

3. 20 Worst Traffic Bottlenecks in Canada

1. Toronto, Highway 401 between Highway 427 and Yonge Street
2. Toronto, Don Valley Parkway/Highway 404 between Don Mills Road and Finch Avenue
3. Montreal, Highway 40 between Boulevard Pie-IX and Highway 520
4. Toronto, Gardiner Expressway between South Kingsway and Bay Street
5. Montreal, Highway 15 between Highway 40 and Chemin de la Cote-Saint-Luc
6. Toronto, Highway 401 between Bayview Avenue and Don Mills Road
7. Toronto, Highway 409 between Highway 401 and Kipling Avenue
8. Montreal, Highway 25 between Avenue Souigny and Rue Beaubien
9. Vancouver, Granville Street at SW Marine Drive
10. Vancouver, W Georgia Street between Seymour Street and W Pender Street
11. Toronto, Highway 401 between Don Valley Parkway and Victoria Park Avenue
12. Toronto, Black Creek Drive between Weston Road and Trethewey Drive
13. Toronto, Highway 401 between Mavis Road and McLaughlin Road
14. Montreal, Highway 40 between Highway 520 and Boulevard Cavendish
15. Vancouver, Granville Street between W Broadway Street and W 16th Avenue
16. Montreal, Highway 20 near 1^{re} Avenue
17. Quebec City, Highway 73 between Chemin des Quatre Bourgeois and exit to Avenue Dalquier
18. Toronto, Highway 401 interchange at Highway 427
19. Toronto, Highway 400 at Highway 401
20. Vancouver, George Massey Tunnel on Highway 99



Sourced from “Another End of the World Is Possible: Indigenous Solidarity and Blocking Extractive Infrastructure in Canada” mtlcounterinfo.org/another-end

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1. Transportation Infrastructure in Canada

Three main elements of transportation infrastructure: oil and gas pipelines, heavy vehicle highways, and railways. Industries relying on timely delivery systems would be heavily impacted by disruptions (automotive, sales, etc.)

Highways

Heavy truck transportation is responsible for a large portion of Canada’s GDP and is especially prevalent in the Southern Ontario – Quebec corridor. A key vulnerability in this export/import network is the concentration of its critical transportation lifelines in a relatively close area funnelled through six congested gateways mostly in eastern Canada. For example, 75 percent (by value) of Canada-United States trade is carried by trucks through six border crossings: Windsor/Ambassador Bridge, Fort Erie/Niagara Falls, and Sarnia, Ontario. The remainder passes through Lacolle, Quebec; Emerson, Manitoba; and the Pacific Highway in British Columbia.

Rail Transportation

Railway is the heart of Canada’s transportation infrastructure. It’s the third largest system in the world: 2,900 locomotives and 10,000 employees. Most important railway commodities: coal, iron, potash, fuel oil, crude petroleum. These types of bulk cargoes can only be transported by rail. Three national railways – VIA, Canadian Pacific, Canadian National – move 70% of freight.

Much of this traffic flows from Canada into the United States, but a large percent of it also moves east and west on two main lines over Lake Superior and through the Winnipeg bottleneck. Every route, including those in the Montreal-Windsor corridor, is vulnerable to blockade and intentional damage. The isolated northern Ontario-Kenora-Winnipeg routes are particularly vulnerable.

A map of the rail choke-points throughout Canada (and globally) can be found at empirelogistics.org/sci-map.

Marine

The main value of the marine infrastructure to Canada, especially for the St. Lawrence Seaway, is its utility as an alternative or supporting transportation system for road and rail operations on the west-east transportation corridor.

Although it would be difficult to interfere directly and effectively with terminal operations in Thunder Bay or elsewhere in the St. Lawrence Seaway system, disruptions to road and rail transportations systems leading to the ports would effectively close these vital, weather-sensitive, seasonal operations. Any pro-

longed stoppage of operations at Thunder Bay would produce serious disruptions along the entire Seaway system and to economic activities throughout north-western Ontario and across the prairie heartlands.

