



Data Storage Opportunities in Timmins, Ontario, Canada



Timmins Economic
Development Corporation
Corporation du développement
économique de Timmins

Top Ten Reasons to Locate Your Next Data Centre in Timmins

- 1 Favorable climate for free and alternative cooling
- 2 Availability of green, carbon neutral power
- 3 Attractive electricity pricing
- 4 Security and stability – politically, economically, and physically
- 5 Excellent communications infrastructure
- 6 Location and Accessibility
- 7 Access to ICT skills and technical skills
- 8 Low cost property and real estate rates
- 9 Competitive corporate tax rates
- 10 Government support and available incentive options to support set-up

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Energy-Saving Opportunities

Timmins' cool climate translates into reduced energy consumption driven by natural free air cooling opportunities and other green alternatives making it an ideal location for data centres. With naturally cool weather, Timmins experienced an annual mean cooling degree days (CDD) of 0.4 in 2020.² CDD's are equal to the number of degrees Celsius a given day's mean temperature is above 18°C (65°F).³ This measure is often used to estimate how much air-conditioning or cooling is required in a year and demonstrates that data centres in Timmins benefit from a low power usage effectiveness ratio (PUE), quickly translating into lower energy consumption and, in turn, costs.⁴

Only five months of the year (May to September) usually experience temperatures in excess of 18°C (65°F) with July seeing the greatest amount of CDD's.

Timmins has many freshwater lakes and rivers with cool temperatures that can be harnessed in innovative and eco-friendly ways as a means of providing alternative natural cooling systems, reducing the need to install mechanical chillers. Co-locating next to a lake or water source still affords data centres with ample flexibility: bodies of water are located throughout the area in both central, urban settings and more secluded, yet accessible, rural locations. There are existing sites located near these bodies of water that could be potentially developed into data storage facilities. Other potential cost saving opportunities; such as biomass, could also be explored.

	Mean Cool < 18°C (65°F)		Mean Daily Temperature (2020) ⁵		Mean Daily Max. Temp. (2020) ⁶		Mean Daily Temperature (2019) ⁷		Mean Daily Max. Temp. (2019) ⁸	
	2020 ⁹	2019	°C	°F	°C	°F	°C	°F	°C	°F
January	0.0	0.0	-11.4	11.5	-6.3	20.6	-20.1	-4.1	-12.9	8.8
February	0.0	0.0	-12.4	9.7	-6.0	21.2	-17.0	1.5	-10.1	13.8
March	0.0	0.0	-3.7	25.4	2.9	37.2	-9.0	15.7	-1.5	29.3
April	0.0	0.0	-1.2	29.8	5.1	41.2	0.1	32.2	5.1	41.2
May	0.6	0.0	8.2	46.7	15.0	59.0	7.1	44.8	14.0	57.2
June	1.4	0.4	15.9	60.6	22.9	73.3	14.0	57.1	21.3	70.4
July	2.3	14.7	19.9	67.9	26.6	79.8	18.7	65.6	12.1	53.9
August	0.9	0.3	16.2	61.1	22.7	72.8	15.9	60.7	23.4	74.1
September	0.0	0.1	10.7	51.2	16.4	61.5	11.1	52.0	16.9	62.4
October	0.0	0.0	1.5	34.6	6.2	43.1	5.1	41.3	9.8	49.6
November	0.0	0.0	-0.6	30.8	3.2	37.7	-6.8	19.8	-3.3	26.0
December	0.0	0.0	-9.6	14.7	-5.2	22.7	-11.7	11.0	-6.5	20.3
Annual	0.4	1.3	2.8	37.0	8.6	47.5	0.6	33.1	5.7	42.3

The Timmins Economic Development Corporation would work closely with and provide assistance to interested developers to secure necessary approvals from agencies such as the Ministry of Environment, Conservation, and Parks and the Department of Fisheries and Oceans.

