



# CROSS-BORDER INSTITUTE

# INFRASTRUCTURE'S IMPACT ON ECONOMIC GROWTH: HARNESSING THE POTENTIAL IN THE ONTARIO – MICHIGAN/OHIO CORRIDOR

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*For the* Chartered Institute of Logistics and Transport, North America

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# THE NATURE OF INFRASTRUCTURE

- Investments, longer term benefits
- Heterogeneous set of users
- Physical vs Social infrastructure
- Physical infrastructure is not all concrete and asphalt
  - Air traffic control
  - Intelligent Transportation Systems
- Network infrastructure – connecting places, *creating corridors*
  - Water, sewage
  - Electricity transmission and distribution
  - Pipelines
  - Rail and road networks



# INFRASTRUCTURE TRANSFORMS THE ECONOMIC LANDSCAPE

- Improved accessibility → Increased economic potential
- Historical examples
  - Great Lakes locks and canals
  - Transcontinental railways and commercial agriculture
- Reduced travel time
  - Time is money
  - Time is distance
- Improvements to fully connected networks
  - Reduce circuitry
  - Reduce congestion delays
  - Reduce uncertainty (predictable, resilient)



# ■ US-CANADA TRADE (GOODS)

- #2 US bilateral trade relationship in 2019 (just behind Mexico, roughly 3 times US trade with Japan or Germany)
- Canada is #1 market for US exports
- 58% of Canada-US merchandise trade moves by trucks
- Mostly manufacturing, intra-industry trade
- About half is in and out of the province of **Ontario** (75% by trucks)
  - Biggest Ontario categories: automotive; machinery/electrical
  - Cross-border supply chains
  - Well over 90% through bridges at Detroit, St.Clair and Niagara Rivers

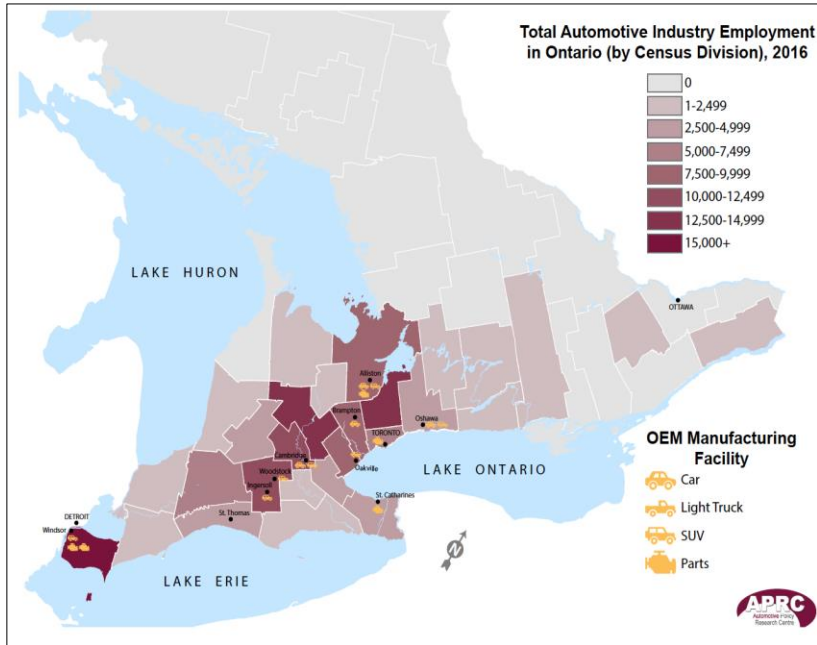


# SUPPLY CHAIN TRADE

- Cross-border industrial supply chains
- Trade in industrial intermediate goods (factory-to-factory)
- Export of final goods containing substantial value from the receiving country
- Textbook example: North American automotive industry
- On a global scale, supply chain trade is regional
- ***Trade logistics: speed and reliability vs. minimum cost***
  - ***Highway mode dominates***



# KEY SECTORS FOR CROSS-BORDER INTEGRATION



## Automotive

- very large share of trade at Detroit River crossing

- Highly intolerant of delay and risks

## Agrifood

- Large flows but limited integration

## Retail

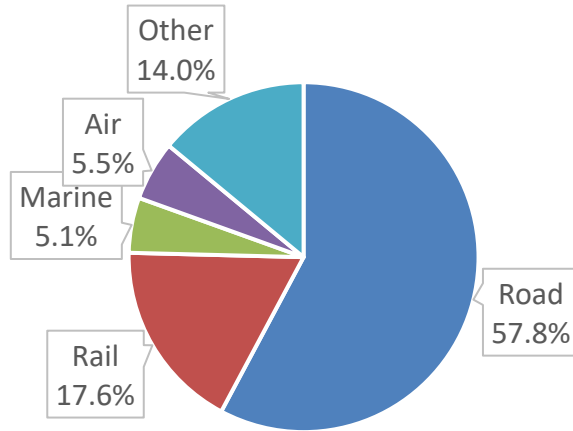
- Poorly integrated but large potential

## Critical for resilience

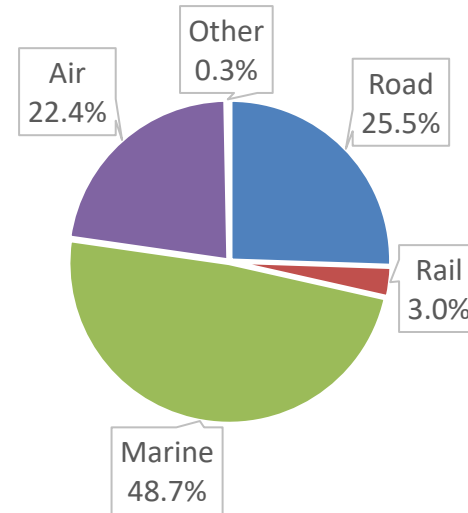
- PPE and other health care
- Critical minerals, resources
- *Executive Order on America's Supply Chains*

