The Triple Helix Model: Stratford’s Public/Private/Education Partnerships

Mutually reinforcing relationships between sectors have vaulted Stratford, Ontario, into the international spotlight as one of the world’s intelligent communities. Could it work for your community?

Depending how you look at it, this is either an exciting or daunting time for communities. In Stratford, we’ve opted for the former.

This isn’t to downplay the challenges – the disruption of traditional industries, shrinking resources, the economic downturn, sagging employment and rising household debt levels have us all searching for the way forward to renewed prosperity. And Stratford has not been immune. We have seen our fair share of win-some-lose-some plant openings and closings, costly municipal infrastructure upgrades and budget strains. However, we also see encouraging growth as a result of our efforts to forge alliances to carry the city into the emerging digital economy.

Our designation as one of the world’s “Top Seven Intelligent Communities” for both 2011 and 2012, selected annually from over 350 cities around the world by the New York-based think tank, the Intelligent Community Forum (ICF) www.intelligentcommunity.org, has drawn international attention to our initiatives to position Stratford as a technology centre specializing in digital media.

(I’m happy to add that Windsor-Essex ON was also among the Top Seven last year, and we are joined by Quebec City QC and St. John NB for 2012.)

THE TRIPLE HELIX
The key to revitalizing Stratford’s manufacturing base, bolstering our community network and fostering new areas of economic growth, has been the City’s strategy of cultivating the “triple helix” of partnerships between public, private and education stakeholders – complementary, mutually reinforcing alliances between government, business and educators. In our experience, cooperation, collaboration and interdependence is not just a collective defense strategy, but a promising growth dynamic for this era.

In addition to ICF’s perennial five indicators of an Intelligent City (broadband penetration, knowledge workforce development, online innovation, digital inclusion, and marketing and advocacy), they add a sixth theme each year, such as broadband use in education, healthcare or government services. For 2012, it is “Platforms for Innovation” – essentially the ecosystems in the city that inspire new uses of digital resources.

In keeping with that same theme, let me illustrate two such platforms for innovation in Stratford that demonstrate how triple-helix collaboration among the public, private and education sectors leads to exciting developments. I hope they will spark ideas for your own community.

REVERSING THE BRAIN DRAIN
Like many small cities, brain drain has been a longstanding problem for Stratford. Typically, our youth leave the city for college or university and establish their careers in larger centres, with a trickle returning later to raise a family or for the appeal of Stratford’s cultural ambience. We needed a local post-secondary option for our own kids and something to draw other young adults to our city. Also, colleges and universities are proven business and employment generators.

In 2006, a conference of the South Western Economic Association hosted in Stratford led to a series of conversations with then-University of Waterloo President, David Johnston (now Canada’s Governor General), and then-Dean of Arts, Ken Coates – Stratford wanted a post-secondary presence, UW was looking for fresh off-
campus options. Excitement about the possibilities quickly resulted in a Memorandum of Understanding between the City and University to create a new UW campus in Stratford that would focus on digital media, marrying UW’s strengths in technology and business with our city’s strong suits in arts and culture (what the digital world calls ‘content’).

THE RIGHT MIX
By identifying the right public, private and education thought leaders, a digital media cluster emerged practically overnight with various stakeholders motivated to bring different contributions to the table: the Province of Ontario put in $10million, the Government of Canada contributed $5.35million, the City of Stratford provided $10million plus a $4.5million downtown property for a new campus building, and Waterloo software giant OpenText committed another $10million. The University brought to the mix their innovative technology culture, experienced education personnel and UW’s heavyweight brand equity.

What quickly evolved is now a four-part cluster of new, complementary institutions:
- University of Waterloo | Stratford Campus – innovative Master, Bachelor and professional development programs that marry digital media and global business, emphasizing live work projects with 20 technology companies;
- Canadian Digital Media Network – a federal Network of Centres of Excellence co-founded in Stratford and Kitchener-Waterloo, with 24 research commercialization sites spanning the country;
- Stratford Institute for Digital Media – a national broadband and digital media think tank headed by Ian Wilson C.M., formerly Canada’s national Librarian and Archivist;
- “Canada 3.0” – Canada’s premier digital media and broadband conference and technology showcase held annually in Stratford.

This public/private/education cluster forms a platform that addresses academics and talent generation, commercialization and business formation, policy and benchmarking, and marketing and advocacy. We now have an ecosystem of innovation that establishes Stratford as a digital media mecca.

INNOVATIVE DIGITAL INFRASTRUCTURE
In the 1990s, access to high-speed internet went from novelty to necessity to assumption. The challenge was that Stratford was a small market that didn’t figure heavily in the large telecomm companies’ agendas. We faced the prospect of forfeiting business development opportunities in the emerging digital economy for lack of broadband infrastructure.

The City’s electrical utility commission stepped up and began laying optical fibre in 1992 for large industrial and institutional customers that needed to network multiple sites. Over the ensuing years, the utility invested $1.2million and the network grew to 40km of ‘dark fibre’ and produced significant municipal revenue. The fibre network made Festival Hydro a sort of early-stage data utility, sometimes referred to as a ‘utelco’.