² Government of Canada. (2021, November 16). Daily Data Report for September 2020. Retrieved from https://climate.weather.gc.ca/climate_data/daily_data_e.html?StationID=47547&Year=2020&Month=9&Day=5 ³ Climate Atlas. (N.D.). Cooling Degree Days. Timmins. Retrieved from https://climateatlas.ca/map/canada/cooldd_2060_85#z=6&lat=48.86&lng=-79.72&city=428. ⁴ Ibid. ⁵ Government of Canada. (2021, November 16). ⁶ Ibid. ⁷ Government of Canada. (N.D.). Retrieved from https://climate.weather.gc.ca/climate_data/daily_data_e.html?StationID=47547&timeframe=2&StartYear=1840&EndYear=2021&Day=5&Year=2019&Month=1# ⁸ Ibid. ⁹ Government of Canada. (2021, November 16).

The Timmins Advantage

Located in Northern Ontario, the City of Timmins is an ideal and cost-competitive location for data centres due to the naturally cool climate, low risk of natural disasters, and availability of developable industrial lands.

Timmins' cool climate is favorable for maintaining low operational costs. The many lakes and rivers in the area offer potential to use unique, environmentally-sound cooling options to reduce electricity consumption.

The region is very environmentally stable boasting a low frequency of natural disasters. This reduces overall downtime caused by environmental occurrences making business continuity easy to maintain.

The availability of developable industrial land in Timmins, coupled with a low population density, makes the area an ideal location for data centres requiring privacy and isolation, yet is still easily accessible to employees.

As a North American leader in climate-friendly energy and sustainable technologies, Ontario is now a "coal-free" jurisdiction, switching off its last coal-powered electricity generation facility in early 2014. Additionally, the Ontario government released and adopted its "Made-in-Ontario Environment Plan" in November 2018 which is designed to help protect the province's air, land, and water; address litter and reduce waste; support Ontarians in reducing greenhouse gas emissions; and help communities and families prepare for climate change.¹

Finally, there are a number of value-added economic development based incentives available to those developing in Northern Ontario. The Northern Ontario Heritage Fund Corporation (NOHFC) offers key incentive programs such as the Invest North Locate, Launch, and Expansion project streams.

¹ Government of Canada. (2020, February 19) A Made-in-Ontario Environment Plan. Retrieved from <https://www.ontario.ca/page/made-in-ontario-environment-plan>.

Timmins' Electricity: Secure, Stable and Green

Hydro electricity is generated by Ontario Power Generation (OPG) and distributed by Hydro One Networks Inc. in Timmins. OPG is one of the largest electricity producers in North America. In addition to operating five (5) thermal and two (2) nuclear facilities, OPG operates 66 hydro electric stations and has 241 dams on 24 river systems.¹⁰ Hydroelectric energy is a renewable resource that accounts for approximately one third of OPG's electricity production. This production is reliable, scalable, and is designed to meet base electricity needs and peak demands.

Hydro One owns and operates Ontario's 29,000 km (18,000 mi) high-voltage transmission network and 123,000 km (76,429 mi) distribution network that directly delivers electricity to large industrial customers and municipal utilities across the province.¹¹ Hydro One continues to undertake projects in Northern Ontario, including the replacement and refurbishment of existing infrastructure: such as wood poles and adding new circuits to meet demand for hydro electricity in Ontario.

The Independent Electricity System Operator (IESO) oversees the reliability of Ontario's power system and adheres to North American standards set by international organization such as the Northeast Power Coordinating Council (NPCC) and the North American Electricity Reliability Corporation (NERC).¹² The IESO consistently receives high marks for its performance, expertise, and commitment to reliability.

Medium - and large - sized businesses (defined as businesses that have a yearly demand of more than 50 kilowatts, roughly 250,000 kilowatt hours of electricity, spending roughly \$2000.00 per month or more) pay the wholesale price to Hydro One and are subject to the Global Adjustment charge.

