



CROSS-BORDER INSTITUTE

UNCERTAINTY AND CROSS-BORDER SUPPLY CHAINS

Bill Anderson, CBI Director
EBTC, Detroit, April 19, 2016



**Federal Economic Development
Agency for Southern Ontario**

**Agence fédérale de développement
économique pour le Sud de l'Ontario**



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CROSS-BORDER SUPPLY CHAINS

- More than just exchange of finished goods, integration of production systems
- Windsor, Ontario's largest automotive plants
 - Vans assembled from US parts
 - Engines for US-assembled trucks and cars
- Just-in-Time: little tolerance for delays, disruptions and high transfer costs



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■ BORDER COSTS

DUTIES, TOLLS, FEES

Out of pocket payments to various government agencies and infrastructure owners

CUSTOMS ADMINISTRATION

Customs documents, classification and valuation, rules of origin, brokers fees, advanced notification

EMPTY BACKHAUL

Due to cabotage restrictions, high % of cross-border empties

DELAYS, UNCERTAINTY

Mean and *variance* of crossing times have cost implications

TRUSTED TRADER COMPLIANCE

Reduced delays in exchange for increased supply chain security

PERSONAL TRIPS

Limitation on movements of personnel for marketing, training, maintenance, repair



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■ BIG DATA ANALYSIS OF GPS RECORDS

- GPS units in most trucks
- *Ping*: time and location
- Billions of records
- A new window on truck freight movement
- Transport Canada / CBI collaboration
 - GPS records for over 50,000 Canadian registered trucks
 - Currently over 1.5 billion records
- Border wait time analysis via “geofencing”
- OD data for specific border crossings

