



NORTHWEST OHIO IN RELATION TO NEW GORDIE HOWE INTERNATIONAL BRIDGE & EXISTING AMBASSADOR BRIDGE BETWEEN THE U.S. AND CANADA



NOTE: FOR "DISCUSSION PURPOSES" ONLY



Canada's Top Trading Partners

September 26, 2019 by Daniel Workman



by Flagpictures.org

Nicknamed the Great White North, the Dominion of Canada shares its busy and extensive southern land border with **its largest trading partner—the United States of America.**

Canada shipped US\$450.7 billion worth of goods around the globe in 2018. That dollar figure represents a - 5.1% decline since 2014 but a 7.1% year-over-year increase from 2017 to 2018.

From a continental perspective, over three-quarters (76.4%) of Canadian exports by value were sent to its North American trade partners namely the United States and Mexico.

Asian importers purchased 12.3% worth while buyers in Europe consumed 8.5%. Smaller percentages were delivered to Latin America (1.4%) excluding Mexico but including the Caribbean, Africa (0.8%) and Oceania (0.5%) led by Australia and New Zealand.

Below is a list showcasing 15 of Canada's top trading partners, countries that imported the most Canadian shipments by dollar value during 2018. Also shown is each import country's percentage of total Canadian exports.

- 1. United States: US\$338.2 billion (75% of total Canadian exports)**
2. China: \$21.3 billion (4.7%)
3. United Kingdom: \$12.6 billion (2.8%)
4. Japan: \$10 billion (2.2%)
5. Mexico: \$6.3 billion (1.4%)
6. South Korea: \$4.5 billion (1%)
7. Germany: \$3.72 billion (0.8%)
8. Netherlands: \$3.67 billion (0.8%)
9. India: \$3.3 billion (0.7%)
10. Hong Kong: \$3 billion (0.7%)
11. Belgium: \$2.9 billion (0.6%)
12. France: \$2.7 billion (0.6%)

13. Italy: \$2.3 billion (0.5%)
14. Norway: \$1.9 billion (0.4%)
15. Brazil: \$1.7 billion (0.4%)

Over nine-tenths (92.8%) of Canadian exports in 2018 were delivered to the above 15 trade partners.

Fourteen of these top trade partners increased their purchases from Canada year over year led by double-digit gains for: Hong Kong (up 75%), Netherlands (up 51.4%), Italy (up 32.9%), Brazil (up 27.9%), Norway (up 22%), China (up 17%), Germany (up 16.9%) then South Korea (up 10.6%).

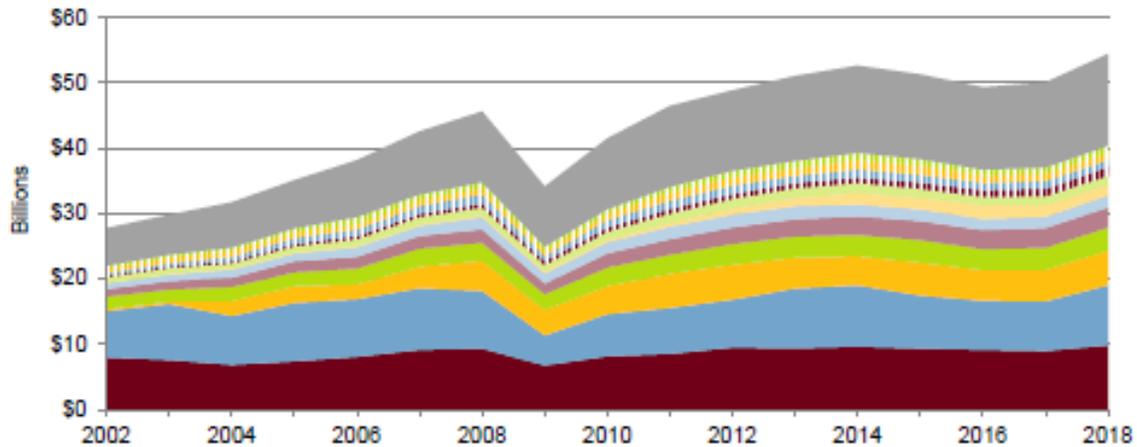
The value of Canada's shipments to its largest customer, the United States, expanded by 6% from 2017 to 2018.

The sole decliner in terms of consuming Canadian exports was the United Kingdom thanks to a -7.4% retreat.

For a complete listing, see the section *Searchable Datalist of Countries Importing Canadian Exports* near the bottom of this article.