The total cost of power in Ontario for 2020 was \$13.21 per kilowatt hour (kWh), up \$0.58 per kWh from 2018.¹³ This cost includes the average weighted wholesale market price of \$1.39 per kWh and average global adjustment of \$11.82 per kWh.¹⁴ These figures do not include additional charges from Hydro One.

A Safe and Stable Environment

The City of Timmins is located in a geographically - and meteorologically - stable environment. The low occurrence of severe weather events and natural disasters translate into operational continuity that businesses (and the centres that house their invaluable data), can count on.

Timmins is fortunate to have endured few severe weather events or natural disasters throughout its history. While heavy snowfall is common in winter months, the municipality and its residents are well-equipped to deal with these weather events.

Northern Ontario also has a very low level of seismic activity. From 1970 to 1999, only one or two earthquakes with a magnitude of 2.5 or greater have been recorded in this large geographic area. A magnitude of 5 is generally the threshold of damage. Timmins in particular has not experienced any significant seismic events in recorded history.¹⁵

Cloud-to-Ground Lightning in Ontario

	Total Cloud-to-Ground Lightning Flashes (1999-2018)	Average Number of Days with Lightning (within 25 KM)
Timmins	13,679	25.7
London	94,647	44.1
Markham	61,968	39.3
Toronto	56,139	40.5
Owen Sound	49,114	34.0
Ottawa	38,452	33.4
Fort Frances	37,356	34.9
Sudbury	20,759	26.8
North Bay	23,364	29.2
Kenora	27,379	32.8
Thunder Bay	18,543	28.4
Geraldton	14,388	24.0
Sault Ste. Marie	23,599	29.3

Environment Canada. "Lightning Activity in Canadian Cities." <https://www.canada.ca/en/environment-climate-change/services/lightning/statistics/activity-canadian-cities.html>. February 18, 2020.

There are fewer thunderstorms and cloud-to-ground lightning events in Timmins than in most other Canadian cities. Since most thunderstorms are fairly weak and short-lived, there is lessened probability of lightning-induced power outages, adding to the security and stability of Timmins' power supply.

Privacy concerns and compliance regulations require that certain types of data, including sensitive personal data, be stored within the region or nation in which it is collected; political instability causes concern regarding data security. Canada has a strong history of economic and political stability dating back centuries. It also has an excellent track record of offering a business-friendly environment.

¹⁰ Ontario Power Generation. (2020, February 19). Hydroelectric Power. Retrieved from <https://www.opg.com/powering-ontario/our-generation/hydro/>. ¹¹ Hydro One. (2020, February 19). Wood Pole Replacement. Retrieved from <https://www.hydroone.com/about/corporate-information/major-projects/wood-pole-replacement>. ¹² Independent Electrical System Operator. (2020, February 19). Ontario's Power System. Retrieved from <http://www.ieso.ca/en/Learn/Ontario-Power-System/Ensuring-A-Reliable-Grid>. ¹³ Independent Electrical System Operator. (2020, February 19). 2019 Year in Review. Retrieved from <http://www.ieso.ca/en/Corporate-IESO/Media/Year-End-Data>. ¹⁴ Ibid.

¹⁵ Natural Resources Canada. (2020, February 18). Earthquake Zones in Eastern Canada. Retrieved from <https://earthquakescanada.nrcan.gc.ca/zones/eastcan-en.php>.

A Redundant Fibre Optic Network

Timmins has a fibre optic backbone that connects the city to the entire world. The network provides the redundancy and security data centres require, ensuring continuous up-time for operational continuity.

A variety of telecommunications companies offer services in the area including Ontera (Bell Aliant), NorthernTel (Bell Aliant), Eastlink. Through these companies, you can rest assured that your data centre will have the capability, and scalability, to operate at maximum capacity with no threats of down-time or interruption.

