THE SECRET 5G BUILDING ASSESSMENT CRISIS

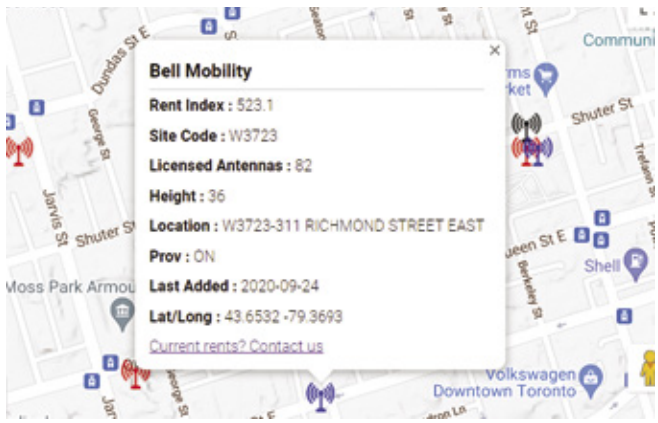
By Roy B. Bennett, President, Antenna Management Corp., Vancouver, BC

Why should assessors care that the world is shifting to 5G? Canadian telephone companies (telcos) are deploying $45 Billion over the next five years to bring 5G networks to urban and rural areas. For the last 25 years, telecommunications in buildings have had a *de minimis* effect on asset values. Existing 4G rooftop antenna leases typically generate millions of dollars annually, but owners usually receive less than 0.5% of the profits.

The 35,000 Canadian cell antenna leases – usually SROW on lands and leases with easements that flow with the lands – have posed challenges for assessors. To start, there are no rent or asset comparables. Imagine doing assessments with no comparables. Neither are there audit records. Telcos keep all terms and rents confidential, even though they register a 'sanitized' short-form easement on the title to control their lease access. Annual rents are usually indexed every five years to CPI, run for 20+ years, and are almost always renewed. Site capacity (and gross revenues) are typically increased every two years. Leases have a cash assignment value – currently about 15 times annual rents – but many agreements deny owners the right to assign the leases, especially before a property sale. Liabilities for owners can include uncontrolled sublets to third parties, overbuilt equipment weight, building penetrations, Safety Code 6[1], lightning grounding antennas to building systems, no access logs, identification, insurance, safety equipment, training certification, membrane damage reports, Covid-19 screening, criminal record screening of telco subcontractors, no copies of permits or inspections signed by telcos, and owner's hydro used but not paid.

With short telco termination clauses (about 90 days), no comparables, no rent increases (ignoring inflation), minimal control, undisclosed benefits to other carriers, etc. – appraisers may be uncomfortable commenting on valuations of 4G cell antenna leases.

The Rent Index (RI), proprietary to Antenna Management Corp., is an audited source to compare cell sites in Canada for 10 years. The RI uses Industry Canada licensing data to determine the current licensed capacity of every cell site – with this information updated every 90 days. The RI is location-independent. Integrating audited quarterly carrier security filings with the RI, an estimate of the average gross revenue for each license is made. For example, an average Bell/Telus location with an RI of 200 grosses about $3,000,000 annually.



4G SITE ESTIMATED ANNUAL GROSS $3,000,000

Owners with limited knowledge and no comparables often receive under $60,000 annually. With professional lease reviews, appraisers have opportunities to understand existing lease terms and rental incomes for valuations. As more capacity is needed, telcos increase the RI about every 24 months. 4G cell networks reach kilometers and can service thousands of phone calls simultaneously as users move from cell to cell. The area of a 5G cell can be one building.

VIDEO TO CELL PHONES

Then came 4K video to cell phones – Netflix on cell phones – a game-changer. Online video will make up 82% of all consumer internet traffic by 2022 in Canada. A single 4K video can use the bandwidth of 1,000 phone calls. So telcos are scrambling to launch 5G.

Having 5G may improve building occupancy, rents, tenant satisfaction and appraisal valuations. The 5G technology is 100 times faster and has 1,000 times the capacity of 4G. Rogers, Telus and Bell are estimated to be spending $45 billion to deploy 5G over the next five years. Additionally, for buildings, 50 billion (Internet of Things²) devices are estimated worldwide for 2023. For buildings, they include HVAC, Covid filters, water leaks, pumps, heating, access monitoring, elevators, fire, smoke, security, asset tracking, location tracking, distance monitoring, and remote management tools. All rely on 5G capabilities.

