

Fronteiras internacionais

Estudos de caso nos EUA

Workshop de Sistemas Inteligentes de Transporte (ITS, Intelligent Transportation Systems)

Brasília, Brasil

23 de agosto de 2017

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U.S. Department of Transportation
Federal Highway Administration

Tempo de espera na fronteira e iniciativas de atraso

- Iniciativas de pesquisa FHWA:
 - Destinadas à medição dos tempos de viagem na fronteira, tempos de espera na fronteira e tempos de atraso nas principais fronteiras terrestres dos EUA.
 - Centrado na identificação de dispositivos ITS aceitáveis ou outras tecnologias comerciais que permitam que os tempos de passagem das fronteiras, tempos de espera e demora para sejam medidos facilmente e com precisão.



Implantação de tecnologia de tempo de espera na fronteira

- Objetivo: Implementar um sistema de medição automatizado do tempo de espera na fronteira.
 - Fornecer medidas de tempo de espera contínuas para carros e caminhões.
 - Aumentar a eficiência operacional e de mão de obra.
 - Fornecer informações em tempo real para ajudar os viajantes em opções de travessia.



Fonte: Texas A&M Transportation Institute (TTI)



Fonte: Automotive News



Tempos de espera na fronteira Canadá - EUA

- Aliança Internacional de Tecnologia de Transportes de Niágara (NITTEC)
 - Aliança de várias agências em New York ocidental e sul de Ontário que compartilham o objetivo de melhorar a mobilidade de tráfego, fiabilidade e segurança na rede de transporte regional, binacional e multimodal.
 - O sistema inclui quatro postos de fronteira internacional entre o Canadá e os Estados Unidos.
 - As agências membros do NITTEC estão representados no Conselho de Administração e Comitês da Aliança.



Agências Membro de NITTEC

- 5 membros da política
 - Erie County
 - Ministério de Transporte de Ontário
 - Departamento de Transporte do Estado de Nova Iorque
 - Autoridade de vias expressas do Estado de Nova Iorque
 - Autoridade de Transporte da fronteira de Niágara
- 9 membros gerais
 - Autoridade da Ponte Pública de Buffalo e Fort Erie
 - Cidade de Buffalo
 - Cidade de Niagara Falls, Nova Iorque
 - Cidade de Niagara Falls, Ontário
 - Condado de Niágara
 - Comissão da Ponte das Cataratas do Niágara
 - Região de Niágara
 - Comissão de Parques do Niágara
 - Cidade de Fort Erie
- 29 membros afiliados
 - Incluindo FHWA, Alfândega e Proteção de Fronteiras dos EUA, órgãos de segurança pública, indústria, agências locais.



Arquitetura do ITS Regional NITTEC

• http://www.consystec.com/buffalo/web/_regionhome.htm

The screenshot shows a web browser window displaying the Buffalo-Niagara Bi-National Regional ITS Architecture website. The browser's address bar shows the URL http://www.consystec.com/buffalo/web/_regionhome.htm. The website has a blue header with the title "Buffalo-Niagara Architecture" and a navigation menu on the left. The main content area features a large heading "Buffalo-Niagara Architecture" and a detailed description of the architecture's purpose and scope. The website is hosted on a ConsysTec platform, as indicated by the logo and text.

Menu

- Region Home
- Stakeholders
- ITS Inventory
- Inventory by Stakeholder
- Inventory by Entity
- Sausage Diagram
- Market Packages by Functional Area
- Market Packages by Stakeholder
- Market Package Descriptions
- Equipment Package Descriptions
- Architecture Flow Descriptions
- Project Documents
- Send Your Comments

Home Page

Buffalo-Niagara Architecture

The **Buffalo-Niagara Bi-National Regional ITS Architecture** is a roadmap for transportation systems integration for the metropolitan area of Buffalo, Niagara Falls, and the surrounding municipalities in New York as well as Region Niagara in Ontario, Canada over the next 15 years. The Buffalo-Niagara Bi-National Regional ITS Architecture has been developed through a cooperative effort by the region's transportation agencies, covering all surface transportation modes and all roads in the region.

The Buffalo-Niagara Bi-National Regional ITS Architecture was developed from existing documentation and information gathered for international border crossings. Additional information for the Buffalo-Niagara Bi-National Regional ITS Architecture will be reviewed and elaborated on through extensive stakeholder input gathered through a series of stakeholder group meetings/workshops (April 19-20, 2005; June 15-16, 2005; July 14, 2005), from review with individual stakeholders, and from comments received during the review period. The Buffalo-Niagara Bi-National Regional ITS Architecture represents a shared vision of how each agencies' systems will work together in the future, sharing information and resources to provide a safer, more efficient, and more effective transportation system for travelers in the region.