# TRADE SHARES BY TRANSPORT MODE (2018, VALUE)

Canada-U.S. Trade Modal Shares



Rest of World Trade Modal Shares





# ***CANADA-US TRADE DOESN'T LOOK LIKE THIS...***

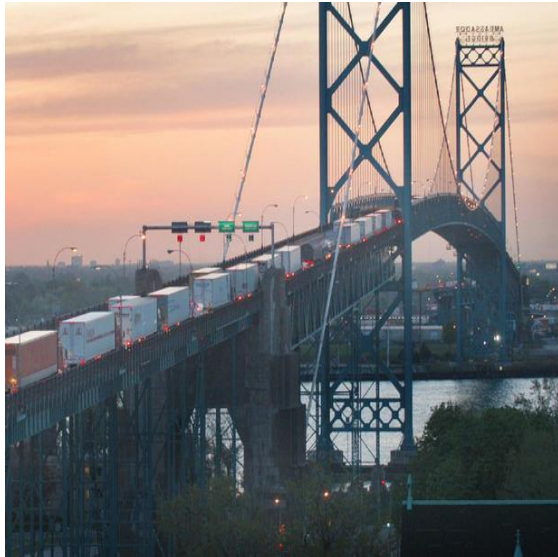


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***IT LOOKS LIKE THIS ...***



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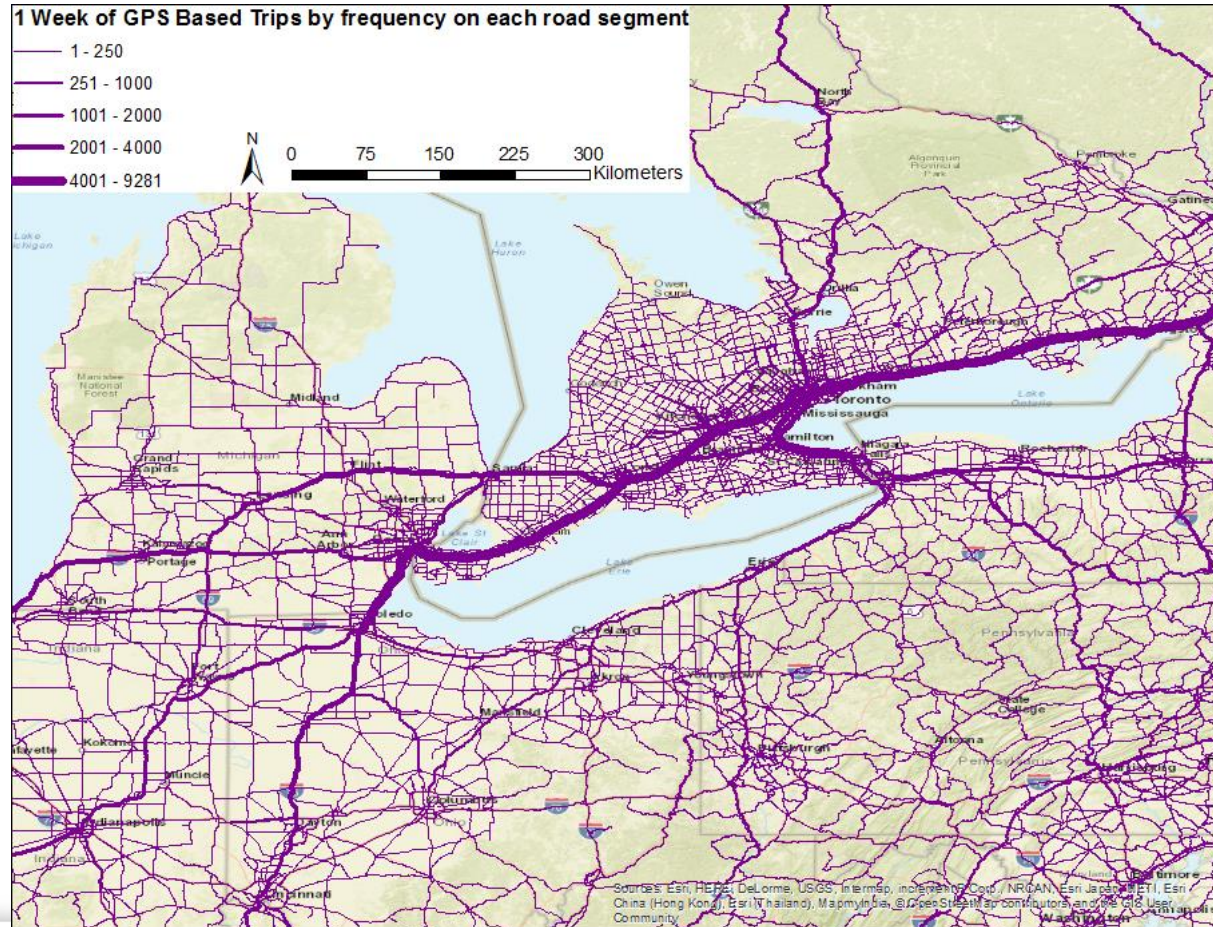