Ohio is one of the Nation's leading exporters: 39% to Canada through Toledo

Ohio Exports Exported Products Over \$1 Billion Value: 2018



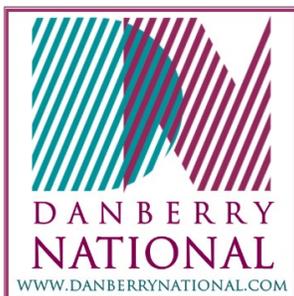
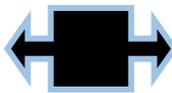
Harmonized Schedule Code		2018 Value	% of All Exports
84	Industrial Machinery, Incl. Computers	\$9,876,051,613	18.2%
87	Vehicles and Parts	\$9,134,150,727	16.8%
88	Aircraft; Spacecraft and Parts	\$5,324,875,583	9.8%
85	Electric Machinery; Sound/TV Equip.	\$3,525,184,077	6.5%
39	Plastics and Articles Thereof	\$3,085,954,934	5.7%
90	Optic, Photo; Medical Instruments	\$1,854,571,180	3.4%
12	Oil Seed, Miscellaneous Grain	\$1,573,023,414	2.9%
73	Iron and Steel Products	\$1,424,561,081	2.6%
33	Perfumery, Cosmetic, etc	\$1,320,946,742	2.4%
72	Iron and Steel	\$1,111,637,659	2.0%
40	Rubber and Articles Thereof	\$1,089,953,675	2.0%
38	Miscellaneous Chemical Products	\$1,059,923,954	1.9%
Multi	Remaining commodities	\$14,022,994,510	25.8%

Top 10 Trading Partners - 2018

	2018 Value	Pct of 2018 Total
Total	\$54,403,829,149	
Canada	\$21,188,675,655	38.9%
Mexico	\$6,868,043,689	12.6%
China	\$3,634,722,342	6.7%
United Kingdom	\$2,198,723,571	4.0%
Japan	\$1,670,989,479	3.1%
Germany	\$1,618,772,237	3.0%
Brazil	\$1,430,680,470	2.6%
France	\$1,180,533,304	2.2%
Korea	\$970,810,916	1.8%
Netherlands	\$962,924,465	1.8%
Others	\$12,678,953,021	23.3%

Top 10 Trading Partners - 2016 to 2018

	2016 to 2018 Value	Pct of 3-yr Total
Total	\$153,804,004,148	
Canada	\$59,313,735,710	38.6%
Mexico	\$19,892,772,843	12.9%
China	\$11,201,870,484	7.3%
United Kingdom	\$6,197,388,967	4.0%
Japan	\$4,612,778,362	3.0%
Brazil	\$4,265,829,500	2.8%
Germany	\$4,245,471,672	2.8%
France	\$3,586,279,957	2.3%
Korea	\$2,936,875,469	1.9%
Netherlands	\$2,353,857,489	1.5%
Others	\$35,197,143,695	22.9%



July Revision.

Source: <https://development.ohio.gov>



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House Democrats Support Updated Trade Deal

December 10, 2019 11:11 AM ET



House Speaker Nancy Pelosi called the altered trade agreement "much better than NAFTA".
Susan Walsh/AP

House Democrats and organized labor have thrown their support behind an updated trade agreement among the U.S., Mexico and Canada.

The new agreement includes provisions for digital trade and incentives that could shift some automotive manufacturing from Mexico to the U.S. or Canada.

A ratification vote on the House floor could come as early as next week.

BRIAN W. MCMAHON BRIAN@DANBERRYNATIONAL.COM
624 W. SOUTH BOUNDARY, SUITE B PERRYSBURG, OHIO 43551
OFFICE: (419) 874-2800



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IPPSR

INSTITUTE FOR PUBLIC POLICY AND SOCIAL RESEARCH
COLLEGE OF SOCIAL SCIENCE

Planning for the Gordie Howe International Bridge

Dom Korzecke

05/02/2016

IPPSR hosted a policy forum in April that focused on what is sure to be one of the largest economic-related infrastructure projects in Michigan for the next 4 years: The Gordie Howe International Bridge. A panel of experts across various fields got together to discuss the timeline, economic outlook, construction and logistics of the upcoming trade highway. Panelists included Andrew S. Doctoroff, Special Projects Advisor for the Office of Governor Rick Snyder; Bill Anderson, Research Chair in Cross-Border Transportation Policy; Zeenat Kotval-Karamchandani, Assistant Professor of Urban & Regional Planning at Michigan State University, and; Roger Hamlin, Professor of Urban Planning and Public Administration at Michigan State University. Each panelist approached different aspects of the project, however, there is one point all were sure of: The bridge *will* be built.



