

Data Collection and Uses at International Border Crossings



ENTER  PRISE

Webinar - July 26, 2016
AUDIO MUTED - PLEASE USE CHAT BOX FOR QUESTIONS

Agenda

- Welcome
- ENTERPRISE Program and Project Overview
 - *Bill Legg, Washington State DOT*
- Data Collection Technologies to Estimate Wait Times
 - Technology Options – *Juan Villa, Texas A&M Transportation Institute*
 - Arizona DOT Bluetooth vs. Wi-Fi Penetration Rate Study – *Yung Koprowski, Lee Engineering*
- Data Uses, Tools and Trends
 - NITTEC Data Tracking and Reporting – *Athena Hutchins, Niagara International Transportation Technology Coalition*
 - Texas DOT Online Wait Time Data – *Juan Villa, Texas A&M Transportation Institute*
- Questions/Answers



ENTERPRISE Program

ENTERPRISE is a FHWA Transportation Pooled Fund Study where members pool funds and resources to:

- Facilitate rapid progress in the development and deployment of ITS technologies; and
- Accelerate the systematic advancement of selected ITS projects.

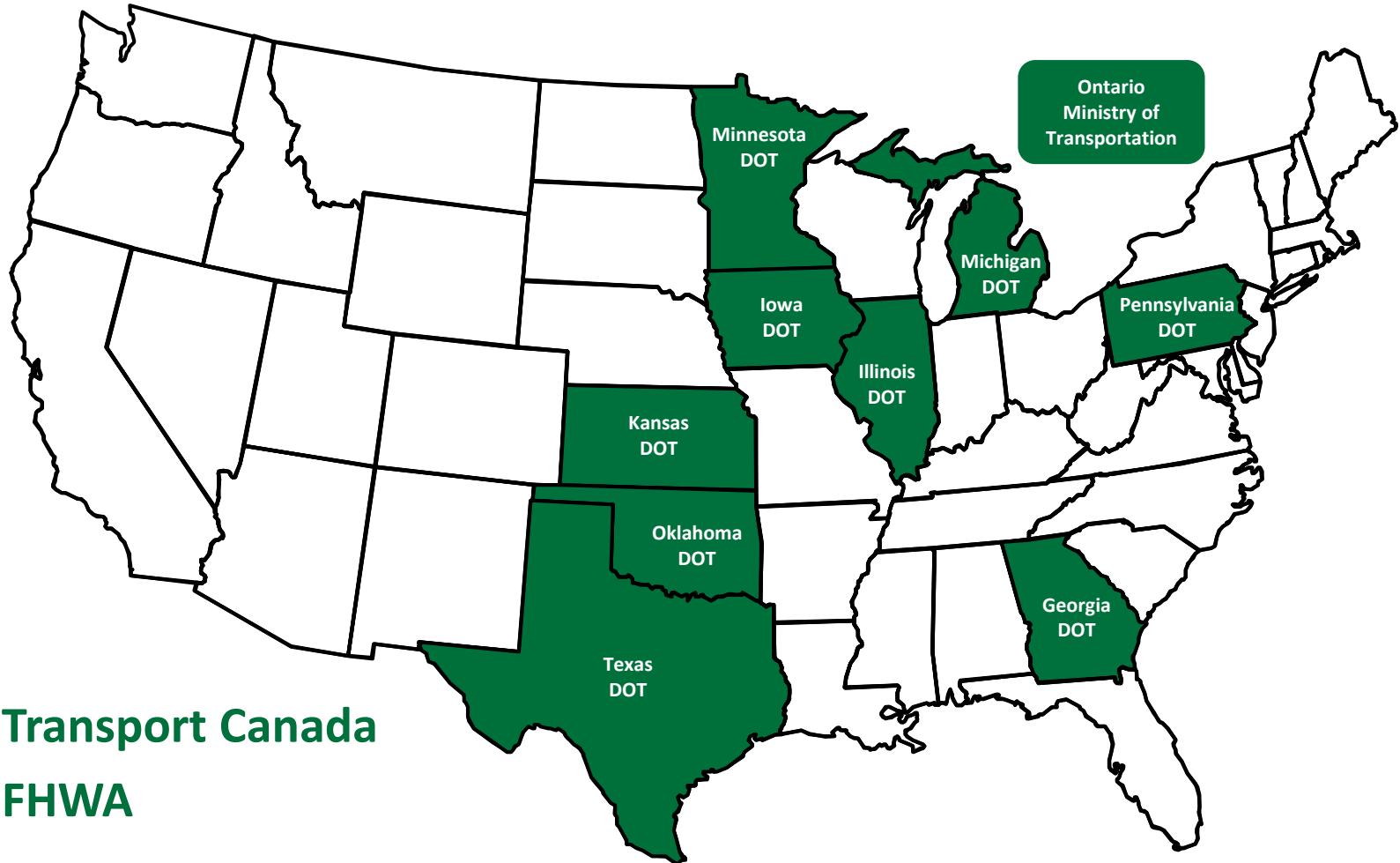
Members carry out ITS projects and activities including fundamental research, technology development, demonstration, standardization and deployment.