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# BINATIONAL TRUCK FLOWS



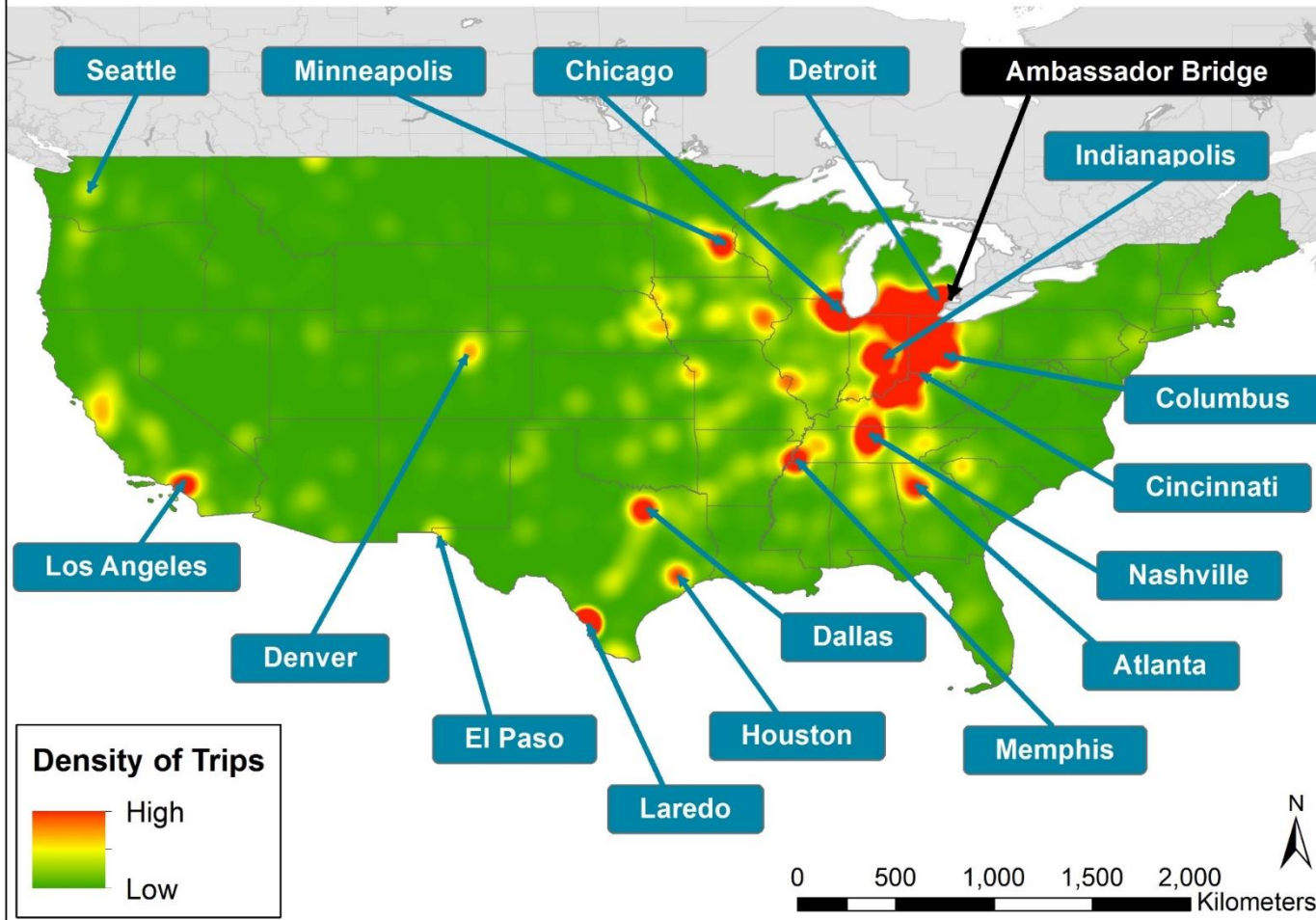
# DETROIT RIVER CROSSING

- Ambassador Bridge (1929) accounts for almost 1/3 of Canada-US truck borne trade and 1/5 of total trade.
- Volume of truck trailers > Port of Vancouver containers.
- Connects Ontario Highway 401 with US interstates I-75, I-96, and I-94.
- Main connection for the highly integrated Canada-US automotive sector
- Problems
  - Limited capacity in lanes and inspection plazas
  - 90+ year old infrastructure, limited redundancy
  - No direct highway connection on Canadian side



