be drawn upon for a vaster network in the event of a shock.

Griffiths and Clemmer (2010) argue for increased co-operation between communities and other actors, including people/volunteers, other organizations, and other communities. Specifically, increased partnerships can provide for a greater chance of success, rather than communities working solo. First, co-operation can help solve problems that cross borders. People may live in one region but work in another. Highways and roads that get people from home to work and back cross borders. Co-operation between communities can ensure that traffic moves smoothly, and congestion is reduced. Second, networks of communities that are connected and working co-operatively is beneficial for investment. Some communities alone may not be large enough to support industry. If there is increased investment in a community, this would require resources and labour from other communities such as housing for workers and their families, shared infrastructure such as roads and railways, and a larger workforce, such as those that live in neighbouring communities. If a petrochemical company invests in one area, it can provide jobs for those living in surrounding regions as well. Although one region may gain increased tax revenues, surrounding areas benefit as well. Therefore, communities that work together and have co-operative networks to attract investments can have greater success.

Further, communities benefit from an increased network of resources. For example, a community library may have a smaller budget, and cannot afford a large collection. However, shared resources – in this case, books – allows people in the community to use books from a neighbouring library. Though this other library may also be small, they would have a different collection. Ultimately, collaboration can benefit both regions.

Complexity and coupling:

In *Meltdown*, Clearfield and Tilcsik (2018) outline Charles Perrow's theory of components that can affect systems (or networks). When studying system failures, he noticed two factors that affected whether there were more opportunities for accidents. The first one is complexity. Systems can be simple or complex. In complex systems, as outlined above, interactions are complex and hidden, meaning that smaller changes can have bigger effects. Further, it would be difficult to know where blame lies and which component needs fixing, or where the breakdown occurred in a relationship. Systems can also be tightly coupled. Processes in tightly coupled systems are more linked to other processes. If something were to go wrong, it would also create problems in other parts of the system. Perrow's theory identifies systems that are complex and tightly coupled as the 'danger zone' where meltdowns can spread quickly and uncontrollably (p. 27).

Background:

In the 2016 *Modernized Municipal Government Act*, the Government of Alberta mandated that regional governments in the province need to develop Intermunicipal Collaboration Frameworks (ICF) and Intermunicipal Developmental Frameworks (IDP) with each region that it shares a border with.

ICF:

These agreements are a summary of intermunicipal servicing agreements (Alberta Urban Municipalities Association, 2018). Municipalities are not required to share services or provide joint services if this is not the best avenue; however, the agreements need to summarize how these services will be delivered. Frameworks must be developed for six identified areas, including transportation; water and wastewater; solid waste; emergency services; recreation; and "any other services that benefit residents in more than one of the municipalities that are parties to the framework" (Government of Alberta).

Because regional governments, as they are frequently referred to, are “creatures of the province”, provincial governments had the ability to mandate such actions. The deadlines for these negotiations was set for March 2020 but lobbying from the Rural Municipalities of Alberta (RMA) convinced the province to extend this deadline to April 2021. To adopt the framework, each regions’ municipal council will need to pass matching bylaws. These bylaws list service providers, and whether services are provided by each municipality, shared, or provided by a third party. Each bylaw also needs to outline the funding and delivery of such services.

IDP:

While ICFs focus on six service areas, IDPs are for land use planning. These documents focus on the future of land use and development, as well as environmental issues that relate to land use and development policy. IDPs are a mandatory component for an ICF to be determined to be complete (Alberta Urban Municipalities Association, 2018, p. 9). While both ICFs and IDPs are needed, this paper will specifically use the term ICFs to refer to these agreements.

Benefits for Intermunicipal Collaboration in Sturgeon:

Intermunicipal collaboration agreements allow for economies of scale. Sturgeon is looking at economies of scale in most areas, including both public facing and non-public facing services. For example, under road maintenance, could one municipality take care of gravel roads more efficiently than having both do so? Another example is to look at program administration, to see if one region could do this more efficiently in terms of costs or staffing.

Another major benefit is to co-ordinate planning for future growth and development. In their ICFs, regions can come to agreements on infrastructure investments that help grow economic development. For example, investments in intermunicipal transit plans can be addressed in the transportation section of the ICF. Increased public transit encourages substantial economic investments by promoting long-term productivity, competitiveness, and improved cost of living (City of Edmonton, n.d.). This investment benefits all regions within the Edmonton Metropolitan Region, including Sturgeon County. Community growth and revitalization can also be planned for. For example, a community hub that is used by residents of neighbouring regions also promotes development in that area. Further, ICFs are meant to encourage co-operation and shared funding. This ensures that Sturgeon is not paying more than it’s share of services, and that it is contributing to services that bring benefits to Sturgeon residents. Shared funding agreements can also build stronger relationships between communities as there is co-operation and less resentment due to inequitable funding.

Challenges for Sturgeon with increased connectivity and coupling:

While there are benefits to increased connectivity, complexity and tight coupling also provide challenges to Sturgeon County. The county needs to complete negotiations with 15 of it’s neighbouring regions. This means there are a variety of actors involved with different agendas.

First, the number of actors increases complexity. Sturgeon County decided to involve political officials in some negotiations, and only involve administration in other negotiations. Political actors involve county/town/city mayors and council members. For example, negotiations with the Town of Morinville and Sturgeon County involve Sturgeon County’s mayor, Morinville’s mayor, Sturgeon County’s deputy mayor, one member of Sturgeon County council and two

members of Morinville's council. These members are joined by administrative staff from each region, with participants including but not limited to CAOs and intergovernmental advisors.