In Canada, the Innovation, Science and Economic Development Canada (ISED) was auctioning 1,504 5G spectrum licenses starting in June 2021. Rogers is buying Shaw Communications, if the CRTC allows it. Shaw owns Freedom – so Freedom sites may be at risk of termination for owners depending on adjacent antennas. Critical for the assessment of Freedom site revenues, appraisers should expect considerable consolidation of ownership of all cell sites in the next five years. Some smaller telcos have a 5G spectrum, but not the resources to compete in the 5G market.

> "THESE FREQUENCIES HAVE SPEED AND CAPACITY, BUT ONLY CARRY 100 METERS AND ARE ABSORBED BY WINDOWS AND WALLS. 5G PHONES WILL NOT WORK EFFECTIVELY INDOORS. IT IS ESTIMATED THAT CANADIANS CURRENTLY ACCESS THEIR PHONES INDOORS 85% OF THE TIME- AT WORK AND HOME."

DEPLOYING 5G MICROSITES

5G microsites are being deployed at a 10 meter height on hydro rights-of-way. So why not deploy 5G on existing rooftops or tower sites?

5G technology poses a major problem for buildings. To carry the speeds and capacity of 5G, telcos are licensing frequencies above 24 GHz – the so-called 'mm' bands. These frequencies have speed and capacity, but only carry 100 meters and are **absorbed** by windows and walls. 5G phones will not work effectively indoors. It is estimated that Canadians currently access their phones indoors 85% of the time- at work and home.

Think about the consequences of tenants being unable to use their 5G phone capabilities indoors.

One alternative is using Distributed Antenna Systems (DAS) connected to fiber in order to distribute signals to micro antenna access points (AP) in rooms and common areas. The telco carriers

have limited plans for indoor 5G AP in larger shopping centers where they are deploying DAS. Their business model may not justify the cost of 5G indoor deployment in most buildings. This leaves owners with a problem and appraisers with a new variable.

With the focus on outdoor 5G deployments, the time to install DAS in-building will likely be delayed – possibly for 5+ years. The major telcos are marketing 5G phones, but 5G services are expected to be limited to 4G-type speeds indoors for many buildings and may take years for full 5G deployment.

APPRAISAL CONSEQUENCES

What are the potential appraisal consequences? Owners who wish to attract and keep tenants that want 5G at home and at work will look to 5G DAS facilitation pre-planning of their own initiative. New buildings and rebuilds are especially well suited for 5G pre-planning.

Telcos are currently promoting new Fiber Access Agreement (FAA) options to obtain exclusive future 5G and telco building rights in perpetuity with minimal or no rents and limitations for tenant's choice of services. Before signing an FAA, owners should obtain professional and legal reviews. 5G limitations may affect valuations until 5G is installed indoors.

Millennials and early adopters constitute a substantial number of tenants that consider 5G not a convenience but a necessity. They will quickly vacate a building without 5G access. Owners relying on telcos to promptly deploy 5G DAS may be in for a long wait, with potential vacancies as a result.

Finally, many health and safety systems including HVAC, viral air filters, control systems and health tracking will be available with 5G technology. Deployments could enhance revenues and assets and reduce liabilities. Owners could demonstrate they are more health compliant.

Appraisers might include DAS preparation and active 5G installations for appraisal estimates for the next five years. There is little doubt that owners will want 5G buildings to enhance tenant experience and satisfaction.

END NOTES

[1] Safety Code 6 is a federal telecommunications test measurement to ensure that the RF (Radio Frequences) levels that a transmitter broadcasts are safe. It is a license requirement for all telco antennas in Canada. Canada has one of the strictest safety requirements in the world.

[2] IoT or Internet of Things are devices that have sensors embedded in them. For example, many new appliances, thermostats, watches, lights are IoT devices for connecting to the internet via cell phone & WIFI. Most homes now have at least 10 devices – expect 50 by 2025. 5G will facilitate them.