Timmins is serviced by an extensive 2,200 km long haul fibre network with a coverage area that exceeds 200,000 km² including the communities of North Bay, Sudbury, and Sault Ste. Marie. The backbone of this fibre optic network includes a 1,000 km core “fibre ring” (Timmins - Chapleau - Sudbury - North Bay - Timmins) providing redundancy to telecom infrastructure. The network connects into Toronto via multiple fibre wavelength routes, which enhances existing network capacity and reliability.

Northern College of Applied Arts and Technology offers a variety of full time, certificate, diploma, and apprenticeship programs that supply a healthy labour force to support data centre construction and operation. The college has a number of transfer agreements with other institutions, including universities. In 2010, the 33,000 sq. ft. (3,100 m²) Centre of Excellence for Trades and Technology was constructed at the Timmins Campus, which boasts modern labs and multi-trade workshops. The college also has other regional campuses in Haileybury, Kirkland Lake, and Moosonee. Northern College implemented a recruitment strategy that resulted in the enrollment of more than 3,000 international students across all four campuses and partnership institutions in 2019.¹⁶

Timmins is a bilingual city with both English and French language education options from preschool through post-secondary. Collège Boréal is the francophone college in Timmins, providing post-secondary education in the fields of office administration, business and management, health sciences, human services, and trades, as well as services in continuing education, corporate training for businesses and industry, and employment services for individuals and employers.

Access to Skills



Timmins' Location and Accessibility

Timmins is easily accessible from Southern Ontario and the Northeastern United States, and is within a day's drive of at least nine U.S. border crossings. Niagara Falls and Sault Ste. Marie are among the closest access points.

Timmins Victor M. Power Airport (YTS) provides a convenient gateway to national and international markets with ten daily flights on business days to Toronto Pearson International Airport (YYZ) and Billy Bishop Toronto City Airport (YTZ)

Our municipally-owned airport is located 11km (7mi) North of the city centre and serves 203,000 passengers annually.

Flight Connections

Airline	Daily Flights to Toronto	Duration
Air Canada Express	Monday to Sunday: 5	1 h, 40 min
Porter airlines	Monday to Friday: 3	1 h, 25 min
	Saturday: 1, Sunday: 2	

Labour Market Data

The City of Timmins, with a labour force with over 22,500 people, has the youngest labour force of the five major Northern Ontario cities and nearly half of this labour force is bilingual.

Labour Force Characteristics

	Timmins ¹⁷	Ontario ¹⁸
Participation Rate	65.22%	64.9%
Employment Rate	60%	60.90%
Unemployment Rate	6.46%	8.4%

¹⁶ Timmins Today. (2019, August 7). Northern College to welcome over 3000 international students this year. Retrieved from <https://www.timminstoday.com/local-news/northern-college-to-welcome-over-3000-international-students-this-year-1627197>. ¹⁷ Timmins Economic Development Corporation. (2020, March 13). Labour Force. Retrieved from <http://www.timminsedc.com/business/invest/data-for-site-selectors/labour-force/>. ¹⁸ Ontario. (2021, September 1). Ontario Employment Reports. Retrieved from <https://www.ontario.ca/document/ontario-employment-reports/april-june-2021>.

Municipal Development Process

The City of Timmins Planning Department assists developers with zoning amendments as necessary and ensures conformity with the City of Timmins Official Plan. Development projects require the establishment of a site plan control agreement to ensure that development principles of the Official Plan are addressed at the site planning stage. Site plan control applications are evaluated by the Community Development Committee before going to municipal council for adoption.

The City of Timmins charges building fees based on the construction value (CV) of a project. City staff work with developers to ensure their projects are given top priority for building development. The table below outlines building fees for developments within the city.