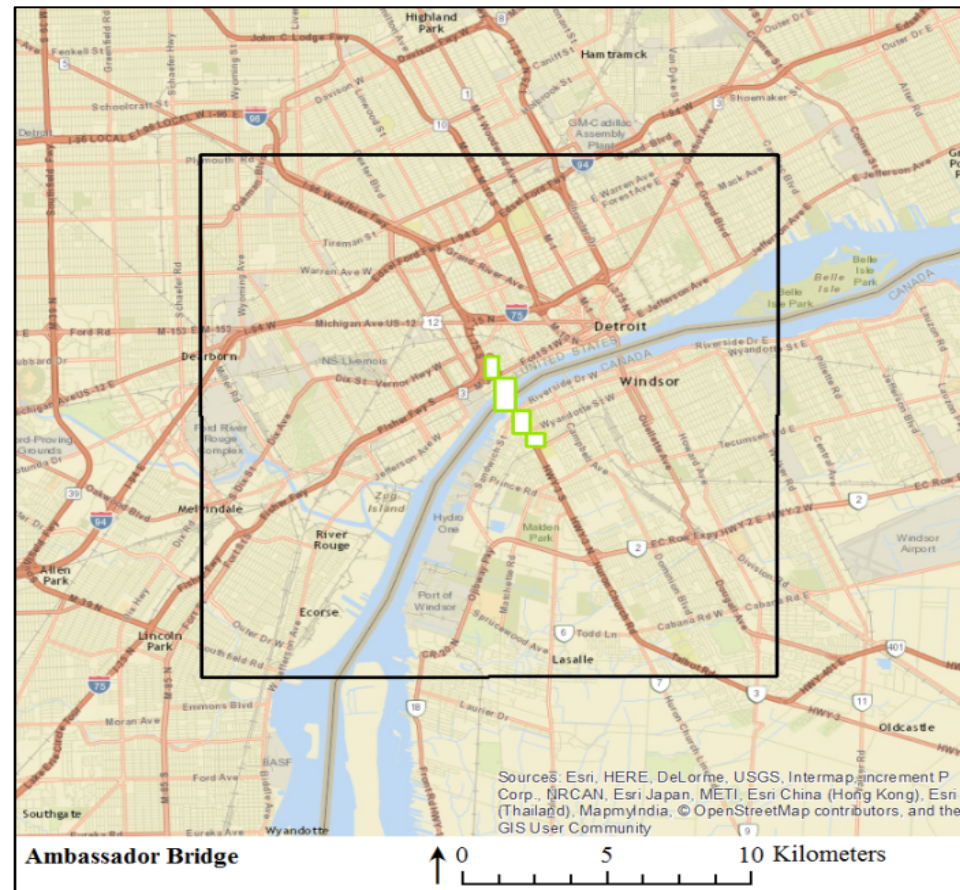


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■ GEOFENCING



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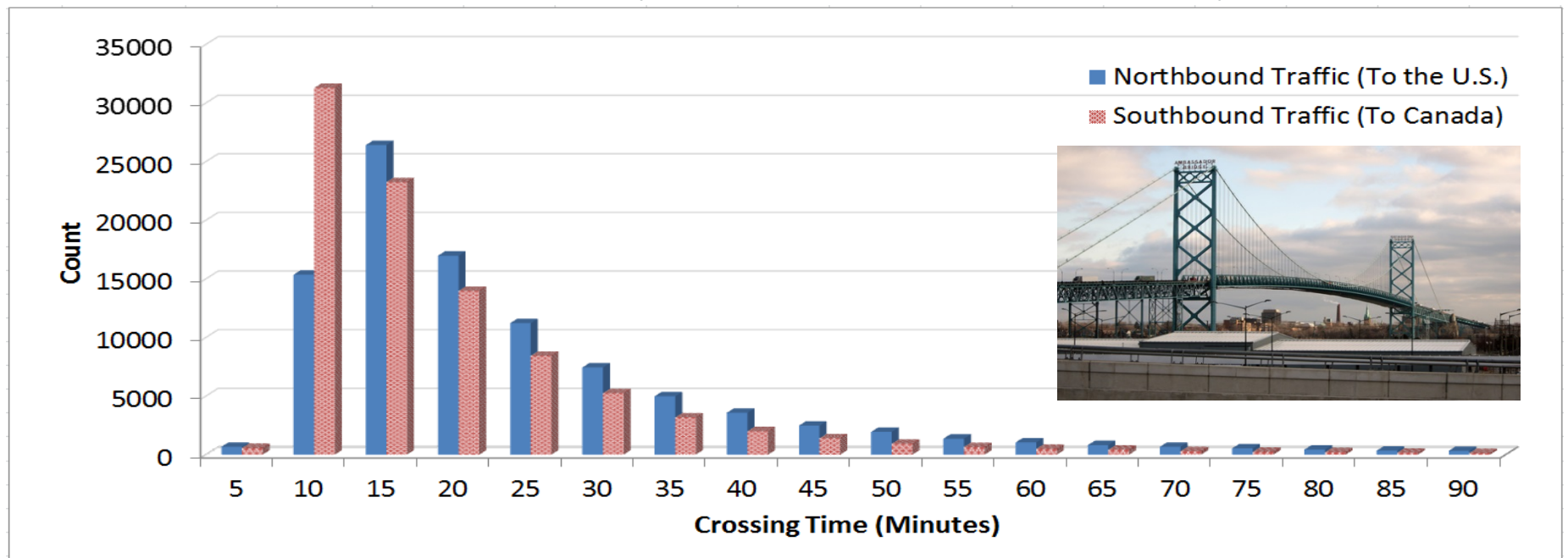
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BORDER CROSSINGS

Ambassador Bridge (one year of GPS data)

96,535 records towards the U.S. (Mean = 21.23 min; Median = 16.50 min)

92,896 records towards Canada (Mean = 16.75 min; Median = 12.74 min)