The forum started off with a presentation by Andrew Doctoroff who noted the creation of the Gordie-Howe Bridge as the biggest project of its kind in North America. This tone of excitement set the pace for the rest of Mr. Doctoroff's remarks as he referred to the new bridge as not simply an infrastructure project, but rather a grand symbol and landmark entry to the United States. He reminded the audience that the project is being completely funded by Canada and acknowledged that Michigan and

BRIAN W. MCMAHON BRIAN@DANBERRYNATIONAL.COM
BRITTANY CRAIG BRITTANY@DANBERRYNATIONAL.COM
624 W. SOUTH BOUNDARY, SUITE B PERRYSBURG, OHIO 43551
OFFICE: (419) 874-2800

Ontario crossings together represent the second busiest land trade border in North America. With this information in mind, Doctoroff noted that the new bridge capacity will further energize the economy of both countries, and benefit their local communities as well.



Dr. Bill Anderson provided a viewpoint from the Windsor side of the project. He explained that Windsor is an industrial city pinned as the automotive capital of Canada. Anderson explained that opponents of the bridge have described it as a “Windsor Bypass” because it will not steer people to the city, but through it instead. The bridge will benefit the Windsor *region* overall by decreasing cross-border traffic pollution in residential areas and increasing trade as well as shopping and tourism. Dr. Anderson further claimed the largest benefit of the bridge to Windsor as the potential to improve the cities geography by allowing for a more accessible city that could expand alongside the newly constructed highway. Dr. Anderson said this is the first highway to highway border between the US and Canada.

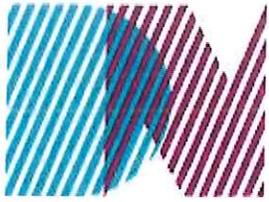


Dr. [Zeenat Kotval-Karamchandani](#) turned the focus away from the economy at large and honed in on the impact of the new bridge on local Detroit communities. She detailed the high level of segregation that various Detroit communities face and pointed to recent development and revitalization efforts within very specific areas, while other communities remain neglected. “Without alleviating the issues of the underrepresented population, the city only aims to flourish in small pockets,” she claimed. Turning the to the Delray community, the actual construction site of the new bridge and highway, Dr. Kotval described the area as “economically struggling.” While the construction will displace many people and businesses that are already disadvantaged, she called for revitalization of the Delray community and help for residents needing to relocate.



Closing the forum presentations, Roger Hamlin focused on neighborhood outcomes, regional economic impact, and a proposed high-tech logistics center. Dr. Hamlin noted an MSU study on the effect the project will have on area neighborhoods. The study found that local communities are not opposed to the bridge, but concerned about air pollution, truck traffic on residential streets, and tolls causing idling car fumes nearby. Related to these concerns is a proposal to relocate people who live close to the toll plaza, and to implement better noise buffers and traffic controls. Dr. Hamlin labeled the project a “win-win” for neighboring communities because of better transit to the area, more traffic for businesses, and increased employment provided by bridge construction. He said surrounding infrastructure such as roads need improvement and are just as important as the new highway if the project is to succeed in transporting more trade. Dr. Hamlin emphasized the need for a high tech logistics center at the new crossing and built as a public-private partnership (P3) with an appropriate risk/reward ratio for stakeholders.

The Gordie-Howe Bridge is destined to be something more than a means to traverse the Detroit River. It is slated to be an economic powerhouse affecting the entire Great Lakes region, including local communities on both the U.S. and Canada side. In order to grasp the full impact of the oncoming project many different perspectives must be examined, and that is precisely what the forum was able to facilitate.



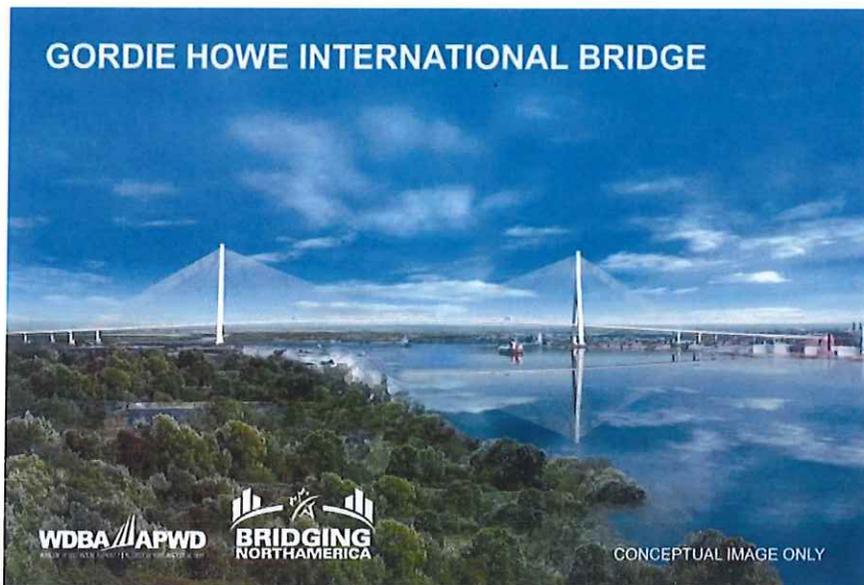
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This new \$3.8-billion super bridge will be a Canada-US border crossing (RENDERINGS)

Kenneth Chan Oct 01, 2018

Plans to build a new Canada-United States border bridge over the Detroit River between Windsor, Ontario and Detroit, Michigan have reached a new milestone.

