

The Minister of Transportation oversees Canada Post. In April, 2008 he asked an independent Advisory Panel to conduct a comprehensive Strategic Review of the Crown Corporation. Their report was issued to the public on April 30<sup>th</sup>, 2009:

*“The Advisory Panel looked to and reviewed sectors and companies with similarities to Canada Post, such as the telecommunications, pipeline and utilities, and courier industries. Canada Post has historically been compared to monopoly like utilities such as pipeline, gas and electric utilities, as a large infrastructure, low-growth, safe monopoly-like company with a social mandate in a regulated environment. However technology and globalization have created an increasingly competitive environment for Canada Post, making it closer in appearance to a communications company, as a large infrastructure firm with ongoing capital expenditure requirements functioning in a mature market sector with competition in certain segments.”*

(pg.65 of the [Canada Post Corporation Strategic Review](#))

The task of performing the physical delivery of goods and information throughout a country that comprises almost 10 million square kilometers is daunting; yet Canada Post has until recently been able to profitably uphold its mandate to fulfill its Universal Service Obligation in Canada.

The Communications Industry holds significant technological advantages over Canada Post in the business of the transport of information and is therefore a strong competitor. Yet somehow Canada Post remains able to compete and, while not growing, is maintaining close to traditional activity levels. However other trends in postal services around the world are negative and lead Canada Post to believe that a crisis is in the offing.

During the strategic review Canada Post management told the Advisory Board that they are overwhelmingly burdened by the combined pressures of maintaining its financial mandate while carrying out its public service mandate. Canada Post management asked for permission to reduce its Service Charter:

*“Canada Post would like to modify the moratorium (on the closure of post offices) to reflect demographic and market conditions. It proposes the introduction of a proximity based approach to the issue, as follows:*

- 98% of Canadians will be within 15 kilometers of a postal outlet  
(pg.71 of the Canada Post Corporation Strategic Review )

The Advisory Board concurred with Canada Post management and further recommended guaranteeing only “weekly service to 100% of the Canadian population”.

This [Consultation on the Renewal of Cellular and PCS Spectrum Licences](#) helps to clarify what it means to deliver information to “98% of Canadians”:

**“The deployment of services in the cellular and PCS bands has been extremely successful. PCS and cellular services are in great demand with more than 21 million wireless subscribers in Canada at the end of Q3/08. According to the CRTC’s 2008 report to the government, wireless service is available to 98% of Canadians and covers 20% of the geography. This coverage is significant considering Canada’s vast land mass, which covers just less than 10 million sq. kilometers.”**

**“Although some areas of the country are unserved by cellular and PCS , service is being provided in areas where licensees have determined that there is a viable and sustainable business case.”**

Canada Post and the CRTC are probably referring to the same 98% of our population because service is most economically delivered to our most populated areas. If Canada Post had used CRTC language they might have said:

*“In 80% of the geography of Canada residents will be unserved or underserved ”*

The CRTC implies that they are satisfied with the provision of wireless communications service to only 20% of Canada:

**“The Department is not proposing a condition of licence for deployment for cellular and PCS licenses due to the extensive services being offered and the opportunities available for others to gain access to unused spectrum.”**

The Department notes that there are mechanisms in place for others to expand the footprint. However it admits that the mechanisms are not working:

**“One such mechanism is the use of secondary markets. Transfers and/or subordinate licencing agreements can be an effective way for licensees to establish commercial arrangements with third parties for the use of the spectrum. Licensees may apply to Industry Canada to transfer their spectrum to another entity where the two parties have come to a commercial agreement. Subordinate licencing allows licensees to enter into arrangements where another party can operate within their licensed area without having to completely transfer their spectrum licence(s). Although these options are available to cellular and PCS licensees, the Department notes that there has been limited activity to date in this regard.”**

### Parks

I live in southeastern Alberta near Dinosaur Provincial Park, one of the 34 original World Heritage Sites that was designated by UNESCO in 1979. Dinosaur Provincial Park was in the news recently:

*“[Dinosaur Provincial Park](#) in Alberta, Niagara Falls and Lake Superior will be competing with more than 200 spectacular places around the world in the next phase of a competition to name the New 7 Wonders of Nature, organizers said Wednesday. The three Canadian entrants were among 261 nominees, a list that includes Mount Everest, the Grand Canyon, and Loch Ness.”*

There is no cellular service in the Park.

[Emerson Bridge Park](#) is owned by the County of Newell #4. This beautiful campground on the Red Deer River does not have cellular coverage. Vehicles travelling along Highway No. 36 lose signal in the river valley and the call is dropped; [Traffic Count](#) is about 1200 vehicles per day. How many calls are dropped on a daily basis?