Building Fees in Timmins¹⁹

Fee Classification	2021
Base Application Fee (BAF)	\$80
New Building, Alterations, Repairs, Renovations, Moving Building, Trailers	BAF + 1.1% CV
Above Ground Tanks and Tanks Constructed on Site***	BAF + 1.1% CV
Demolition	\$125
Signs	BAF + 1.1% CV

Site Selection

With a geographic area of 2,979 km² (1,150 sq mi) and a population of 42,632, Timmins enjoys a healthy mix of urban and rural environments. The City's population density is 14.3 persons per km² (37.1 persons per sq mi), which is significantly lower than the densely populated region of Southern Ontario.²⁰ Timmins' vast geography and low population density allow for developments that are secure and secluded, yet as easily accessible as necessary.

In Timmins, the cost for industrial land is relatively low, and the City has ample land available for development. There are close to 55 properties zoned for industrial development, totaling over 1519 acres (614 ha) of hydro-serviced land.

The City has recently developed a new 85 acre (34 ha) industrial park in the west end of Timmins that is ready for clients. Infrastructure upgrades are complete, including increased sanitary capacity. Water lines and the conduit for key services is readily available at the curb of the park. The City is always willing to negotiate the price based on investment and job creation.

Streamlined Planning and Approvals

Planning

The planning process in Timmins is simple and straightforward. Pertinent City of Timmins departments meet weekly as part of our Community Development Committee which has a mandate to facilitate business development. This committee ensures consistency across services and allows necessary departments to discuss a proposed development and determine requirements, thereby creating efficiencies. Planning follows an established process, and each step has requirements that must be met before approval is received (whether for an entire subdivision or an individual structure). However, staff provide hands-on assistance and support to incoming companies to ensure that all proposals are reviewed and processed in a timely manner.

Local Government

Mayor and Council are familiar with the development processes and work cooperatively with city departments to ensure the efficiency of the processes.

There are no development charges on new projects in the City of Timmins.

¹⁹ City of Timmins. (N.D.). 2020 - 8488 Repeal by-Law 2016-7778, 2017-7985, 2017-8027 and 2018-8203 re_New User Fees. Retrieved from <https://timmins.civicweb.net/filepro/documents/76?preview=97405>. ²⁰ World Population Review. Ontario Population 2021. Retrieved from <http://worldpopulationreview.com/canadian-provinces/ontario-population/>.



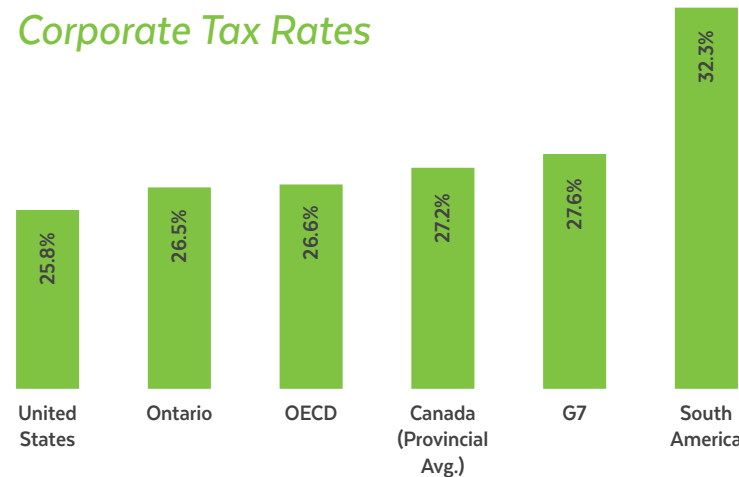
Corporate Tax Rates

Timmins Property Tax Rates

Type of Property	Rate
Commercial	
Occupied	4.479
Vacant & Excess Land	3.290
Industrial	
Occupied	5.295
Vacant & Excess Land	3.861
Large Industrial	
Occupied	5.295
Vacant & Excess Land	3.861
New Large Industrial	
Occupied	5.295
Vacant & Excess Land	3.861

Ontario has a combined corporate tax rate of 26.5% (federal rate of 15%; provincial rate of 11.5%). The Federal and Provincial tax structure is uniquely designed to nurture development across all industries. Ontario's business tax system is amongst the most competitive internationally. Out of the 13 Canadian Provinces and Territories, Alberta is the only Province with a lower corporate tax rate than Ontario. Among G7 countries, Canada's corporate tax rate is lower than Germany, Italy, France, and Japan.