Late last week, the Windsor-Detroit Bridge Authority (WDBA) announced it had signed a fixed-priced contract with Bridging North America (BNA), a private consortium that will design and build the new bridge – named the Gordie Howe International Bridge – and operate and maintain the structure over a 30-year period. BNA entails 14 private entities, including ACS Infrastructure Canada, Fluor Canada, RBC Dominion Securities, Smith-Miller + Hawkinson Architects, Turner Construction Company, and various divisions of Aecon Construction Group.



Artistic rendering of the Gordie Howe International Bridge between Windsor and Detroit. (Windsor-Detroit Bridge Authority)

BRIAN W. MCMAHON BRIAN@DANBERRYNATIONAL.COM
BRITTANY CRAIG BRITTANY@DANBERRYNATIONAL.COM
624 W. SOUTH BOUNDARY, SUITE B PERRYSBURG, OHIO 43551
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CANADIAN PORT OF ENTRY



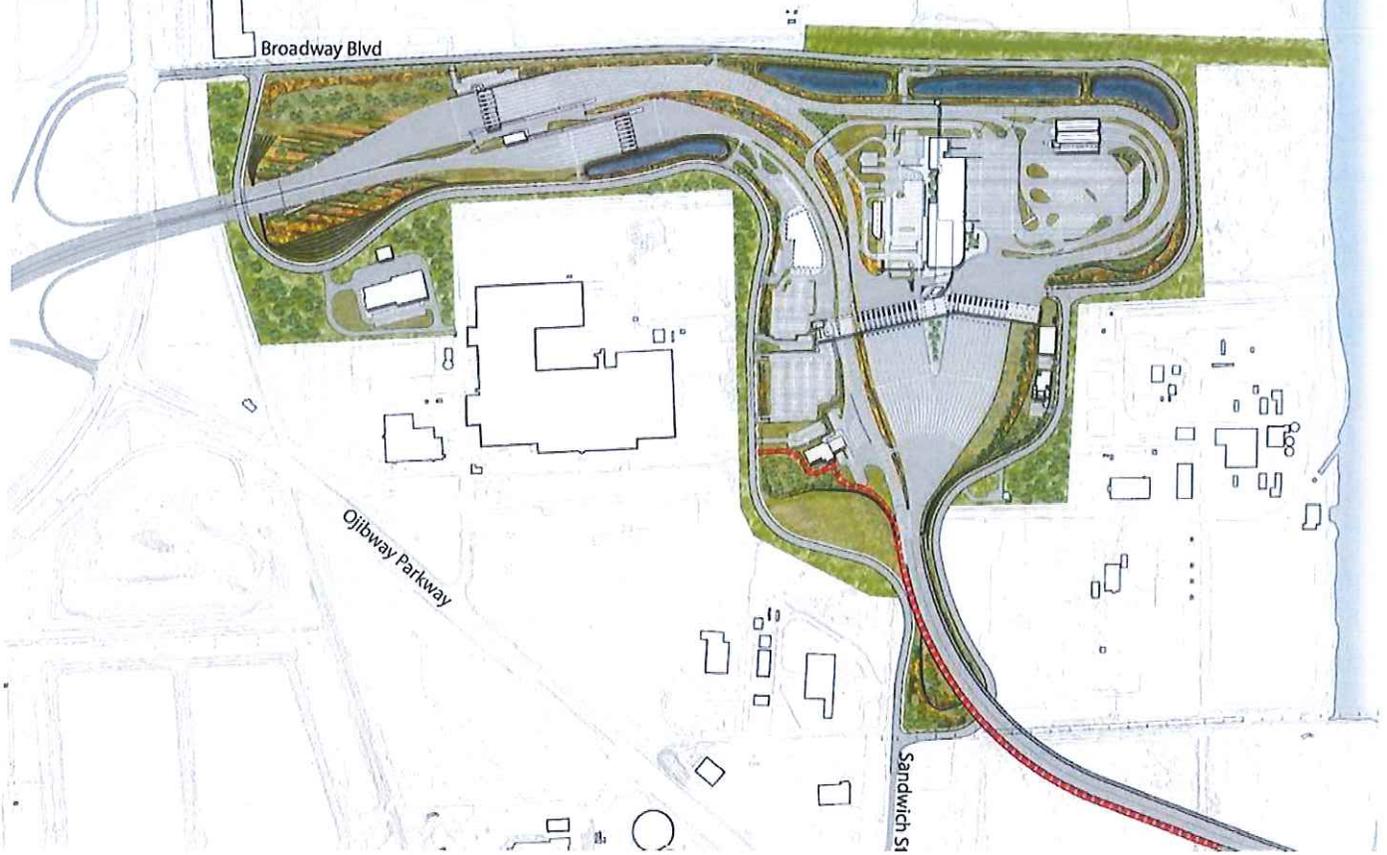
Artistic rendering of the Gordie Howe International Bridge between Windsor and Detroit. (Windsor-Detroit Bridge Authority)