# Origin Density of Truck Trips Crossing the Ambassador Bridge (2013)

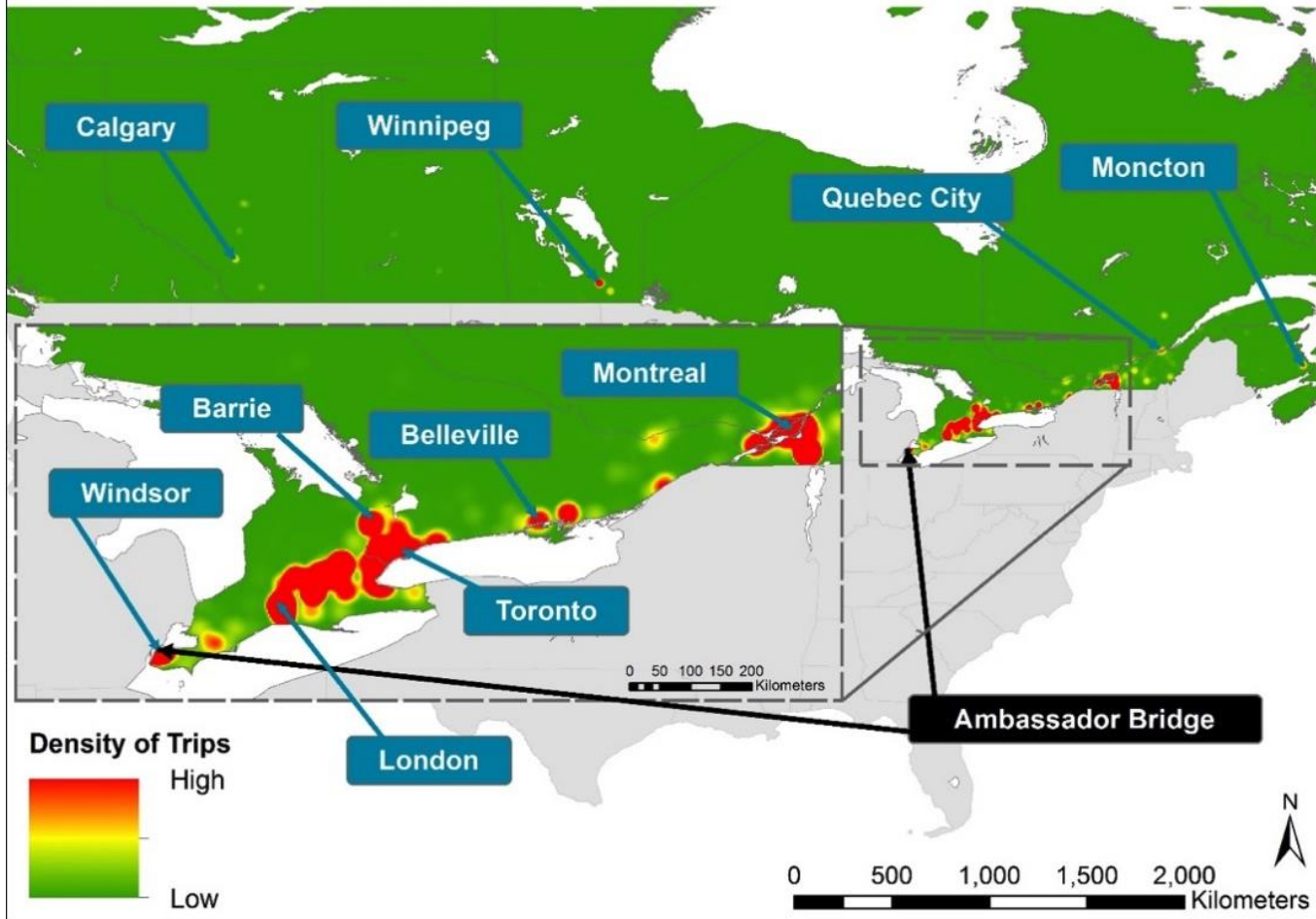
Source: GPS sample data - Cross-Border Institute





# CAN Origin Density of Truck Trips Crossing the Ambassador Bridge (2013/2014)

Source: GPS sample data - Cross-Border Institute

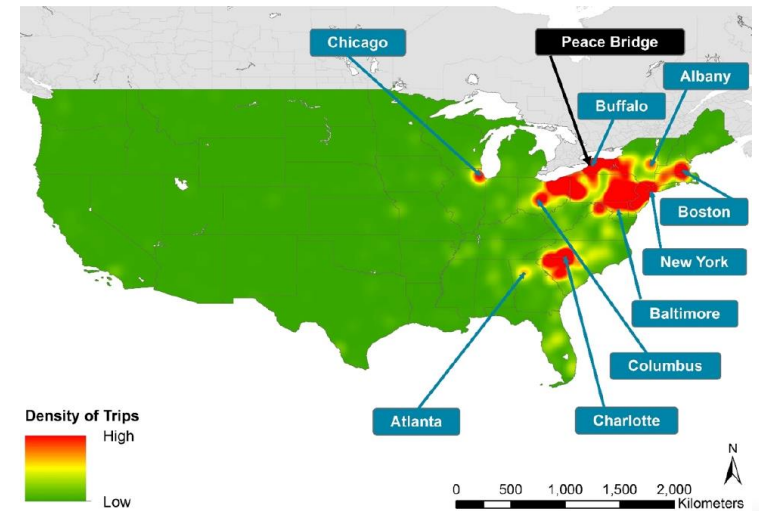
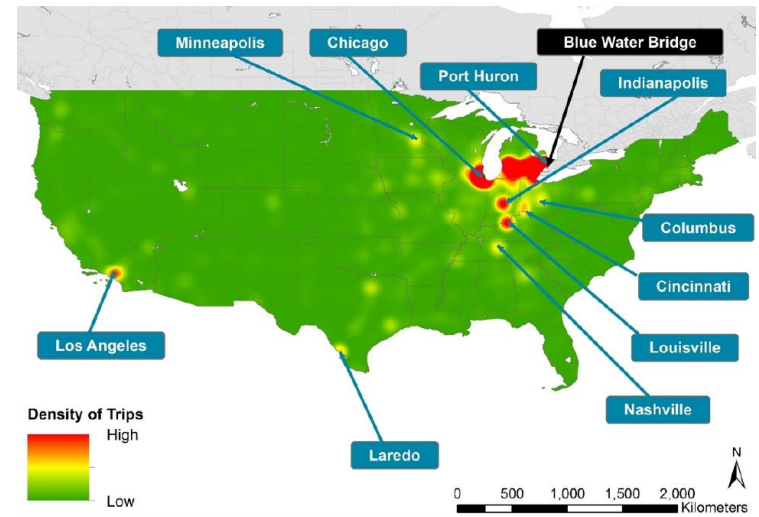
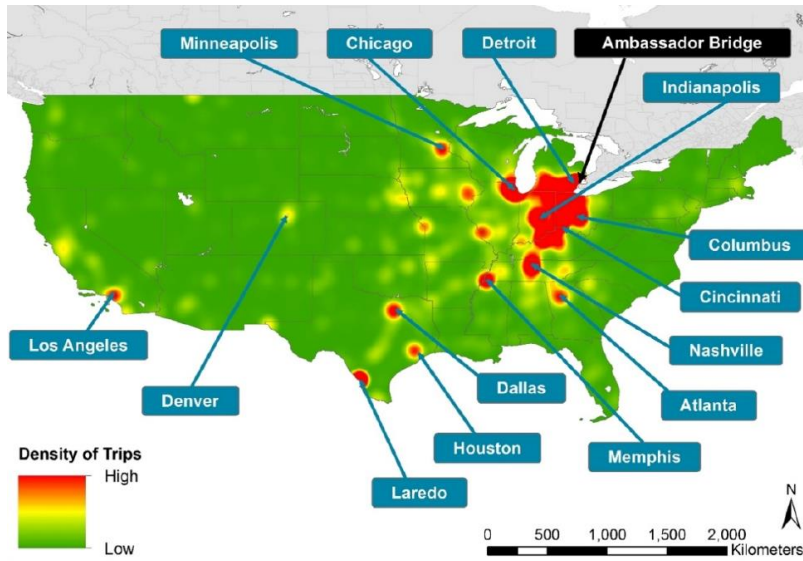