Without cellular coverage campers choose to stay elsewhere. This is oil-patch country and many of its employees are on-call. They have to be constantly in touch with their businesses. So they are unable to camp at Dinosaur Provincial Park nor Emerson Bridge Park - a significant revenue loss for both Parks. Perhaps more important are the health and safety benefits that come with cellular service. This is an age when we expect to be in touch with our school kids via cell phones on their field trips; communications can be critical to the effective handling of injuries or other health and safety problems that occur unexpectedly. Liability may become an issue.

I must assume that the County and the Province have attempted to secure cellular service for their Parks at various times over the past twenty years. If the CRTC 'mechanisms' don't work at the Provincial level and the Municipal level, where do they work?

#### Peak Information

Given that Canada Post and the Communications Industry are the major players in terms of the delivery of information in rural Canada, it is alarming to think that our best days are over, that our collective ability to deliver information to 80% of our country is about to go into decline: the wireless industry appears to have exhausted its ability to expand its footprint, at least with regard to cellular/PCS. And Canada Post says it must reduce its much larger footprint in order to survive, probably to match the footprint of the Communications Networks.

The consequences of allowing a Crown Corporation reduced or withdraw from its public mandate is equally disturbing. What is to dissuade others who are tasked with equally onerous service footprints from taking the same approach:

Their proposals could look like this:

- *“we propose the introduction of a proximity based approach to the issue, as follows :*

*98% of Canadians will be within 15 kilometers of a landline telephone”*

The rural landline network is already under duress. An associate recently told me about her 80 year old father who farms near Nobleford, Alberta. His landline phone – which is strung along a fence – went dead two weeks previously. She says Telus told her they didn't know when they would be able to repair it and advised him get a cell phone.

It is an irony that communication towers have an effective radius of about 15 kilometers, the same as that planned for a new post office service standard.

To bring the wireless communications industry into alignment with the above statements the CRTC might have said:

*“Our licensees adhere to a proximity based approach to the issue, as follows :  
“98% of Canadians are within 15 kilometers of a communications tower ”*

How did the Communications Industry with all its inherent advantages exhaust its ability to role out our precious national public resource – Spectrum – so that only one-fifth of the geography can benefit?

One can appreciate Canada Post’s dilemma. It is confronting steadily increasing costs and other long term trends and disadvantages that are inherent in the physical delivery of information. Yet if Canada Post reduces its ‘full service’ footprint to something similar to that of the Wireless Communications Industry it says it will again be profitable.

Why is the Wireless Communications Industry unable to profitably carry information well beyond it’s current service footprint?

#### The CRTC

##### **5.1 Authority and Requirements**

***“The 2007 Spectrum Policy Framework for Canada (SPF) states that the Department’s policy objective is to maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource. Market forces are relied upon to the maximum extent feasible to promote the efficient assignment of spectrum and to earn a fair return for the Canadian public for the privilege of access to spectrum which is a public resource.”***

How does the CRTC reconcile this statement with its apparent satisfaction with the limited cellular/PCS footprint in Canada?

A vision of universal wireless communications coverage (the whole 10 million square kilometers) must always be the goal! The CRTC must ensure that this licence renewal process does not abandon the vast potential that effective deployment of our Spectrum resource can bring to *all* of Canada.

Community champions (such as information cooperatives, utilities and municipalities) need to be empowered to aggregate all physical and virtual modes of information delivery in the unserved and underserved areas of Canada. Perhaps this would provide the economies of scale to enable Canada Post as a Community champion to retain or even improve its current level of rural service.

Renewal of the cellular/PCS licences must include conditions that look toward a more comprehensive, inclusive communications environment in Canada:

1. It should include aggressive geographic expansion targets for the wireless networks
2. The resale mandate that is presently a condition of licence not only needs to be retained, it must be made available to community champions under terms that allow them to open up rural markets.
  - a. The technical and administrative structure for resale appears to have extended well beyond the original CRTC mandated resale between networks. All networks have forged relationships with retailers – Virgin operates on the Rogers network, Bell (Solo) operates in Alberta under the Telus network, and 7/11 not only represents both of the above brands but it has its own brand (Speak Out). It is encouraging to see that aggregation of networks at the retail level is already with us.
  - b. Our community is heavily influenced by the largest meat packing plant in Canada which attracts newcomers from around the world. Prepayment options allows newcomers to connect inexpensively – a critical benefit to them when they are starting out; they upgrade to term plans after they become established. They can purchase a cell phone for as little as \$40 and can buy airtime in increments as small as \$5. Cell phones costs can be further reduced by purchasing long distance calling cards for less than 10 cents/minute from resellers such as retailer 7/11. At their most vulnerable time, these new products enhance connection as never before.
  - c. Gaming and music are now becoming part of the mix.
3. Current research and development commitments of the licensees should be retained. Perhaps proceeds could be directed to the planning and design of rural information aggregation facilities.
4. The licence rate structure should be revised to provide incentive to the licensees to develop or pro-actively partner with third parties to bring service to the unserved and underserved areas of Canada.

