Measuring Progress on Border Delays & P3s

Border Delay Facts, ITS at the Border, P3s & Moving Forward

Crossborder GROUP

About Crossborder Group

- Founded in 1996 by Kenn Morris
- Key consulting & research staff:
  - San Diego, USA
  - Tijuana, Mexico
  - Phoenix, USA*
- Specialists in Mexico & North American border market research, data collection, surveys, and strategies – for business, transportation, and site selection
- Our Focus:
  - US-Mexico & US-Canada border markets
  - Transportation & freight planning
  - Site selection, cost & feasibility studies
  - Crossborder strategies & market entry
  - Maquiladora & NorthAm industrial research
  - Crossborder retail & tourism research

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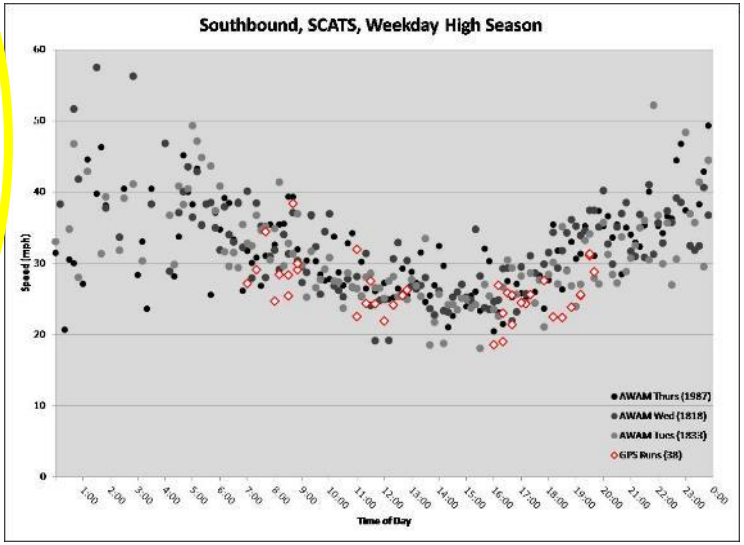
ITS:
Intelligent Transportation System

Applied IT & telecom tech to improve traffic and transportation management/planning



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ITS At the Border: How Common?

- To-date, **Crossborder Group has collected data at 22 Land Ports of Entry** (21 US-Mexico, 1 US-Canada)
- Of these, only **3** had ITS systems in place to measure border crossing times for POVs (2 in TX, 1 in WA/BC – BT)
- More had ITS for cargo: RFID - **7** currently in TX, **1** in AZ (new)
- So…of 48+ US-Mexico crossings, most do not have ITS in place