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# UNIQUE GEOGRAPHY FOR EACH CROSSING

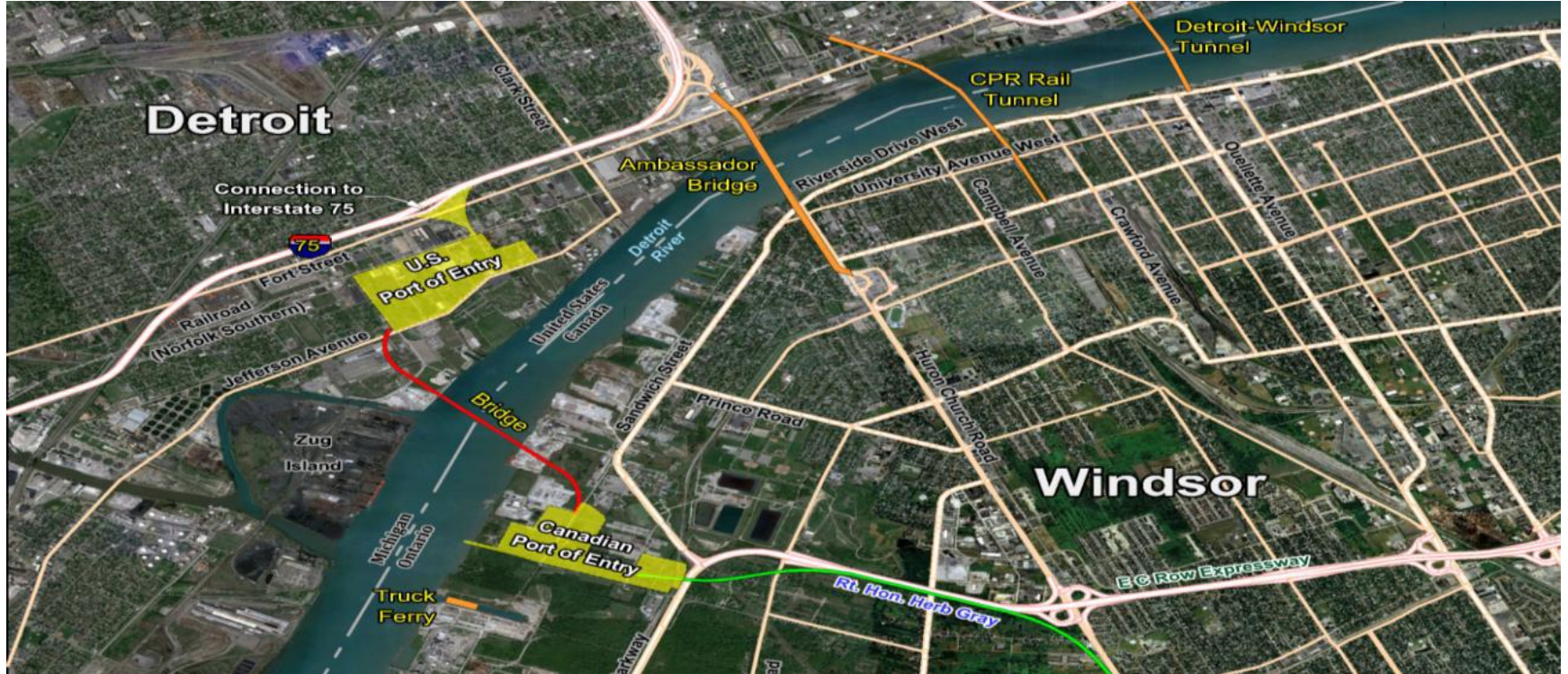




# GORDIE HOWE INTERNATIONAL BRIDGE PROJECT

- New *highway-to-highway* crossing at the Detroit River
  - Efficiency, reliability, redundancy
- Exploratory planning process began in 2001
- Site selected downriver from the Ambassador Bridge
- Two projects to create highway-to-highway connection
  - Herb Gray Parkway (connection to Highway 401)
  - Gordie Howe International Bridge
- Complex politics
- P3 contracting
- Construction begins late 2018, completion scheduled late 2024