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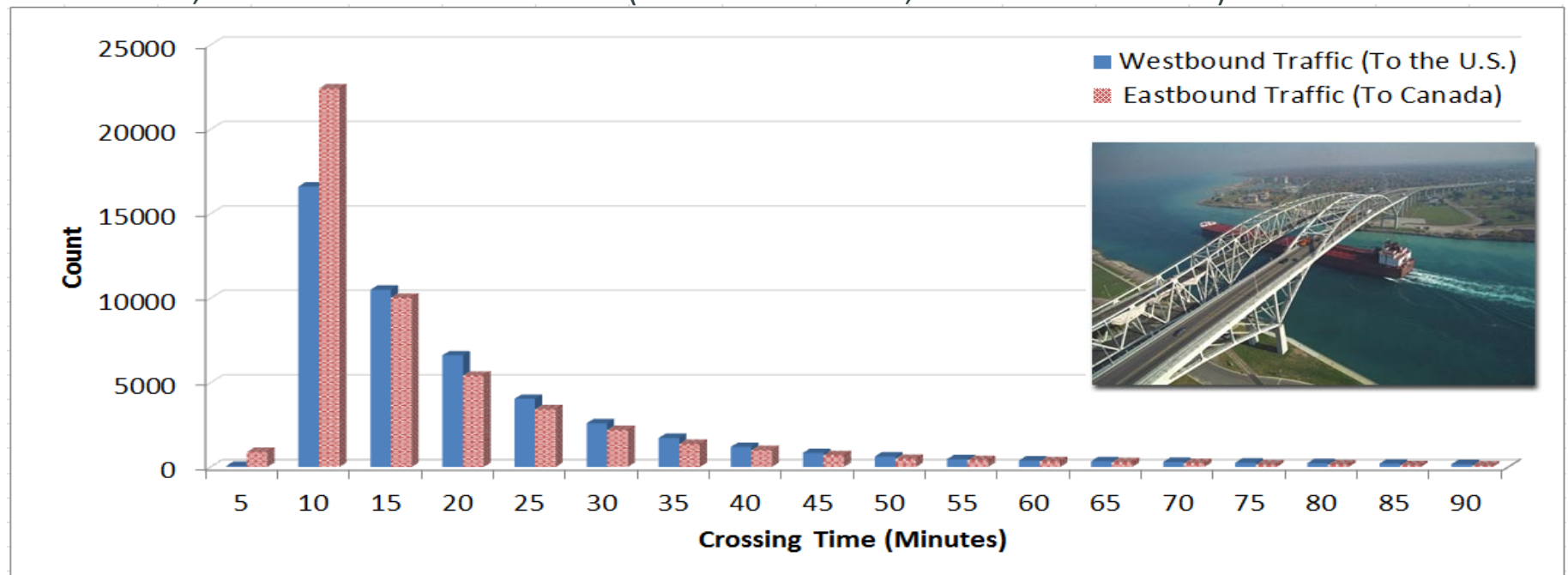
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BORDER CROSSINGS

Blue Water Bridge (one year of GPS data)

47,114 records towards the U.S. (Mean = 18.16 min; Median = 12.98 min)

49,566 records towards Canada (Mean = 15.41 min; Median = 10.52 min)



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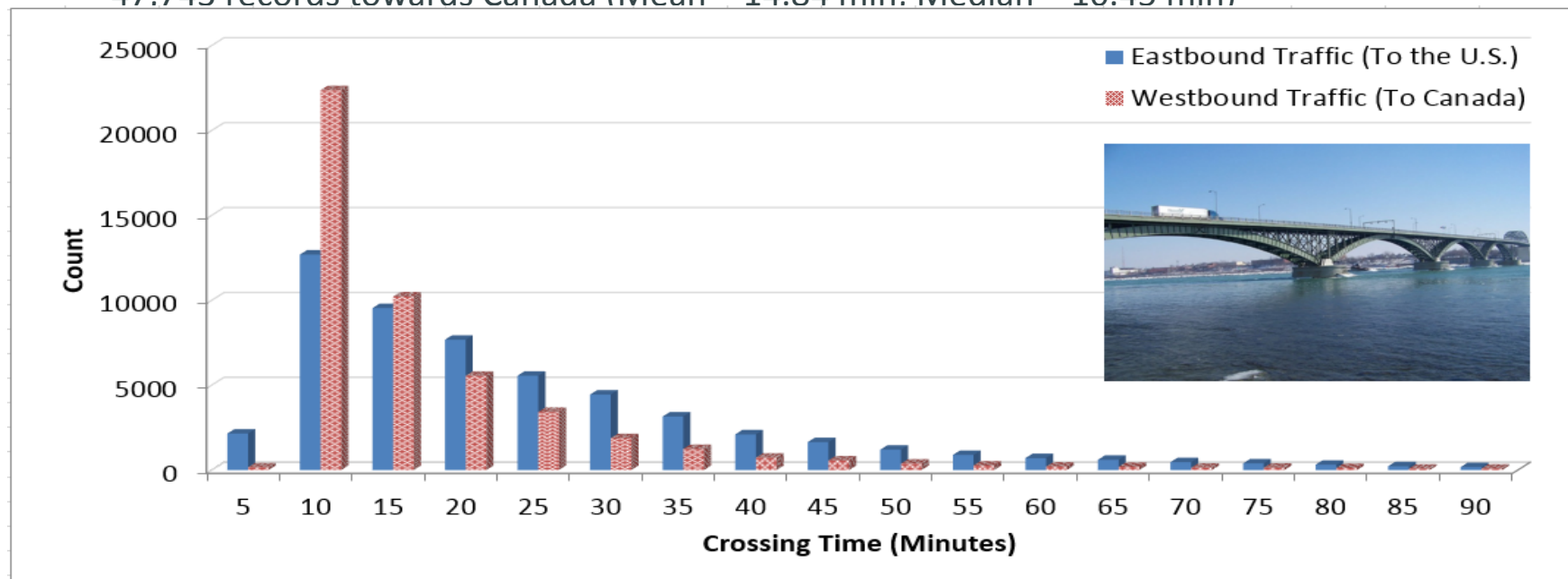
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BORDER CROSSINGS

