



Border Wait Times

USE OF BLUETOOTH FOR BORDER WAIT AND CROSSING TIME

IBTTA 2016 Summit of the Americas

Challenges At The Border



- 56 tolled and free US-Mexican land border crossing points (~117 US-Canadian)
- Back-ups at border crossings are longer, more frequent and unpredictable.
- Impact on commerce, families, the environment, border services and local transportation systems.



What is Bluetooth?



- A standard for the short-range wireless connection of cell phones, vehicles, computers, watches, GPS and other electronic devices.
- Each device can be uniquely identified by its MAC (Media Access Control) address.
 - Personal identifying data is not collected.



How It Works

- Roadside transponders scan for Bluetooth enabled devices located inside passing vehicles and their unique addresses are collected.
- The collected addresses are time stamped and used to determine traffic patterns between multiple transponders.
- If more than one device is detected inside a vehicle, they are discarded for accuracy.



The Grant



- The Federal Highway Administration (FHWA) awarded multiple grants for Border Wait Time Technology Pilot Projects.
- The Michigan Department of Transportation (MDOT), partnering with the Detroit Windsor Tunnel, received a grant of US\$119,000 to pilot use of Bluetooth technologies.



Focus of the Grant



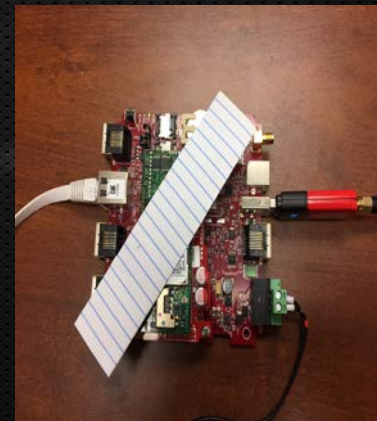
- Collect and measure delay and wait times in scalable geofenced areas to improve the movement of passengers and goods across borders.
- Provide real time travel information to reduce delays at border crossings



BWT System



- Reader
 - Custom designed and built
 - Scalable omni-directional read range to 1,000m
 - Self diagnostics and reboot
 - Supports GPS
 - 5 volt DC power supply
 - Substantially maintenance free
- Software
 - Custom developed
 - Scans-Sends data to cloud- Data is aggregated- tied to a report engine





Border Wait Time Initiative

Generation I



- In use at the Detroit Windsor Tunnel
- Street-Toll-Inspection- Street
- Data reported on web and by SMS (text) system to enrolled users
- Summarized and reported to border agencies



Generations II and III



- Generation II (Grant)
 - Develop and integrate new hardware and software.
 - Expand geographic area and explore applicability at other border crossings
 - DOT's use and sharing of data
- Generation III (Mobile)
 - Application where user can scroll to the name of the crossing and direction of travel to receive real time crossing information.
 - Integration with other applications, i.e. WAZE)
 - Information can also be provided via subscription service
- Tolling

Stakeholders & Opportunities



- Border agencies
- Commercial and passenger travelers
- Travel reporting and application services
- DOT's and local transportation authorities
- Destinations, employers, factories
- 120+ Mexican toll concessions



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