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## **THE GORDIE HOWE INTERNATIONAL BRIDGE AND THE BI-NATIONAL GREAT LAKES ECONOMIC REGION: ASSESSING ECONOMIC IMPACTS AND OPPORTUNITIES (REPORT BY CBI, 2021)**

- Coauthors Dan Lynch, Roger Hamlin, Bob Armstrong, Laurie Tannous
- Full report
- [The Gordie Howe International Bridge and the Bi-National Great Lakes Economic Region: Assessing Economic Impacts and Realizing Economic Opportunities \(cbainstitute.ca\)](https://www.cbainstitute.ca/research/the-gordie-howe-international-bridge-and-the-bi-national-great-lakes-economic-region-assessing-economic-impacts-and-realizing-economic-opportunities)
- Summary report
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# IMPACTS VS OPPORTUNITIES

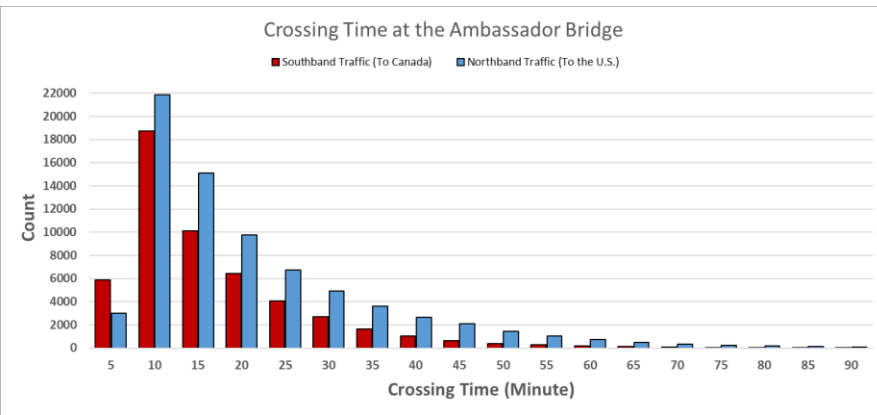
Impacts: benefits (or costs) that are realized automatically when the new infrastructure comes into service.

- Time savings
- Increased reliability
- Increase or decrease in emissions

Opportunities: New economic activities for which the infrastructure is a *necessary but not sufficient* condition. (Additional private or public investment is needed)

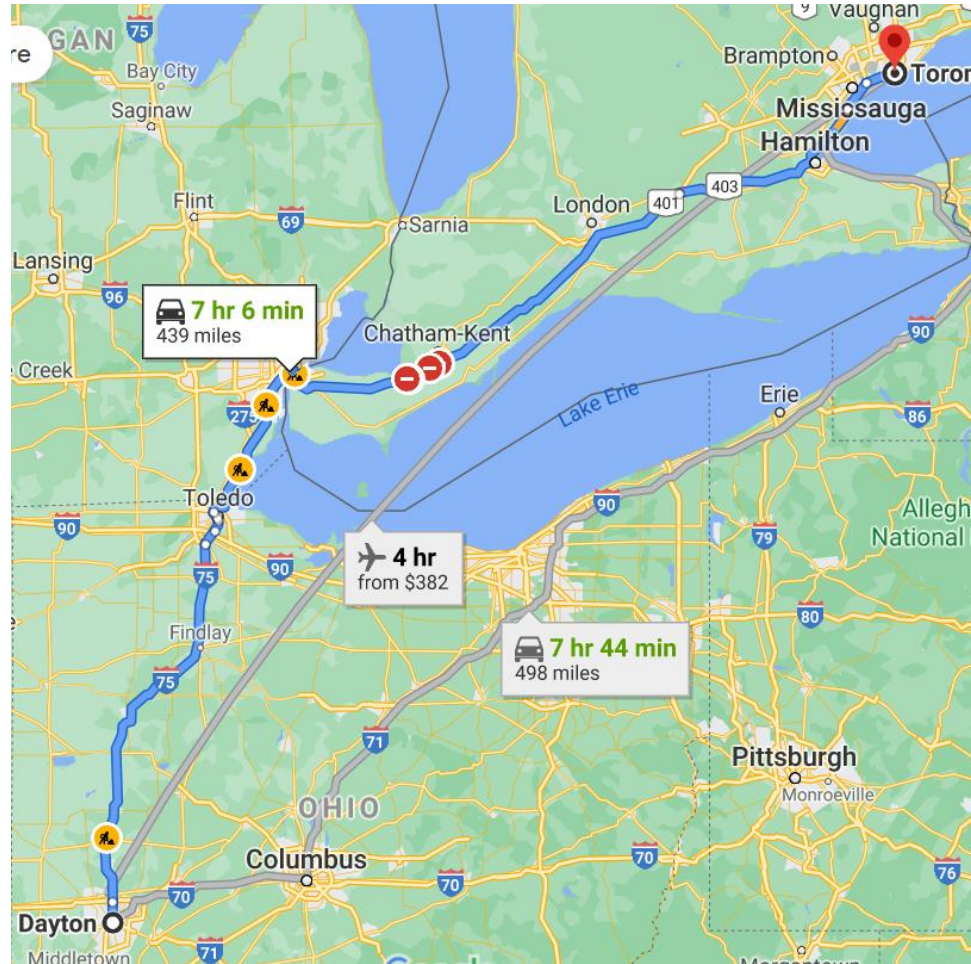
- Trade induced investment in new or expanded capacity
- Activities that complement the improved transportation service