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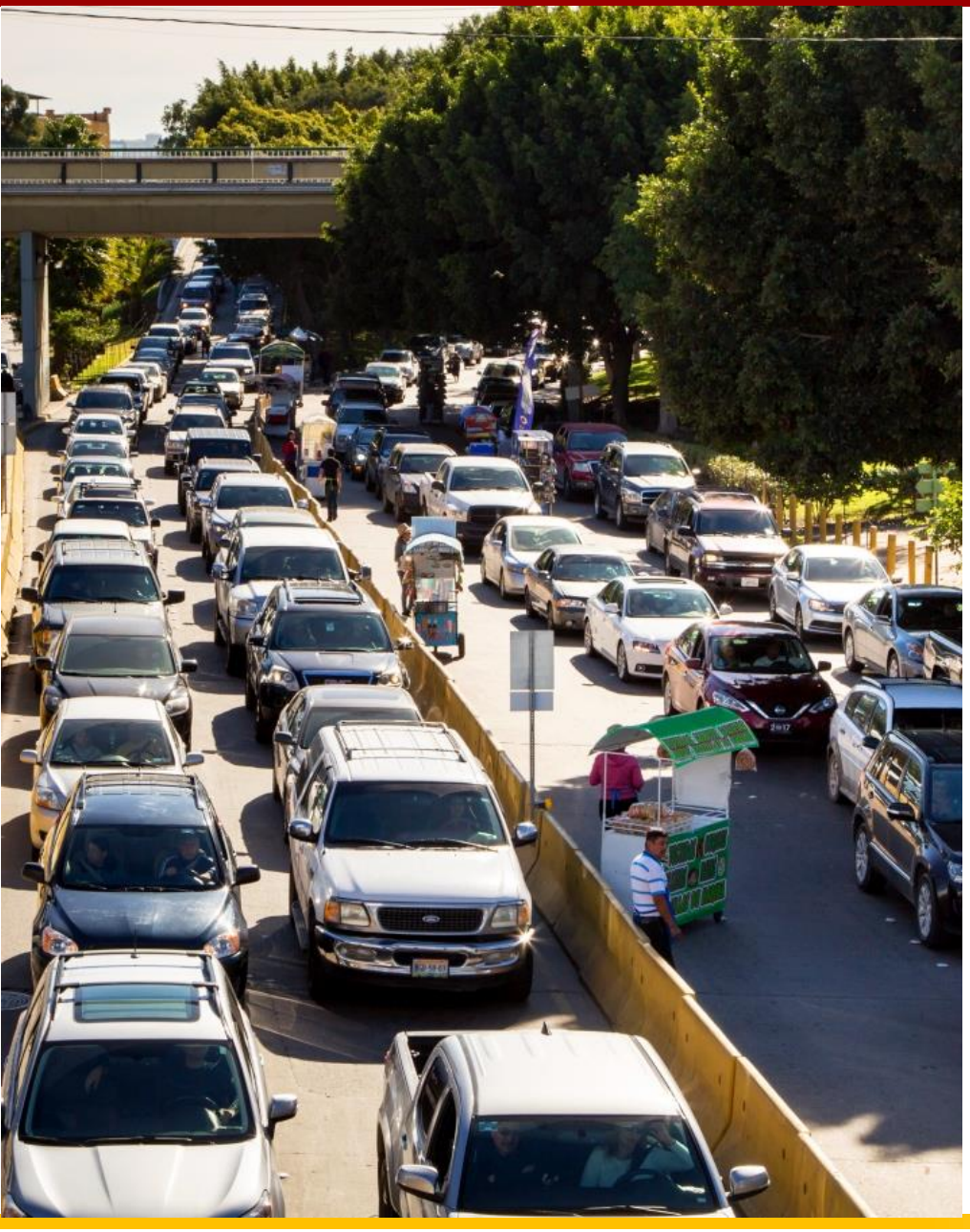

Personal Border Crossings & Border Delays:

What We Know

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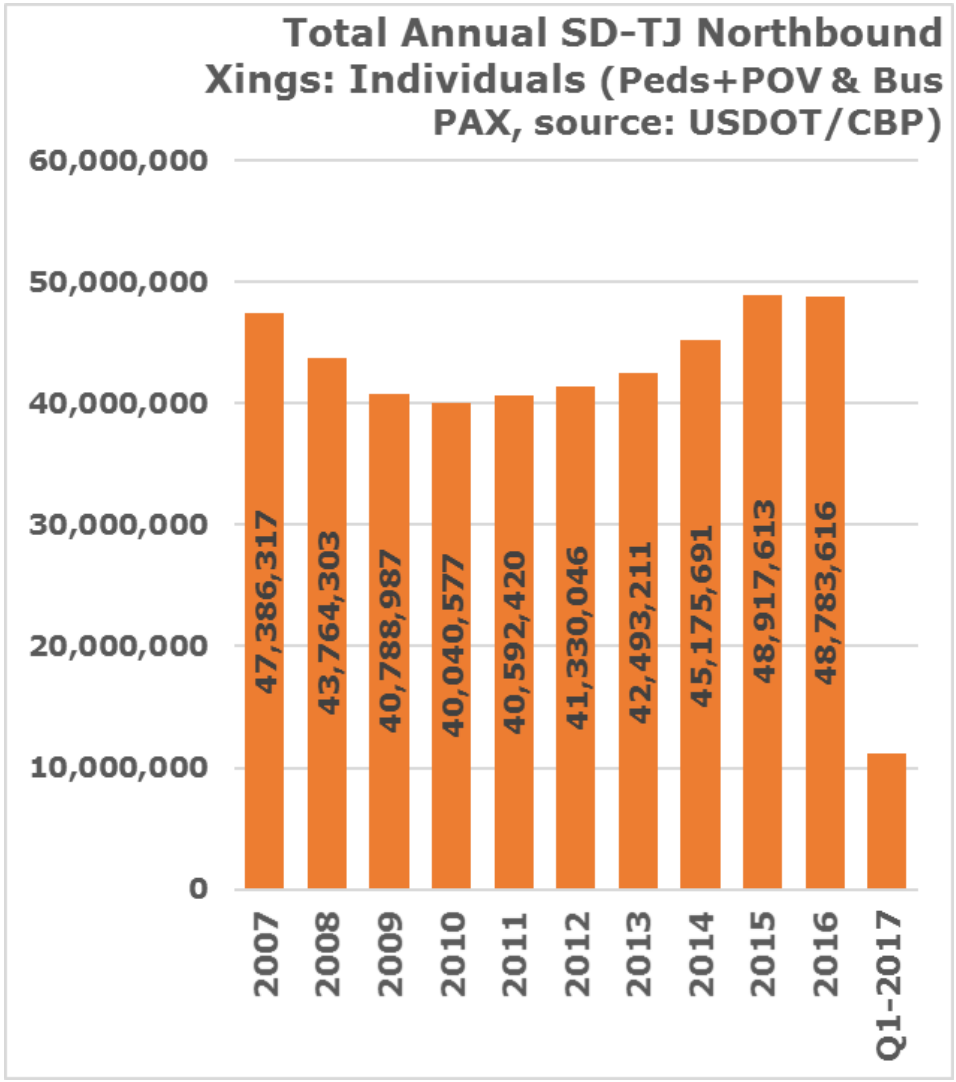
Why Delays? SD-TJ Border Crossing Trends (1)