Evaluating **N**ew **T**Echnologies for **R**oad
PRogram **I**nitiatives in **S**afety and **E**fficiency

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ENTERPRISE Members



- Transport Canada
- FHWA



“ITS at International Borders” Project Background

- A number of **ENTERPRISE agencies and other interested states** have transportation networks that intersect with **international borders**
- **Agency resources needed** for traffic operations, traveler information to motorists, and related coordination
- **ITS technologies and best practice improvements** could assist agencies with operations at border crossings



Objective and Tasks

Project Objective:

- Provide ENTERPRISE members and other agencies with a summary of current and emerging practices for ITS technologies & coordination at international borders

Tasks:

- Convene project team
- Identify issues, challenges, and current practices (*information-gathering webinars*)
- **Share details of selected practices (*information-sharing webinars*)**
- Document practices and technologies
- Final report



Project Team

Project Team Members
Bill Legg (Washington State DOT)
Mike Barnet & Dennis Tessarolo (Ontario Ministry of Transportation)
Michele Mueller (Michigan DOT)
Charles Koonce, Alesia Gamboa, Marco Cameron (Texas DOT)
Rudy Perez (Arizona DOT)

Review of Information-Gathering Webinars

Purpose

Review:

- Activities, issues and challenges related to traffic operations at international borders

Gather information:

- Current practices - Existing operations, in-place or in-progress technologies, coordination practices, emerging solutions

In order to:

- Understand how traffic is managed at borders
- Identify practices for further sharing



Review of Information-Gathering Webinars

Two Webinars in February 2016:

1) Northern US Border/Canada: 20 participants, 12 organizations

- Washington State DOT
- Ontario Ministry of Transportation
- Michigan DOT
- Detroit-Winsor Tunnel
- Manitoba Infrastructure and Transportation
- Niagara International Transportation Technology Coalition (NITTEC)
- Niagara Falls Bridge Commission
- Niagara Region
- Buffalo and Fort Erie Public Bridge Authority (Peace Bridge)
- Transport Canada
- FHWA
- Canada Border Services Agency

2) Southern US Border/Mexico: 14 participants, 6 organizations

- Texas DOT
- Texas A&M Transportation Institute
- Arizona DOT
- San Diego Association of Governments (SANDAG)
 - IBI Group – consultant for SANDAG
- FHWA



Review of Information-Gathering Webinars

Participants Briefly Shared Current Practices in 5 Categories:

Traffic
Management
& Response

Wait Time
Measurement

Data
Collection &
Management

Traveler
Information

Coordination

Current Practices

Traffic Management & Response

- **Michigan DOT** - staffs Blue Water Bridge TOC at the Southeast Michigan Transportation Operations Center (SEMTOC)
- **NITTEC** – 24/7 operations center
- **Communication protocols** – cited by a handful, but not all
- **Queue Warning Systems** – MTO, Niagara Falls Bridge Commission
- **Automated messaging systems to alert internal personnel of delays** - Detroit-Windsor Tunnel, Buffalo/Fort Erie Public Bridge Authority (Peace Bridge)

Current Practices

Wait Time Measurement

- **Automated Wait Time Measurement:** WSDOT, MTO, Michigan DOT, TxDOT, Arizona DOT, SANDAG (underway)
 - Loops, Bluetooth, Wi-Fi, Hybrid system
- **SANDAG and Arizona DOT:** Separate penetration rate studies comparing Bluetooth to Wi-Fi, both found Wi-Fi to have higher penetration rate.
- **New Port of Entry at Otay-Mesa Crossing (SANDAG/Caltrans)** – to include variable tolls based on actual wait times

Current Practices

Data Collection and Management

- **WSDOT** – Online API with wait time data, for use by agencies, independent developers
- **NITTEC** – Systematic data tracking, annual report
- **Arizona DOT and SANDAG** – Penetration rate studies
- **SANDAG** – Strong focus on using data to improve traffic operations, make investment decisions, inform planning efforts
- **TxDOT and Arizona DOT** - Historical data and trend displays available to stakeholders: US CBP, trucking industry, motorists

Current Practices

Traveler Information

- **Several mechanisms** - DMS, websites, Twitter feeds, data on mobile apps
- **Michigan DOT** – Mobile app under development
- **Texas DOT/Arizona DOT** – Website displays both wait times and crossing times; current & historical
- **MTO** – Effort underway to collect real-time travel times in regions approaching borders to position DMS at decision points

Current Practices

Coordination

- **NITTEC** seen as premier example for effective coordination in Niagara area
 - 24/7 Operations Center
 - Border Crossing Committee: leads planning efforts, secures funding for deployments
 - Annual Report: data, trends, planning tool
- **Whatcom International Mobility and Trade Corridor** – WSDOT noted recent success obtaining lane usage data from CBP to enhance loop based wait time systems
- **FHWA/Transport Canada/Mexico Secretariat of Comm's and Transportation** - Border working groups, wait time technology peer exchanges/roundtables, funding