The architecture is an important new tool that will be used by:

- Planning agencies/organizations to better reflect integration opportunities and operational needs into the transportation planning process.
- Operating and implementing agencies to recognize and plan for transportation integration opportunities in the region.
- Other organizations and individuals that use the transportation system in the region.

The architecture provides an overarching framework that spans all of these organizations and individual transportation projects. Using the architecture, each transportation project can be viewed as an element of the overall transportation system, providing visibility into the relationship between individual transportation projects and ways to cost-effectively build an integrated transportation system over time.

Time Horizon and Services

The Buffalo-Niagara Bi-National Regional ITS architecture has a time horizon of up to fifteen years with particular focus on those systems and interfaces that are likely to be implemented in the next ten years. The architecture covers the broad spectrum of Intelligent Transportation Systems, including Traffic Management, Transit Management, Traveler Information, Maintenance and Construction, Emergency Management, Commercial Vehicle Operations, and Archived Data Management over this time horizon.

Elements in the architecture are classified as either "existing" or "planned". Elements classified as "existing" are those whose interface design is complete, regardless of whether the actual element or interface is implemented. Elements classified as "planned" are those whose interfaces have not yet been designed.

About this Web Site

The purpose of this regional ITS architecture web site is to organize the details of the architecture into a form that is more readily accessible to stakeholders. It will provide a method for stakeholders to access the architecture information in order to encourage the use of the Buffalo-Niagara Bi-National Regional ITS Architecture in both transportation planning and project implementation. In addition, this website will be useful in gathering stakeholder feedback so that the architecture is used and continues to reflect the intelligent transportation system vision for the region. The menu bar at left provides access to the stakeholders, the transportation systems in the region (the "Inventory"), the transportation services that will be provided, transportation-related functions that are envisioned, and the existing and planned interfaces in the region.

The majority of this web site was generated directly from a Turbo Architecture database which defines the architecture for the Buffalo-Niagara Bi-National region. The [source database](#) in Microsoft Access format is also available for download.

NOTE: The Turbo Architecture database file was updated to Version 1.00.01 and includes market package instances under the Services tab.

Last updated: 08-19-2006



Canadá - EUA Tempo de espera na fronteira

<http://www.niagarafallsbridges.com/index.php/services/traffic-conditions>

TRAFFIC CONDITIONS

For current traffic conditions, call the NFBC's traffic update line at 1-800-715-6722

Please have the appropriate identification ready, prior to inspection.