Corporate Tax Rates



Commercial Water and Sewer Rates

Usage	2020 Quarterly Rate
Up to 72,737 Litres	\$111.47
Over 72,737 Litres	\$1.56 per 1,000 litres



Quality of Life

The city of Timmins is a welcoming and safe community that offers every aspect of a balanced lifestyle. A vibrant, progressive and warm community, Timmins offers the ideal landscape for commerce, working, learning, raising your family and living the life you desire.

The city offers an urban-rural setting with a small-town feel, where people are friendly, business is flourishing and there are plenty of essential services and modern amenities to offer a comfortable lifestyle.

Whether you're an outdoors lover or enjoy leisure sports, Timmins has the landscape and state-of-the-art sporting and fitness facilities for all your recreation needs.

The community's affordability makes it an attractive location for families and a prime location for commercial and industrial development.

Incentives and Support Programs

Business Development Support

The Timmins Economic Development Corporation (TEDC) provides one-stop assistance for companies looking to set-up or expand their businesses operations in the City of Timmins. Our assistance includes:

- Guidance and information on site selection and planning, zoning by-laws, and available commercial and industrial properties. We work closely with Building and Planning and other city departments to facilitate and expedite processes
- Providing general and customized demographics, labour force and other pertinent data to help companies make sound investment decisions
- Workforce development support

Government Programs

The following highlights key programs available that support business development. The Business Enterprise Centre, co-located with the TEDC, helps new or established small-to-medium sized businesses find government programming and funding, and key contacts and services.

Federal Economic Development Agency for Northern Ontario (FedNor)

FedNor is the Government of Canada's economic development agency that supports northern Ontario through its various programs, services, and financial support of projects. Its role is to work with industry and communities to build a stronger northern Ontario.²¹

Northern Ontario Heritage Fund Corporation (NOHFC)

The Tax Increment Rebate Program is designed to stimulate new and large scale re-development projects located in the City of Timmins' Community Improvement Plan Area. This program will provide a rebate in the form of a grant, decreasing by 25% over a five (5) year period, equivalent to the percentage of the City of Timmins' increase in property taxes due to the due to the rehabilitation, redevelopment, and other significant building improvements (with a minimum investment of \$500,000).

Commercial and Industrial Community Improvement Plan (CIP)

The City of Timmins Commercial and Industrial CIP sets grant programs for businesses and building owners throughout the City of Timmins. The purpose of the program is to promote redevelopment of brownfield sites, encourage mining redevelopment and promote the City's underutilized Timmins Industrial Park. The Commercial and Industrial CIP has three (3) available grants that fall under the: Tax Increment Rebate, Environmental Study Grant, and Municipal Fee Rebate. Additional incentive programs include: Commercial and Industrial Redevelopment, Mining Redevelopment, and Timmins Industrial Park Development.

Regional Economic Growth through Innovation (REGI)

The Business Scale-up and Productivity stream through REGI aims to accelerate the growth of companies and assist with the adoption and adaption of new, innovative technologies that support scale-up, productivity, and to become competitive in both domestic and global markets. The program can support both capital and non-capital costs.

²¹ Government of Canada. (2021 November 5). Federal Economic Development Agency for Northern Ontario. Retrieved from <https://fednor.gc.ca/eic/site/fednor-fednor.nsf/eng/home>.



**Timmins Economic
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The Timmins Economic Development Corporation would be pleased to meet with you to discuss opportunities for data centre projects in Timmins, Ontario, Canada. Whether it be a phone call for initial discussion, a high-level presentation via web conference, or a formal community presentation, the team at the Timmins Economic Development Corporation is available to assist you with opportunities for data centre projects.

For more information, contact:

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