BRIAN W. MCMAHON BRIAN@DANBERRYNATIONAL.COM
BRITTANY CRAIG BRITTANY@DANBERRYNATIONAL.COM
624 W. SOUTH BOUNDARY, SUITE B PERRYSBURG, OHIO 43551
OFFICE: (419) 874-2800

Canadian Multi-use Path Access

Conceptual Rendering Only

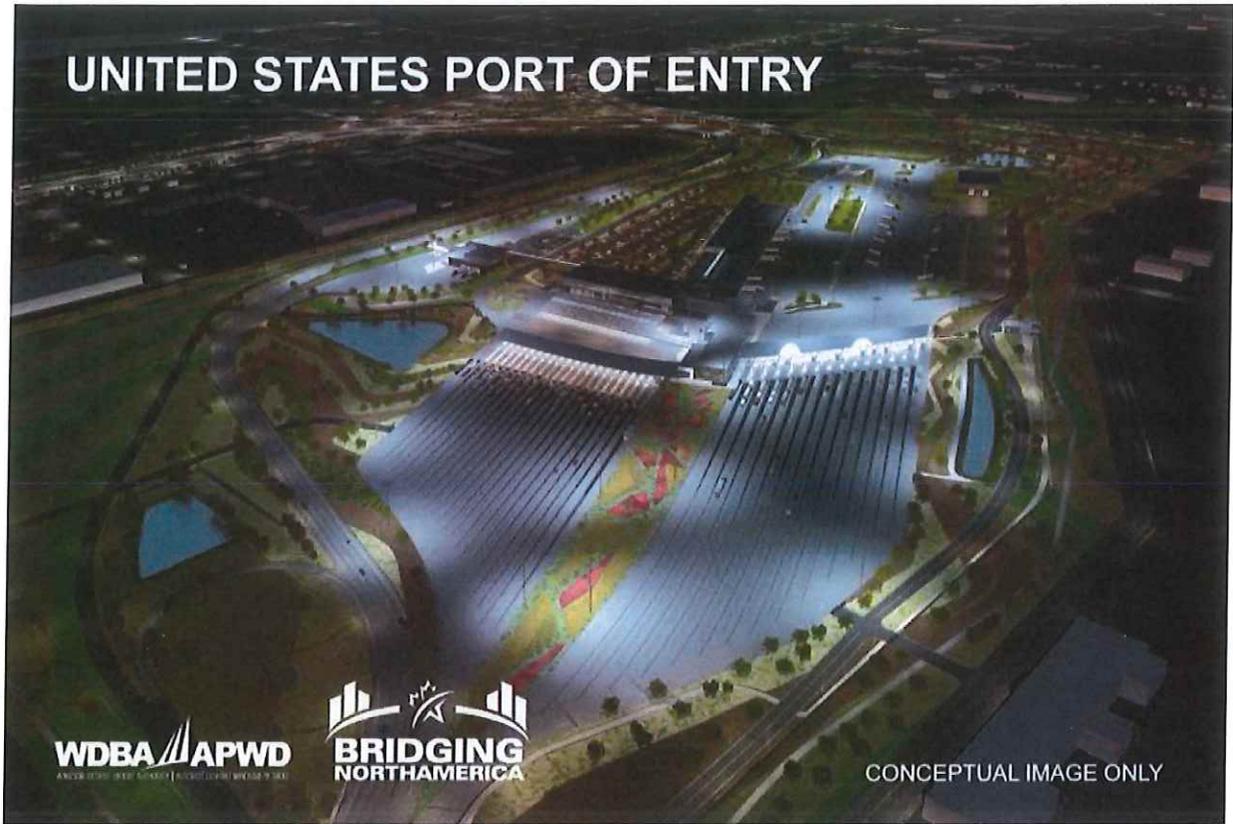
■ Multi-use path access to the Perimeter Access Road