‘A man’s reach should exceed his grasp, or what’s heaven for?’ Robert Browning

#### The key potential role of transportation networks

Canada has been at a similar vantage point in the past. The origins and development of the Transportation Industry in Canada contain inspiring examples that the regulators of all enterprises that transport information need to draw from in order to realize its potential for Canadians.

Around the time of Confederation, the Transportation Industry was called upon to play a pivotal role for Canada. Our very sovereignty was at stake and our forefathers made a far-reaching decision. They formed a private/public partnership that built the first

national Transportation Network – the railway. By opening up the frontier areas our leaders hoped to assert our claim over vast uninhabited tracts of land.

The gamble was immensely successful. The northward expansion aspirations of our southern neighbour were allayed. Canada solidified its claim over its existing territories and the promise of a national railway brought British Columbia into Confederation.

Not only did the Canadian Government award land to the railroad, it awarded land to the settlers. The frontier areas began to fill up and communities began to form. Some grew more quickly than others (by being strategically located near the railway) and they became towns and then cities. The government gift of land to both the railway and to the people was immensely successful. It set the stage for the arrival of vehicular transportation and the ensuing development of the road system.

Today ‘government land’ takes a new form: Spectrum. For the past twenty years in Canada the ‘spectrum railways’ have aggressively expanded into the areas of highest population. In the 19<sup>th</sup> century the railways had no intention in serving beyond the populated areas of south central Canada. The populated areas of the 21<sup>st</sup> century that the communications industry is now serving are limiting themselves for the same reason. Although both were and are solid commercial ventures that provide great benefit to most of our citizens, their agenda does not accommodate all of our public and national interests.

That role must be played by government and its regulatory agencies. They must ensure that our spectrum is allocated under conditions that provide for the optimization of our publicly owned resources.

### Canadian Sovereignty

The gradual decline of our collective will to bring services to rural Canada is now decades old. Its problems therefore may not be a sufficiently compelling reason for the CRTC to act on its own merits.

However it is possible that Canadian sovereignty over our vast northern expanses may again become an issue. Do not discount the possibility that the dissemination of information networks can have the same impact as that past brave decision to build a railway from sea to sea.

One day our national salvation may be the build out of a wireless communications system from sea to sea to sea. It is time for our government to recognize the incredible unifying and stabilizing potential of Spectrum.

### Paradigm Shifts

Other dramatic changes are occurring in information based industries. The journalism industry is in crisis. Online competition has decimated traditional revenue streams. Journalism is seeking viable ways to sell and deliver their product. The advertising industry and the music industry are in similar straits.

Wireless technologies may be part of the solution for their survival. The coming reduction in the delivery of physical information in Rural Canada may set the perfect environment for the aggressive transition to wireless based information transmission and

receipt. Empowered information aggregators in unserved and underserved areas could be the pioneers of new approaches to the delivery and receipt of information.

During his acceptance speech for an award, long time rancher Tom Livingstone stated that several decades ago the average farmer/rancher was 40 years of age. Today it is 65. A shift in rural demographics is inevitable. Would a new breed of educated, aggressive and adaptable young people be attracted back to rural Canada if a new pioneering opportunity was to present itself?

The forthcoming build out of the AWS spectrum will be a true wireless information highway. By comparison the cellular/PCS networks in Canada are information gravel roads (maybe with shoulders).

The billions of dollars that were exacted from the Communications Industry through the recent AWS auction will inevitably come at a cost: the resulting networks will likely be more closed than ever as they justifiably attempt to amortize their increased costs. It is therefore highly unlikely that their footprint will expand beyond the cellular/PCS footprint.

The public asset is Spectrum. The Spectrum for the first cellular networks was wisely licenced to the Telecommunications Companies in the pioneering days of the 1980's communications frontier. Canadian telecommunications companies undertook the venture at great risk and happily, are being rewarded. However the public interest has not always been served.

The fact that an internationally known Park is without cellular service after twenty years of wireless growth is a clear indication that change is needed. The CRTC needs to open up the networks in the unserved and underserved areas to parties that prioritize the public interest and our national interest. This will benefit the telecommunications incumbents because their customers will have service in more areas and more revenue will be generated.

The Communications Industry operates completely inside the scope of the Transportation Industry. That is, the Transportation Industry transports *physical* people, goods and information. The Communications Industry - for all its incredible capabilities and potential - is limited to the transportation of *representations* of people, goods and information. It doesn't transport the real thing, although its simulations of reality are increasingly valuable and are commonly employed by all of us.