Peace Bridge (one year of GPS data)

53,921 records towards the U.S. (Mean = 21.33 min; Median = 16.47 min)

47,743 records towards Canada (Mean = 14.84 min; Median = 10.45 min)



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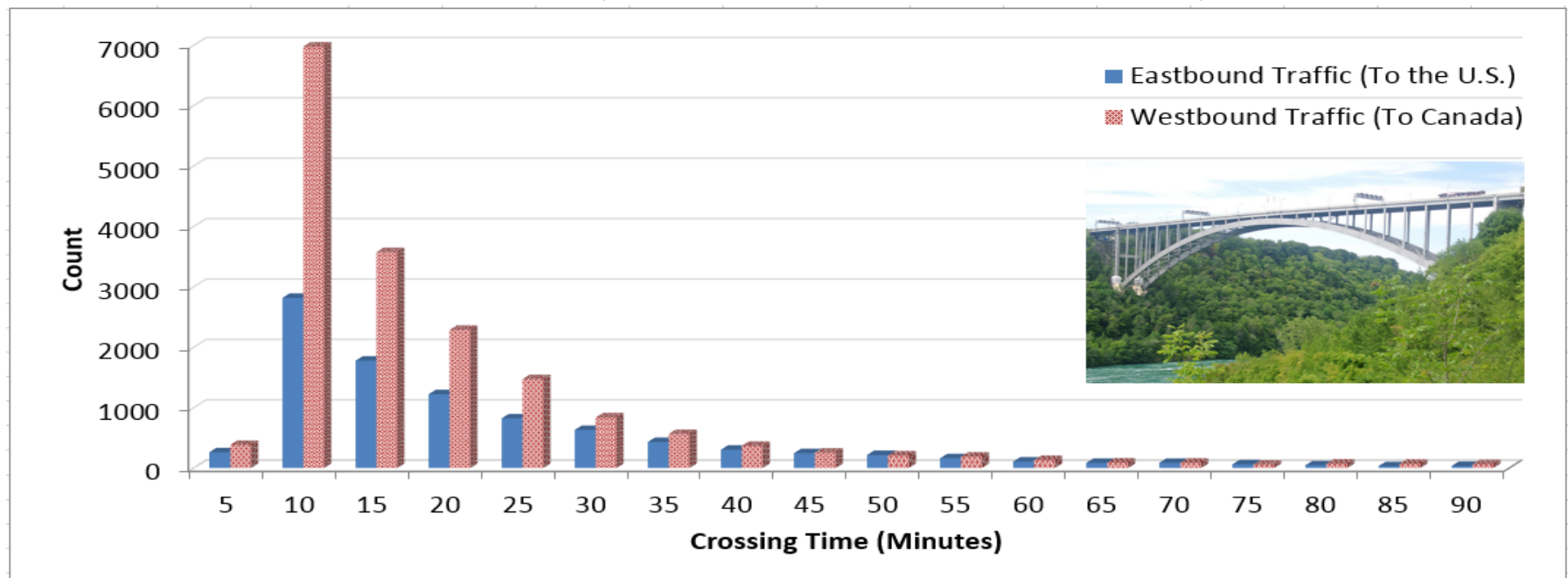
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BORDER CROSSINGS

Queenston-Lewiston Bridge (one year of GPS data)

9,949 records towards the U.S. (Mean = 19.91 min; Median = 14.44 min)

17,711 records towards Canada (Mean = 16.72 min; Median = 11.72 min)



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■ THREE WAYS TO COPE WITH CROSSING TIME UNCERTAINTY

1. Buffer times in truck scheduling
 - Cost of being late greater than the cost of being early
 - Increased turn times, higher costs
2. Cross-border inventory stockpiles
 - Higher overall inventory costs
3. Consolidate supply chains on one side of the border



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■ IMPLICATIONS

- Policy
 - Focus on reliability
 - Infrastructure, staffing, technology
- Gordie Howe International Bridge
 - Highway-to-highway connection
 - More lanes, larger plazas
 - Embedded technology



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