Artistic rendering of the Gordie Howe International Bridge between Windsor and Detroit. (Windsor-Detroit Bridge Authority)

BRIAN W. MCMAHON BRIAN@DANBERRYNATIONAL.COM
BRITTANY CRAIG BRITTANY@DANBERRYNATIONAL.COM
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UNITED STATES PORT OF ENTRY



WDBA APWD
ANNO DOMINI 1827 - 2017 | ANNO DOMINI 1827 - 2017

**BRIDGING
NORTHAMERICA**

CONCEPTUAL IMAGE ONLY

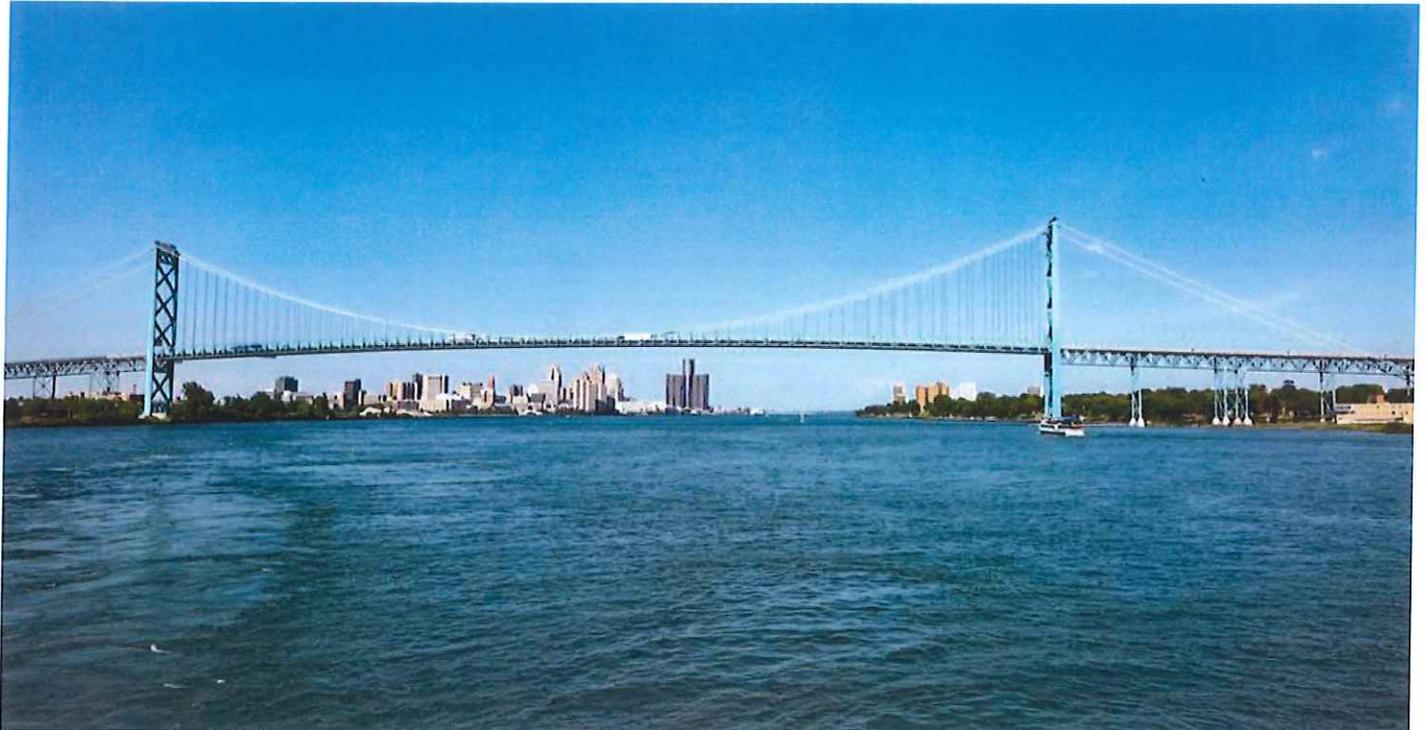
Artistic rendering of the Gordie Howe International Bridge between Windsor and Detroit. (Windsor-Detroit Bridge Authority)

BRIAN W. MCMAHON BRIAN@DANBERRYNATIONAL.COM
BRITTANY CRAIG BRITTANY@DANBERRYNATIONAL.COM
624 W. SOUTH BOUNDARY, SUITE B PERRYSBURG, OHIO 43551
OFFICE: (419) 874-2800

Artistic rendering of the Gordie Howe International Bridge between Windsor and Detroit. (Windsor-Detroit Bridge Authority)

The new bridge not only provides additional capacity but also provides direct links to highways on either end of the bridge, whereas the existing Ambassador Bridge crossing located nearby sends traffic through city streets on the Windsor side.