# IMPACTS: WHY THE GORDIE HOW INTERNATIONAL BRIDGE WILL BE A BETTER CROSSING



- Highway-to-highway connection in *improved corridors*
- Larger inspection plazas
- More lanes
  - Support more volume
  - Reduce impact of incidents (better consistency)
  - Support trusted traveler/trader
- Advanced technology
- *Certainty of long service lifetime to support private investment*

(GOOGLE MAPS)



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# TWO TYPES OF ECONOMIC BENEFITS

Why build infrastructure? To create two types of benefits:

*Static benefits:* Better transportation service to the existing pattern of cross-border traffic flows:

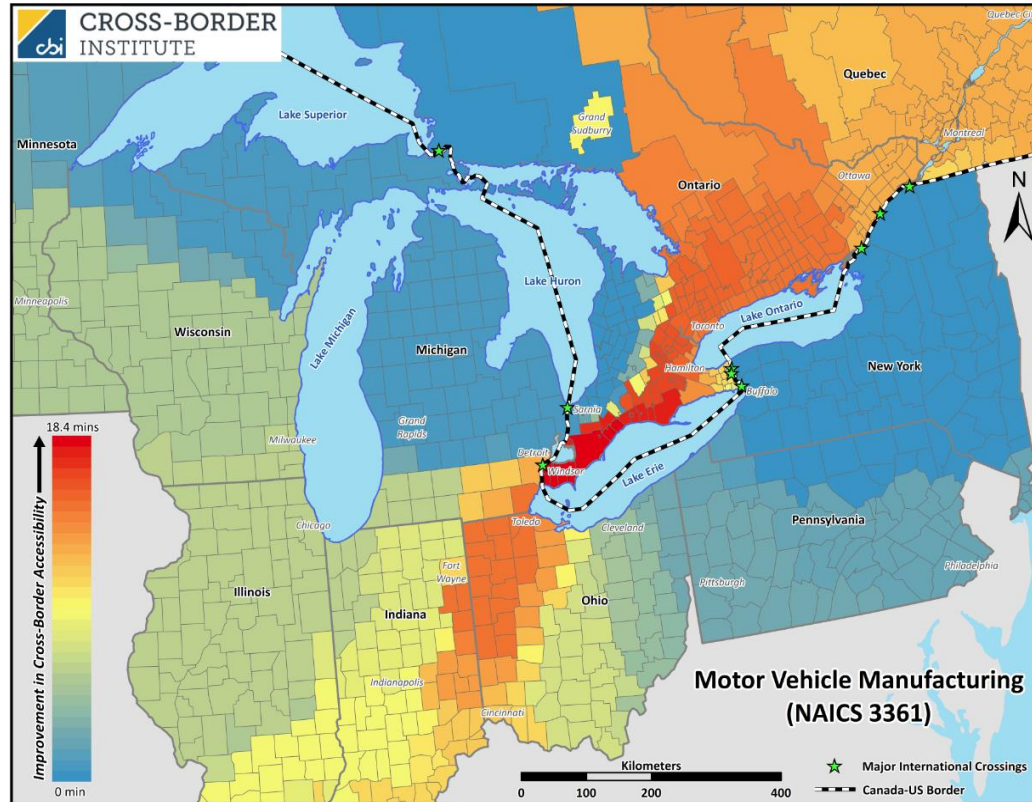
- Aggregate time savings for border crossers

*Dynamic benefits:* Superior service gives rise to a changed pattern of traffic flow:

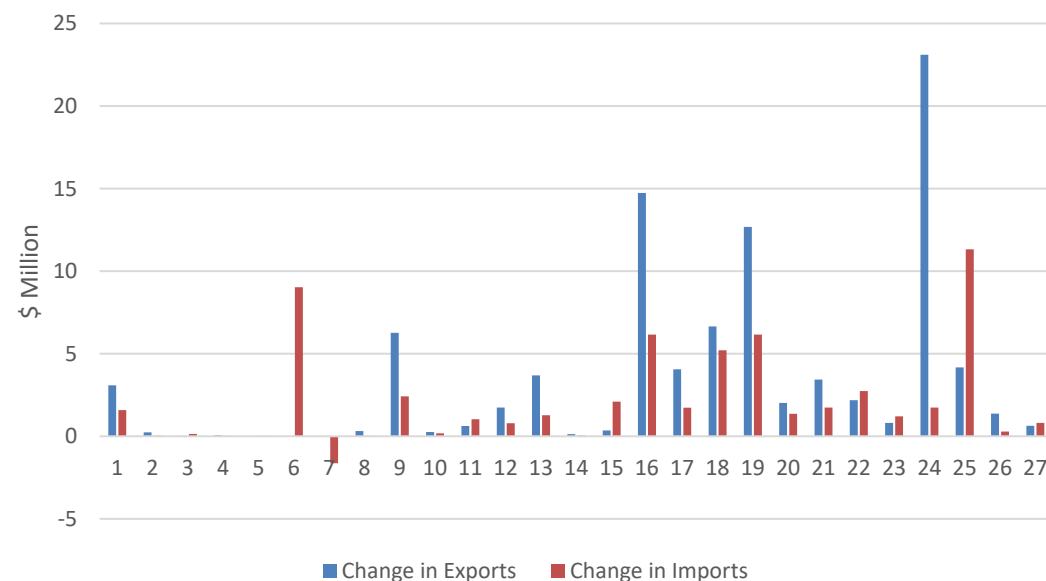
- Like eliminating a tariff, reducing border costs leads to growth in trade, income and employment