- **Peds + Car PAX + Bus PAX = total crossers**
- **Low-points 2009-2011: 40.5M/yr**
- **2015 & 2016: nearly 49M individuals crossed**
  - **+20% more crossers**
- **Q1-2017 vs 2016: -5%**
- **Border xings have been increasing despite 25-30% drop in value of MXN peso…**
  - ***What if peso stronger?***

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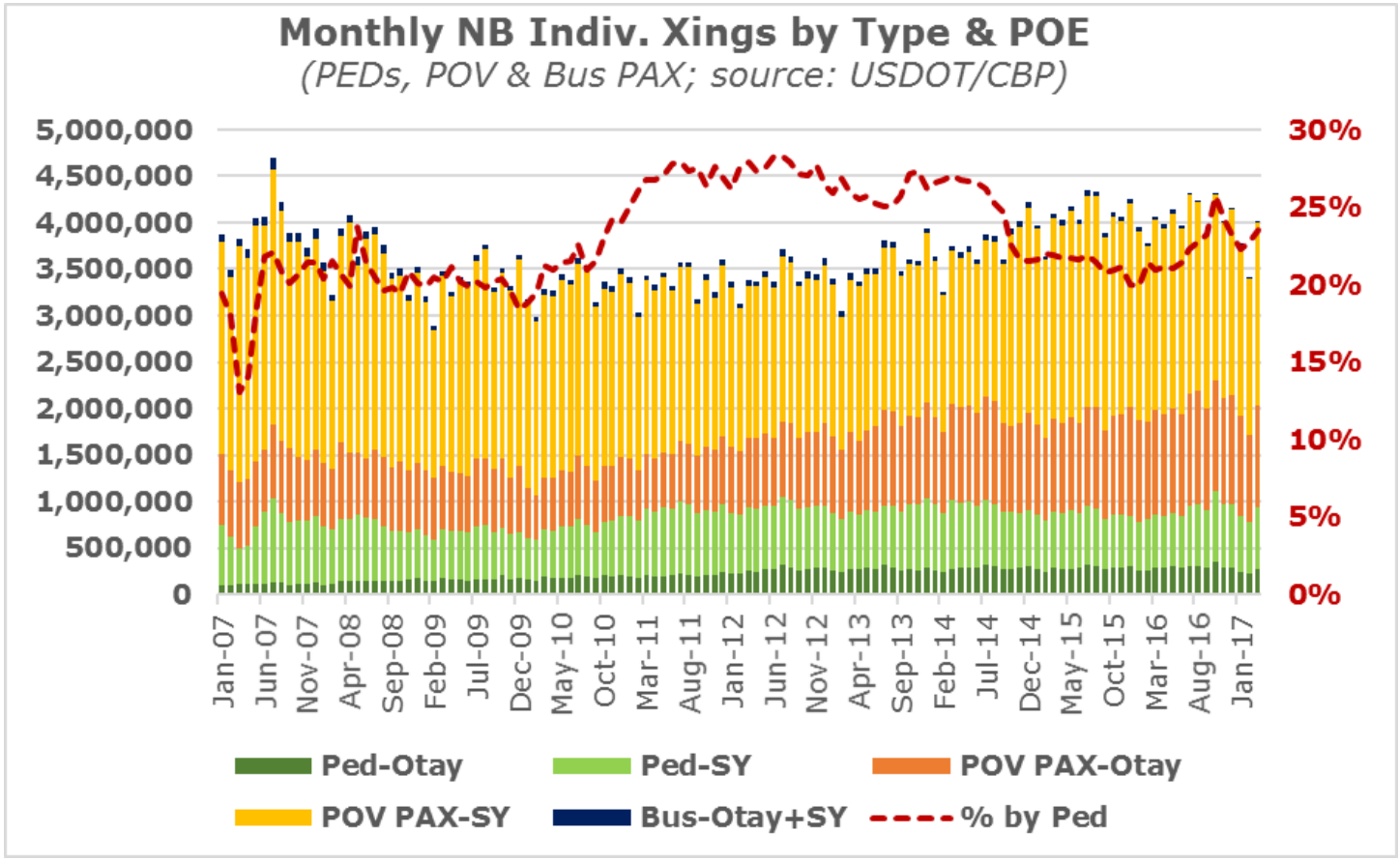
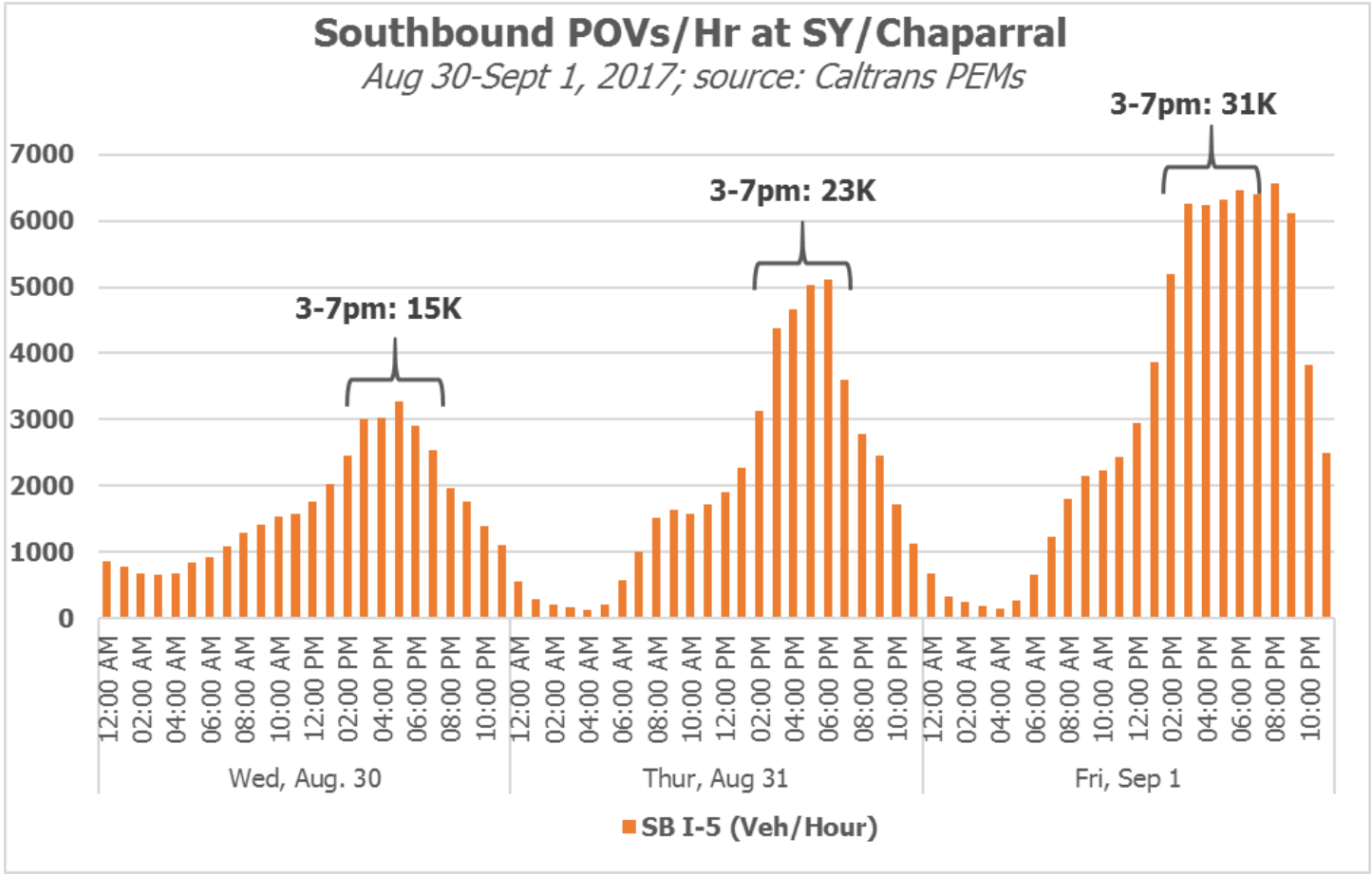
Why Delays? SD-TJ Border Crossing Trends (2)