Lewiston/Queenston Bridge

Rainbow Bridge

Real-time traffic conditions as of: Thu Aug. 03, 2017 10:35 AM

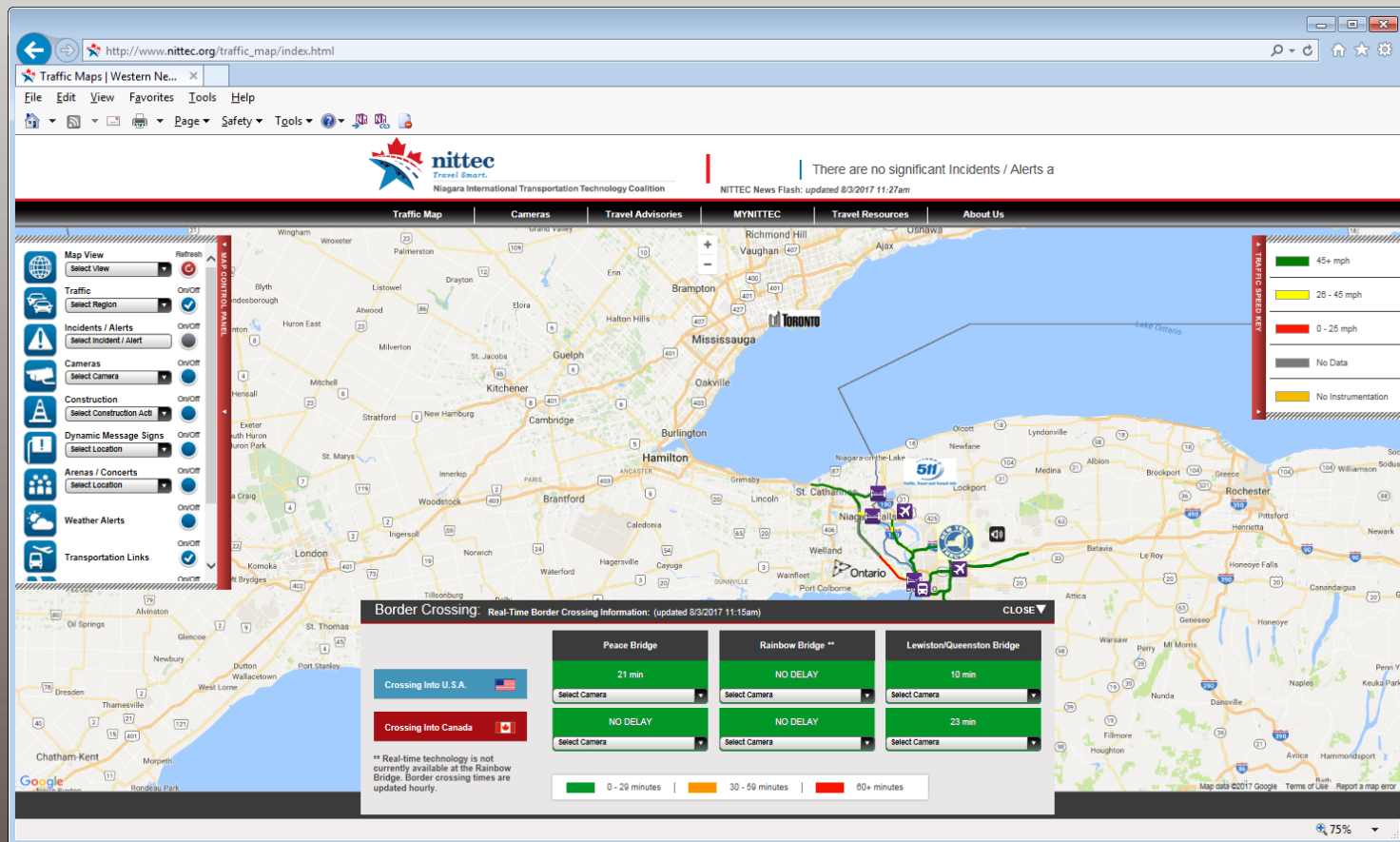
To U.S.A. 🇺🇸	Lewiston Queenston	Rainbow**	Whirlpool** (Nexus Only)	Peace Bridge
Autos	No Delay	No Delay		11 min
Trucks	No Delay			17 min
Nexus			No Delay	No Delay
To Canada 🇨🇦	Lewiston Queenston	Rainbow**	Whirlpool** (Nexus Only)	Peace Bridge
Autos	11 min	15 min		No Delay
Trucks	No Delay			No Delay
Nexus	No Delay		No Delay	No Delay

** Real-time technology is not currently available at the Rainbow Bridge and Whirlpool Bridge. These bridges are updated hourly by the Niagara Falls Bridge Commission.



Canadá - EUA Tempo de espera na fronteira

http://www.nittec.org/traffic_map/index.html



México - EUA Tempo de espera na fronteira

- Sistema de Informações de Travessia da Fronteira (BCIS)
 - Tempos de espera estimados e momentos de travessia esperados de veículos comerciais vinculados aos EUA.
 - Tempos de espera estimados de veículos de passageiros vinculados aos EUA e veículos de passageiros vinculados a México.
 - Dados históricos de tempos de espera reais e tempos de travessia.
 - Financiado pelo Departamento de Texas de Transportes e Administração Federal Rodoviária.
 - Desenvolvido e mantido pelo Instituto de Transportes de Texas A&M.