Further, representatives from each region will want a framework that benefits their own community. They will want to fund less of a project, and want another community to fund more. For example, the Town of Morinville is building a new recreation complex in Morinville. This community center is also in Sturgeon County, as Morinville is located within Sturgeon County's borders. The funding Morinville received from Sturgeon County was less than what the town had requested. Sturgeon argued that they "didn't have a lot of input into the rec center's planning process; there were lost opportunities for collaboration on the front end of the project" (Hnatiw, as quoted in Ohler, 2019). When increasing connectivity through agreements like ICFs, the agendas of different actors such as the interests of their community come into play, creating potential for failures.

Complexity is increased because political actors and administrative actors have different motives. While administrative actors have anonymity from the public (with the potential exception of the CAO because of the seniority of their position), political actors need to be re-elected; this is a main motivating factor for them in any decision making. While both politicians and administrators need to be accountable, they are accountable to different groups. Politicians are accountable to voters and may have shorter time horizons for projects. Political actors may also be more likely to change their minds depending on the views of citizens. With this, they may also want to cut spending and gain savings from government operations, often without wanting to cut services (Savoie, 2013, p. 9). Administrators, on the other hand, are accountable to council, not voters directly. They can think with longer time horizons and understand longer-term investments that may benefit the community. They may also be more wary to cut spending, as they do not want their own department funding to decrease. Different motivating factors for the actors involved increase complexity and make the system more susceptible to failures.

These political actors are also not permanent. Every four years, an election may change the makeup of council. Not only may Sturgeon County change their mayor and their council, the other region(s) Sturgeon made or is making agreements with may change; their mayor and council members may not run or be voted out by the electorate. Therefore, an added actor in this network is the electorate. With a plethora of actors in this system, ICFs are a complex system. Further, if new members want to renegotiate and change ICFs, a new bylaw would need to be passed by each council involved in the ICF.

In addition, there are some aspects of the network that are hidden in developing ICFs. One region may not have full information about the priorities, values or budget positions of another town. Their strategic negotiation positions are therefore hidden information. In December 2018, the Mayor of Edmonton declared that residents outside of Edmonton needed to pay for services in Edmonton. He argued that policing, roads, and recreation and tourist centres are paid by Edmonton residents through methods such as property taxes but are visited and used by those living outside the city; thus, this is creating a financial burden, as outside residents are not paying the full cost for these services. Instead, residents inside the city are subsidizing for those living outside the city (Antoneshyn, 2018). After the comments by the Edmonton mayor, a neighbouring mayor said he was "just caught in shock". (Choy, as quoted in Antoneshyn, 2018). Ultimately, due to the complexity and hiddenness of the system, negotiations are more susceptible to failures.

Negotiations are also complex like a web – different aspects of a negotiation can affect other areas. For example, if a community is looking for increased funding in one area, they may be more willing to make concessions in other areas to get the funding they are looking for. In the

example of Sturgeon and Morinville, the decision to not involve Sturgeon in the design process affected a later decision to provide less funding. Therefore, these networks and parts of the system are connected. In this case, the system is tightly coupled. Clearfield and Tilcsik (2018) describe this tightly coupled system as one with little slack: failure of one part can affect failure of another (p. 25). If relations are damaged, negotiations in the future may also be damaged, as regions may be less likely to co-operate or make decisions for the benefit of both regions. Web-like connections also make it more difficult to lay blame in a system.

How to mitigate problems:

With tightly coupled systems that are also complex, smaller errors can turn into larger failures (Clearfield and Tilcsik, 2018, p. 5). However, regions working together do bring benefits. Therefore, Sturgeon must mitigate these errors, reducing complexity and engaging in decoupling.

One way to do this is to increase time horizons. After lobbying from the organization that represents rural governments in Alberta, the province allowed this extended time horizon, increasing the deadline for agreements by one year. Alleviating this time pressure decreases coupling. Having the ability to pause negotiations if they are not working at the time gives an opportunity for participants to re-evaluate and change course if needed.

Second, Sturgeon County should conduct meetings face-to-face. While negotiations with the Town of Morinville have been face-to-face, other negotiations have not yet been started. Therefore, it is important that these are in person meetings. This is because face-to-face meetings reduce the chances of errors. It allows for discussions that involve more than written communication; instead, participants can communicate by body language and mimicking, building trust. It also reduces the risk of a miscommunication. Ultimately, in person and face-to-face meetings reduces complexity.

Finally, although regions are also able to negotiate multilateral instead of bilateral agreements, having bilateral agreements reduces chances of failure. While multilateral negotiations can lead to even greater connectivity and co-ordinated future growth and development because it involves more than two regions, multilateral agreements also increase complexity. For example, an ICF may need to be changed due to a new council or changing funding agreements. All municipal councils would need to pass amended bylaws for this change. Therefore, bilateral agreements instead of multilateral agreements help reduce complexity and tight coupling.

For Sturgeon County, it is not possible to forgo negotiations, as they are being mandated from the provincial government. However, they can mitigate risks of failure by decreasing complexity and tight coupling. Following this strategy, combined with learning from mistakes, will hopefully allow Sturgeon County and it's neighbouring regions to sign agreements that are beneficial to all the parties involved.

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