The private owner of the 88-year-old, four-lane Ambassador Bridge unsuccessfully fought against the Canadian and Michigan governments plans to build the new replacement bridge.



The existing Ambassador Bridge. (Shutterstock)

Traffic flowing through the Ambassador Bridge accounts for 25% of trade between Canada and the United States, with over 2.5 million commercial trucks carrying over \$120 billion in goods and over four million vehicle crossings per year.

There are approximately 120 ports of entry between Canada and the United States.

BRIAN W. MCMAHON BRIAN@DANBERRY NATIONAL.COM
BRITTANY CRAIG BRITTANY@DANBERRY NATIONAL.COM
624 W. SOUTH BOUNDARY, SUITE B PERRYSBURG, OHIO 43551
OFFICE: (419) 874-2800



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Towers for \$5.7-Billion Gordie Howe Bridge Will Soon Begin to Rise



January 14, 2020

Jeff Yoders

The curved approach on both sides of the Gordie Howe Bridge was BNA's design solution for staying within the existing right-of-way, a requirement from WDBA.

BRIAN W. MCMAHON BRIAN@DANBERRYNATIONAL.COM
624 W. SOUTH BOUNDARY, SUITE B PERRYSBURG, OHIO 43551
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On the American side of the bridge, Fluor and Malcolm prepare the ground for the caissons.



On the Canadian side of the bridge, rebar cages are prepared for eventual installation in caissons.



On the Canadian side of the bridge, site caissons are vibrated down as opposed to the American side, where oscillators are used.



As preparations continue for construction of the towers, caissons on the Canadian side have been sunk and concrete cures around the rebar.



Aaron Epstein, CEO of BNA, poses for scale with one of the large diameter drilling shafts on the American side of the river.



On the Canadian side of the river, sensors and wiring are installed on a rebar cage to monitor concrete curing.



The site requires preparation of gas and electrical lines and drainage around a web of known salt clays from previous mining that require remediation.



Much has already been written about the \$5.7-billion Gordie Howe International Bridge, scheduled to open between Detroit and Windsor, Ontario, in late 2024. The new span will cross the Detroit River and provide an international crossing for truck traffic as well as an alternative to the tolled options that exist today. The bridge's public-private partnership has been scrutinized as have the local politics surrounding the project, but the construction challenges have received far less attention.

This summer, two A-frame bridge towers to suspend the cable-stayed structure, one on the Canadian side and the other in the U.S., will start to rise 750 ft above Detroit's skyline, as high as the city's GM Renaissance Center. The towers will support the longest main span in North America, at 2,799 ft.

Preparation of the ground for the Bridging North America (BNA) Constructors Canada GP joint venture—which includes Dragados, Aecon, Fluor, and ACS Infrastructure—is nearing completion. AECOM was hired for design services. The full scope includes four separate projects: the bridge itself, the entry point in Canada, the entry point in the U.S. and the Michigan interchange that links the bridge to Interstate 75 and delivers six lanes of commercial traffic to businesses on both sides of the border. The Canadian work also includes customs plazas at the port of entry.

“The alignment of the bridge could not be changed,” says Jiri Filipovic, vice president of alternative delivery at AECOM Transportation and a member of the BNA design team. “It was mostly because of the former salt mining. The underground is just fraught with cavities, and significant investigations have been done to make sure that the alignment and any of the foundations don't hit the mining cavities. So that's why it was pretty mandatory for everyone to stay on the alignment as we had it.”

The bridge is a continuous curve, anchored at each end by the A-frame towers that suspend the bridge deck with cables across the river. The side spans are each 1,049 ft long and supported by 27 backstay cables and three pairs of ancillary piers that transfer loads directly to the ground.

The mostly serpentine approaches on each side include two sharp horizontal curves, designed that way because of the difficult ground. Remediation work has been extensive. The land is being prepared for 50,000 sq ft of buildings in addition to the bridge.

“We had to do a lot of stability work near the seawall [on the U.S. side] because [drilling subcontractor] Malcolm Drilling's equipment is so heavy,” says Doug Thornton, general superintendent for the U.S. point of entry. He says crews drove 24-in.-dia steel reaction piles—35 of them—into bedrock to support the equipment.

“This work is existing seawall, so we've got to drill some shafts in between all the tiebacks and transfer the load to the backside of the anchor cap wall,” Thornton says. “Then we can clear out all these existing obstructions and be able to drill our shafts for the actual tower. So all that work is going on.”