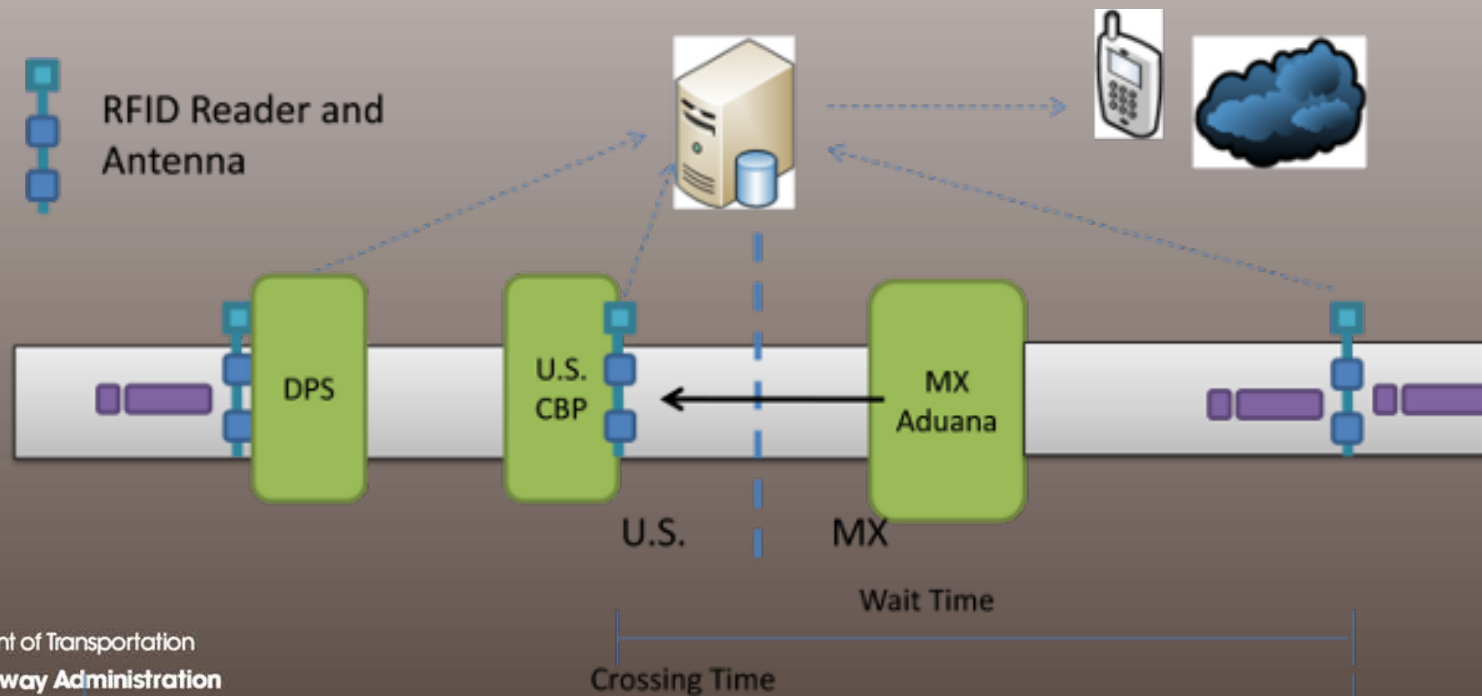
Sistema de Informações de Travessia da Fronteira

- A Identificação por Radiofrequência (RFID) mede os tempos de viagem entre os leitores da RFID instalados nos principais pontos do processo de passagem de fronteira.
 - A estação do leitor RFID detecta o número de identificação da etiqueta do caminhão e faz um selo de tempo do registro.
 - Os ID da etiqueta e os selos de tempo são transmitidos para o servidor central através de links de comunicação para posterior processamento e arquivamento.



Localização das estações do leitor RFID

- As estações da RFID estão localizadas nos três pontos principais
 - Rua mexicana antes da Aduana México.
 - Cabines de inspeção primária da Patrulha da Alfândega e Fronteiras (CBP) dos Estados Unidos.
 - Sair das estações de inspeção do Departamento de Segurança Pública (DPS) de Texas.



Cálculo do tempo de espera e de travessia

- Dois tipos diferentes de medidas
 - O tempo de espera é calculado a partir das leituras da RFID combinada entre as ruas mexicanas antes da Aduana e da CBP dos EUA.
 - O tempo de travessia é calculado pela soma do tempo de viagem entre a CBP e o DPS ao tempo de espera de modo que possa cobrir o processo de passagem de fronteira global em intervalos de tempo predefinidos (10 minutos e 1 hora).



Tempos de espera e de travessia na fronteira México - EUA

<http://bcis.tamu.edu/Commercial/en-US/index.aspx>

BORDER CROSSING INFORMATION SYSTEM
COMMERCIAL VEHICLES

REAL-TIME INFORMATION

Real-time Information
Query Archived Data
View Dashboard
Subscribe Data

View Project Reports
About Team and Sponsors
Help and Glossary
Contact Us

Veteran's Memorial Bridge, Brownsville, TX

Wait time for Veterans Memorial Bridge, Brownsville, TX is estimated based on the travel time between the RFID station at the exit of toll booth in Mexico and the RFID station at the exit of U.S. CBP Primary.

Crossing time for Veterans Memorial Bridge, Brownsville, TX is estimated based on the travel time between the RFID station at intersection of Ave. 5 de Mayo and Division del Norte and the RFID station at exit of DPS.