# AVERAGE ACCESS TIME SAVINGS TO INDUSTRIAL INPUTS – AUTO ASSEMBLY



# DYNAMIC BENEFITS: TRADE EXPANSION DUE TO IMPROVED CROSSING TIMES (CGE MODEL RESULTS)



No.	Name
1	Grains and other crop products [M111B]
2	Live animals [M112A]
3	Other farm products [M11D0]
4	Forestry products and services [M11E0]
5	Fish and seafood, live, fresh, chilled or frozen [M1140]
6	Mineral fuels [M21B0]
7	Metal ores and concentrates [M2122]
8	Non-metallic minerals [M2123]
9	Food and non-alcoholic beverages [M31C0]
10	Alcoholic beverages and tobacco products [M312A]
11	Textile products, clothing, and products of leather and similar materials [M31D]
12	Wood products [M3210]
13	Wood pulp, paper and paper products and paper stock [M3220]
14	Printed products and services [M3230]
15	Refined petroleum products (except petrochemicals) [M3240]
16	Chemical products [M3250]
17	Plastic and rubber products [M3260]
18	Non-metallic mineral products [M3270]
19	Primary metallic products [M3310]
20	Fabricated metallic products [M3320]
21	Industrial machinery [M3330]
22	Computer and electronic products [M334C]
23	Electrical equipment, appliances and components [M3350]
24	Transportation equipment [M336A]
25	Motor vehicle parts [M3363]
26	Furniture and related products [M3370]
27	Other manufactured products and custom work [M3B00]

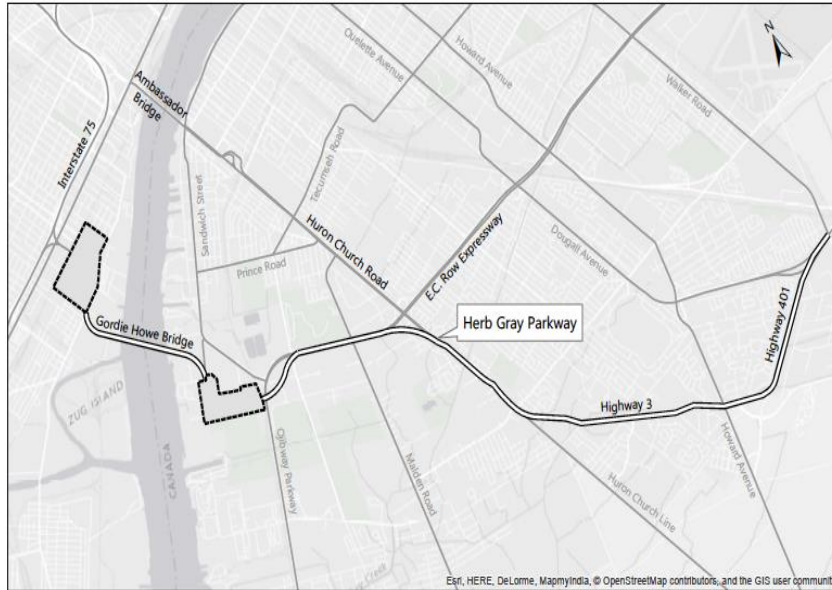
# OPPORTUNITIES: POTENTIAL FOR TRANSPORTATION, DISTRIBUTION AND LOGISTICS DEVELOPMENT

## Why TDL?

- TDL sector is best placed to take advantage of **the huge flow of freight** through the corridor served by the new Bridge;
- it is a **land-intensive** activity and developable land is more readily available in the study regions than in other metro areas;
- it has the potential to provide employment opportunities to people with **limited transferable skills**;
- growth in TDL services will **enhance the competitiveness** of other industries in the region;
- the central location of the Detroit River crossing creates the potential to provide **hub services (such as cross docking)** for the broader Great Lakes and St Laurence (GLSL) economic region.



# HOW DOES THE GORDIE HOWE INTERNATIONAL BRIDGE CHANGE TDL POTENTIAL?



- Improved accessibility to origins and destinations of freight
- Increased flow through the corridor
- Reduced risk due to redundancy
- Opening opportunities for land development (especially on Canadian side)

# GENERAL RECOMMENDATIONS ON TDL CLUSTER

- Develop business case for cluster based on **flow-through traffic** rather than just local demand
- Private-Public model but **no development “on spec”** – private investment required for all facilities (analytical template developed in project)
- Since no single entity is likely to have sufficient stake on its own, a **coordinating institution** is needed
- Development must be justified on **commercial, social and environmental** benefits
- Common **IT assets** for service providers in the cluster
- First step: *ad hoc* committee to develop **action plan**

# GENERAL STUDY CONCLUSIONS

The Gordie Howe International Bridge projects represents **one of the most important initiatives for trade facilitation in the world today**. It will

- **save billions** of dollars for the trade movements that currently pass through the Windsor-Detroit corridor;
- **improve cross-border accessibility** throughout the Great Lakes and St. Lawrence region;
- facilitating growth in **mutually beneficial cross-border trade**; and
- provide the level of **certainty necessary to induce investments** in productive assets in both Canada and the United States.

It will also create a zone of high cross-border accessibility and freight flow, providing the opportunity to build a cluster of transportation, distribution and logistics activities that can expand the economic base and employment level in Southeastern Michigan and Southwestern Ontario.



■ **THANKS, QUESTIONS?**