Sitework also includes more than 150,000 wick drains for the Canadian point of entry and 105,000 for the U.S. POE to remove moisture as well as the relocation of utilities and 12 new caissons, already dug on the Canadian side. The U.S. side will soon follow, with caissons going in this year. On the Canadian side, shafts have already been dropped roughly 98 meters into the ground—six shafts per pier cap for each tower leg—with a more than 131-ft cylindrical rebar cage filled with concrete for the caissons.

Keeping track of four separate projects, each with different methods and supplies on both sides of the river, is a complex job for BNA. For example, the cost of moving fill dirt from the American side to the Canadian side is prohibitively high, and other sources of infill have to be found in Canada, says site utilities supervisor Peter Lindsay. Also, oscillators sink caissons on the U.S. side, but on the Canadian side, crews vibrate them down, Thornton says. “One individual oversees all construction management of it,” says Aaron Epstein, CEO of BNA. “We've got procurement, project controls, commercial activities, business services, safety, security, all of that. We have one lead for that, for the project, and then it's allocated amongst the various components.

“So whether it’s part of the component itself or whether it’s something we can do as a shared service with Canada, the U.S.—something more broken down into the actual four components where they need more resources—that’s how we function, overall,” he adds.

Epstein says the project is on course to make its 2024 completion and begin majority Canadian-owned BNA’s 30-year operation and maintenance period as stipulated in the P3 contract. The Windsor-Detroit Bridge Authority (WDBA) is the Canadian Crown Corp. responsible for delivery and operation of the project.

Contemporary Design

Design is being done by two separate teams to address the different building standards, but common themes include aesthetics, which must be uniform across all projects, Filipovic says.

“It had to be contemporary, minimalist and welcoming,” he says. “We wanted to have an openness by the way we used the space. Because of these common themes, both teams needed to work very closely together, and we did. On top of that, to address the various requirements for security, we brought in specialty subconsultants to supplement AECOM and the other design team members to address the different security requirements [of the Canadian and U.S. border security agencies.]”

The team had to work concurrently with both standards and meet whichever standard was the stricter of the two, whether for rebar, quality of concrete or construction methods, Filipovic says.

To keep the work on track, the design-build JV partners (Fluor, Dragados and Aecon) conduct weekly meetings and numerous ad-hoc meetings to tackle technical challenges with the DBJV and WDBA. This practice started almost immediately after the joint venture team won the project in July 2018.

“Our design life, the design leadership, obviously consisted of many meetings during the week,” Filipovic says.

Obstacles on the U.S. side included a railroad track and land to be purchased nearby. Acquiring and treating the land and rerouting the railroad had a big impact on the erection sequence on the American side.

“We had a railroad track present, and we knew that even though it was realigned, it still would not be sufficient for what we needed to do for a preferred launching sequence,” Filipovic says. “We ended up designing temporary supports and actually came out of it very well.”

Pedestrian bridges crossing 1-75 are part of the interchange project, and some existing bridges will need to be removed to make the new connection.

Sidebar: Fact Box: Four Projects in One

Bridge

Cable-stayed design

Six lanes: three Canadian-bound, three U.S.-bound

Total length: 1.5 miles/2.5 kilometers

Clear span of 0.53 mile/853 meters—the longest main span of any cable-stayed bridge in North America

Main towers will be approximately 820 ft high/250m

No piers in the water

One approach bridge on each side of the crossing to connect ports of entry in Canada and the U.S.

Once complete, the Gordie Howe International Bridge will be among the top five longest bridges in North America

A dedicated multi-use path (11.8-ft/3.6-m-wide will accommodate pedestrians and cyclists

Canadian Port of Entry

Size: 130-acre site/53 hectares

Inbound border inspection facilities for both passenger and commercial vehicles

Outbound inspection facilities

Toll collection facilities for both the U.S.-bound and Canada-bound traffic

Maintenance facility

The footprint allows for installation of further technology and the addition of expanded border-processing facilities

Once constructed, it will be the largest Canadian port along the Canada-U.S. border and one of the largest anywhere in North America

U.S. Port of Entry

Size: 167 acres/68 hectares

350,454 sq ft of building space

Inbound border inspection facilities for both passenger and commercial vehicles

Outbound inspection facilities

Commercial exit control booths

The footprint allows for installation of further technology and the addition of expanded border-processing facilities

Once constructed, it will be one of the largest ports in North America

Michigan Interchange/I-75 Connection

Four new road bridges and five new pedestrian bridges

Widened roads at key intersections to allow trucks to make full turns Four bridges crossing the railway and connecting I-75 to the U.S. POE

Reconfiguration of I-75 interchange ramps and service drives

Primary connecting ramps to and from the U.S. POE