In performing its task, the Communications Industry selects a particular aspect of real people, of goods or of information; then it transforms that aspect into spectrum. Spectrum has the characteristic that it can be transported almost at the speed of light. So the representation of some aspect of the person or the product or the information can be transported almost instantly to almost anywhere.

For example two aspects of people are their ability to speak and their ability to hear. Before the Communication Industry came along, it was necessary for two people to

physically transport themselves into close proximity in order to speak with one another. As we all know the Communications Industry came into prominence with the Public Switched Telephone Network which was so good at transporting representations of voices in real time that people sometimes felt like the other person was right in the room with them. It was and is so effective that people make sure that they have telephone service in their homes and in their businesses.

Even before the telephone the Communications Industry began transporting representations of information via the Telegraph. The sender was able to send information in text form. A major limitation was that the sender and the receiver of the information had to physically transport themselves to the specialized sending and receiving facilities in order to communicate. But the quality of the information was perfect: the representation of information that the receiver was reading was completely satisfactory; it was very difficult to differentiate between the 'real information' and the 'representation of information' that they received. Today most people have a far more convenient 'telegraph' in their own home too - the Internet.

Both the telephone network and the telegraph network transformed representations (of aspects of people and of information respectively) into spectrum so that it could be instantly transported to the intended receiver of the information. At the receiving end it was transformed back into a close approximation of reality.

So the early successes of the Communications Industry were in transporting representations of people and representations of information. These representations are getting better and better every day.

But it's still just transportation.

So far the Communications Industry's only real weakness as compared to the Transportation Industry has been with regard to the transportation of goods. If we want a blender, a representation of a blender just doesn't make a daiquiri; we need the real physical thing. The Transportation Industry still dominates this market.

### Wireless Communications

The advent of wireless technologies has dramatically enhanced the ability of the communications industry to transport various representations of information. The parties that are involved in the communication are no longer limited to particular sending and receiving points. As long as they are anywhere within the footprint of a wireless network they have access to varying levels of virtual transportation services.

There is no evidence of wires to help us understand the virtual transportation infrastructure: no matter how long you stare at the sky you cannot discern whether there is spectrum pervading it. There may be private and public paging and two-way radio spectrum, analog cellular, digital cellular/PCS, or any combination depending where you live.

That is just one more advantage of wireless Communications Networks over the Transportation Networks: they can all share the same physical space. Which is why aggregation is technically so straightforward.

Whereas each Transportation Network – boxcars/railways, vehicles/roads, planes/airports, ships/waterways – mostly has to operate in its own exclusive space and each has its own market and public service niches.

### Canada Post

This limitation of the Transportation Industry is partially overcome by the existence of commercial and public service entities that aggregate the various modes of transportation. Canada Post is a well known example of a transportation aggregator. Canada Post strategically utilizes combinations of the transportation networks to physically transport goods and information.

A Post Office and a Communications Tower are very similar: they are both part of national networks that receive, process and deliver information. They are an intelligent part of networks that initiate the delivery of outgoing information and that complete the delivery of incoming information to end users.

I submit that the reason that Canada Post is able to compete with the Communications Industry in the information delivery field is that the Transportation Networks that constitute the Transportation Industry are organized in a way that serves both the commercial interests and the public interests of our nation. The Communications Industry is not.

### Open and Closed Networks

Even within the Transportation Industry some Transportation Networks are very open and flexible and others are not. Our road system in particular is very open. It caters to all vehicular transportation needs. Our rural roads are readily accessible and extend into remote areas based on public and community needs.

Other networks like the railway system are quite closed and relatively inflexible. Their approach in Canada has brought the Canadian railway system to the second highest level of freight performance in the world as measured by [tonne-kilometers per capita](#) (Russia is first). However it must be noted that in terms of [passenger kilometers per capita](#), we aren't even on the charts (Russia is first). So even though rising fuel costs have made rail travel a comparatively efficient mode of personal travel, the Canadian network is for the most part closed to passenger service. Closed networks like the railway are good at what they care about. But what they care about is not necessarily reflective of the full range of either the public interest or the national interest.

### Castles in the Air

Our wireless Communications Networks are tending to look much more like railway networks than like road networks. They want complete control over the rails/spectrum and the boxcars/wireless devices and the freight/content. That is their earned right. But those rights should not prevent Canada from moving ahead in areas that are beyond their commercial interest. We now have a solid communications core from which to extend services into rural Canada.

Our government needs to recognize that our precious resource – radio spectrum - could be called upon to carry out the same role in the 21<sup>st</sup> century as was played by the transportation industry in the 19<sup>th</sup> century. We should be constructing the ultimate contingency plan.

And one of the first steps should be to take another look at our [castle walls](#).