Oil and Natural Gas Pipelines

An enormous 700,000 kilometre network of pipelines as well as railways, trucks and ships move crude oil and natural gas from wellheads mostly in western Canada to refineries and onward to markets in Canada, the United States and Mexico.

Unlike electric energy transmission lines, crude oil and natural gas pipeline are relatively secure from harm once they are properly placed in the ground. Each pipeline, however, requires pump and compressor stations to push product through it. These above-ground stations are susceptible to damage and interference. Other supporting parts to the crude oil and natural gas system might also be vulnerable to interference and accidental damage, including crude oil refineries, natural gas processing plants and storage facilities for both products.

Pipeline valve sites have been targeted several times in the last years by resistance movements, bringing the flow of oil to a halt until the valve is reopened. All pipelines in Canada have their valve site location maps on the National Energy Board website.

Hydroelectric Infrastructure

Vast hydroelectric systems provide energy for transportation, manufacturing, agriculture, etc. Transmission infrastructure is almost impossible to protect because they travel through thousands of kilometers of rugged terrain.

There are four principal hydroelectric systems of waterways, generating plants, and transmissions lines – Hydro-Québec, Hydro One (Ontario), Manitoba Hydro and BC Hydro.

Transmission and distribution lines are critical infrastructure in each system. Transmission lines carry high voltage current to transformer stations. Distribution lines carry energy from these stations to consumers. As the Great Ice Storm of 1998 in eastern Ontario and west Quebec made dramatically obvious, these lines are fragile and exposed to many natural and technical threats. In circumstances where damage is widespread, recovery is difficult, expensive and slow. In 2014, a pilot used a plane to hobble two massive power lines, nearly crippling Hydro-Québec's power grid with one act of sabotage. The technique had been used during conflicts in Iraq, Kosovo and Serbia and was “easily accessible on the Internet” – unidentified materials were dropped on the lines from the plane at three locations on the same day.

2. Vulnerable infrastructure bottlenecks by province

British Columbia: mountain and coastal road and rail systems; road and rail approaches to Pacific Ocean ports; crude oil and natural gas transmission pipelines, especially pumping stations, compressor stations and refineries; and all the transmission and distribution facilities of BC Hydro.

Alberta: crude oil and natural gas transmission pipelines, especially pumping stations, compressor stations and refineries; and coal-carrying railway systems.

Saskatchewan: crude oil and natural gas transmission pipelines, especially, pumping stations, compressor stations; railway transportation systems for natural resources; and Trans-Canada Highway intersections crossing the province.

Manitoba: The most vulnerable west-east transportation hub in Canada. Any disruption of the concentrated road and railways intersections at Winnipeg would have enormous, negative economic consequences across Canada. There are no easy or cost-effective ways around this transportation hub.

Elsewhere in the province the most important assets are the Manitoba Hydro-electric system from Nelson River generating facilities and the transmission lines running south and the hydroelectric distribution lines in the Winnipeg area.

Ontario: the west-east road and railway transportation convergence in the Thunder Bay area; the access roads and railways into the Thunder Bay port; the junction of the Highway 17 and Highway 11 Trans-Canada Highway systems over Lake Superior at Nipigon; the international bridge at Sault Ste. Marie; the road bridge over the Petawawa River on Highway 17 at Petawawa; the road and railway bridges over the Rideau Canal system on Highway 401 and Highway 2 near Kingston; the 400-series highways in and around Toronto; the roads into the Windsor/Ambassador Bridge border crossing; and the Welland Canal operating facilities.

Quebec: the Hydro Québec transmission lines from the James Bay generating facilities; the Hydro Québec distribution system in lower Quebec; the bridges near Montreal and Quebec City; the east-west-bound highways north and south of the St. Lawrence River; and the highway approaches to the United States.

Atlantic Provinces: roads and railways to Quebec and the United States; road and railway approaches to Halifax harbour; and the hydroelectric transmission and distribution lines from Quebec.

The Territorial North: major roads to Whitehorse and Yellowknife; airports; hydroelectric stations; pipelines; winter roads to mining camps.