In the interim, the Province of Ontario went through a privatization phase calling for the divestiture of municipal utility commissions – the City of Stratford faced the prospect of ceding control of this critical infrastructure. The City’s response was to create Festival Hydro, a wholly owned utility corporation with the City as sole shareholder.

In the short term this public-private move proved to be strategically advantageous. Along with maintaining control over the local utility, the City also acquired six other local distribution companies securing a steady, yearly flow of revenue to the City.
The City also maintained control over a core city function and influence over issues such as energy conservation and sustainability.

In the longer term the City was keeping its options open to leverage its complementary electrical and optical fibre networks. Stable power is a key consideration for businesses in the knowledge economy. Upgrading to an advanced self-healing power grid as an economic development feature was a significant investment decision we could make for ourselves, which kept the City’s power infrastructure in line with the City’s technology-oriented brand.

**HIGH-SPEED CITY**

A few short years later, that decision opened even more exciting prospects. In 2008, the Ontario Energy Board mandated that electrical utilities adopt ‘smart meters’ to enable time-of-use billing and to encourage off-peak usage and energy conservation. With 18,000 residential and commercial meters in and around Stratford, this was going to be a technical challenge.

Festival Hydro and the City opted for a Wi-Fi data backhaul system stretched out like a big-top over the city’s fibre network. The upshot was that anywhere Festival Hydro had an electricity meter, there would be high-speed internet access.

Communications juggernaut Motorola was keen to partner with the City and tackle the challenge of a community-wide, redundant wireless mesh network integrated with the optical fibre to create a hybrid ‘broadband sandwich’. Festival Hydro expanded the fibre network to a 60km loop running throughout the city, and Motorola came on as the lead vendor to work with the utility in rolling out the Wi-Fi network in a remarkable six months. The significance of the project prompted Motorola to produce a documentary film to showcase Stratford’s system around the world.

**ANOTHER PUBLIC/PRIVATE OPTION**

A ubiquitous, mobile wireless internet platform opens up a whole dimension of possibilities for municipal services (work crews, emergency services, transit, WLANs, etc.) but the City saw that Festival Hydro was too closely regulated as a utility (in terms of income, business activities and competition) to make the best use of the commercial possibilities. The City wanted more leeway to leverage the system for economic development and revenue opportunities.

So the City hived off Festival Hydro’s fibre/Wi-Fi broadband assets as a new City-owned company, Rhyzome Networks, which would be free to operate as an entrepreneurial digital infrastructure company. Rhyzome was conceived as “a carrier’s carrier”, wholesaling Wi-Fi and fibre access to local cooperative ISPs, regional telecoms and even the national incumbents. A couple of local ISPs have signed on, Rhyzome is now selling direct to industrial users, and a new ISP company just launched expressly to retail residential and mobile access to the Wi-Fi. At bargain prices.

**PUBLIC-PRIVATE PROVING GROUND**

The presence of leading edge broadband infrastructure in a small, discrete, contained city of 32,000 has also attracted pilot projects in the LED lighting and ‘smart home’ space involving international corporations such as Toshiba, RIM, Onkyo, AnyCOMM, Bridgelux, Molex and LeoNovus. These companies have discovered in Stratford a forward-thinking populace, creative business culture, and leading edge infrastructure offering manageable size, with enough critical mass to yield meaningful results, yet scalable for global markets.
The private sector use of this publicly owned broadband platform is precisely the sort of activity that Stratford is looking for in its strategy to reposition itself as a technology centre specializing in digital media.

PUBLIC, PRIVATE AND EDUCATION

On the education side, broadband and digital media are pervasive and on the forefront of what are happening in the city. All of Stratford's public and Catholic schools, the Stratford Public Library and UW/Stratford campus are using Rhyzome's fibre and Wi-Fi network. Stratford Central Secondary School has piloted two "Specialist High Skills Major" programs in ICT and Digital Media – these include co-op placements with local digital technology companies.

For the University, the City's demonstrable commitment to the creation of a broadband economy was a key factor in deciding to invest in an innovative, post-secondary program devoted to the creation and commercialization of digital content. One of their criteria was that technology companies would be directly involved in their curricula with live work projects, but there had to be data infrastructure to make that scenario work.

FULL CIRCLE

In turn, the City fully expects that the ideas and newly experienced talent coming through the high school and university programs will lead to new business formation in the private sector, with new employment and a talent pool that will foster technology startups, attract tech SMEs, and lure large enterprises to join the likes of Scotiabank's worldwide IT services department and national mortgage data centre, and the RBC Royal Bank back office support centre located here in Stratford. Not to mention reinforcing the tax base.

And around it goes. In 1997, the City undertook a soul-searching SWOT analysis and public consultation to take a sober look at Stratford's options to catch the next wave of economic and civic prosperity – presciently titled "Vision 2010", the year we made it into ICFs Smart 21 and Top Seven.

I am convinced that some reflection, an articulated set of goals and markers, and the willingness to forge triple-helix alliances toward those goals with the public, private and education sectors, can put your community on a path to renewed prosperity and healthy growth.

Dan Mathieson, Mayor of Stratford, Ontario.