EXPECTED WAIT TIME		EXPECTED CROSSING TIME		UPDATED AT
FAST	Non FAST	FAST	Non FAST	
Veteran's Memorial Bridge, Brownsville, TX				
13 Minute(s)	72 Minute(s)	36 Minute(s)	96 Minute(s)	Aug 3 2017 11:20AM CST
Pharr-Reynosa International Bridge, Pharr, TX				
60 Minute(s)	51 Minute(s)	100 Minute(s)	51 Minute(s)	Aug 3 2017 11:20AM CST
World Trade Bridge, Laredo, TX				
18 Minute(s)	24 Minute(s)	58 Minute(s)	77 Minute(s)	Aug 3 2017 11:20AM CST
Colombia Bridge, Laredo, TX				
No Delay	26 Minute(s)	17 Minute(s)	41 Minute(s)	Aug 3 2017 11:20AM CST
Camino Real International Bridge, Eagle Pass, TX				
N/A	12 Minute(s)	N/A	17 Minute(s)	Aug 3 2017 11:20AM CST
Ysleta Bridge, El Paso, TX				
49 Minute(s)	47 Minute(s)	120 Minute(s)	135 Minute(s)	Aug 3 2017 10:20AM MST
Bridge of the Americas, El Paso, TX				
No Delay	22 Minute(s)	65 Minute(s)	72 Minute(s)	Aug 3 2017 10:20AM MST
Nogales-Mariposa Port of Entry, Nogales, AZ				
N/A	19 Minute(s)	N/A	27 Minute(s)	Aug 3 2017 9:20AM MST

N/A = Not available as there are no FAST lanes at this crossing.
N/A = Not available at the moment as FAST crossing and wait times are not being measured.

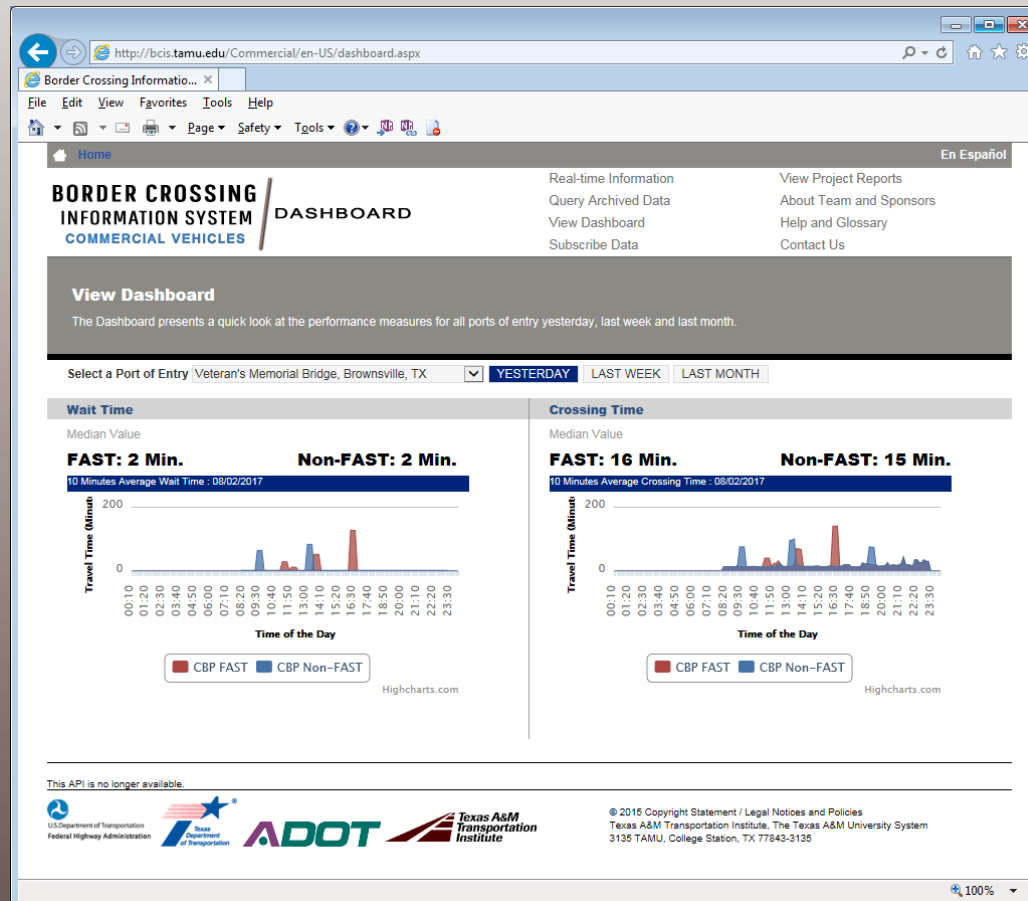
This API is no longer available.

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Painel de tempos de espera e de travessia na fronteira México - EUA

<http://bcis.tamu.edu/Commercial/en-US/dashboard.aspx>



PERGUNTAS?



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