- **Looking at monthly crossings by mode (Ped, Car & Bus PAX), see growth of +700K/mo (approx. 23K/day)**
- **Also see growing use of Otay Mesa & mode shift (from Ped to Car) following expansion of SYPOE…**



Why Delays? Southbound SY/Chaparral

- **Few ITS systems in place…but one is PeMS: can help us understand why we see SB delays at SY…**
- **Data from last week…**

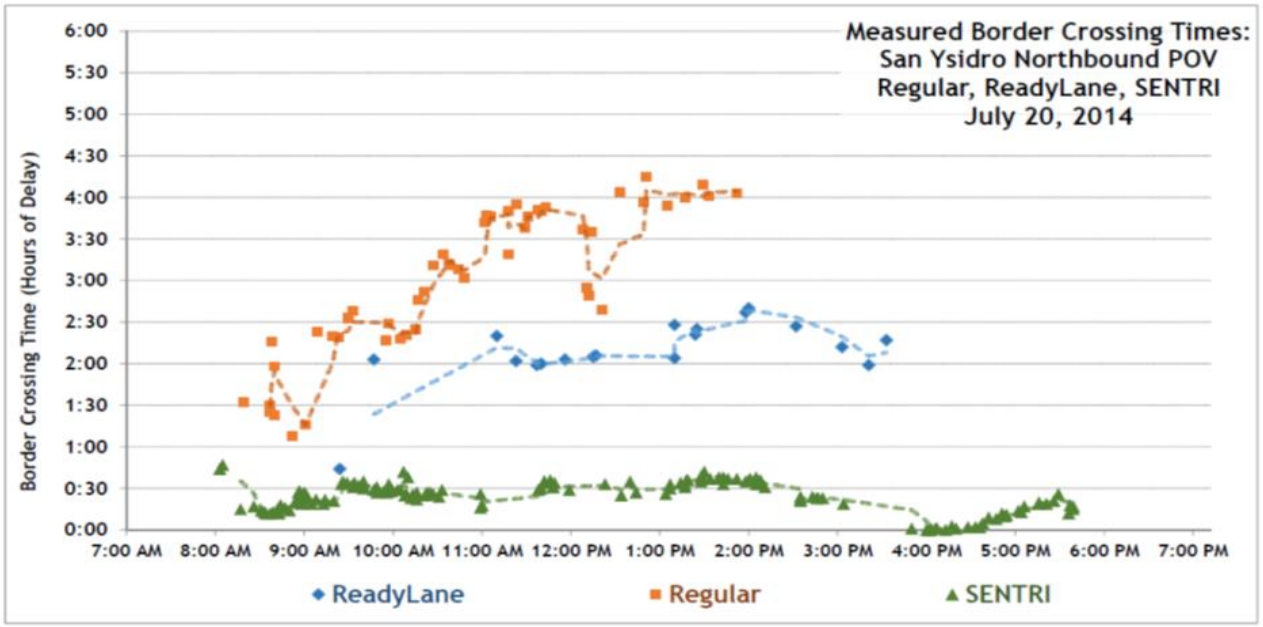


So…the Big Question

Question: Are delays improving? Getting better?

Honest Answer: No one "knows" for sure

- Fact: There is no set of verified, accurate, multi-year data
  - CBP probably has best set of longitudinal data, but accuracy varies by POE & queue length
- Fact: Are some "snapshots" of data…seem to show some improvement (2014 v 2016) but not conclusive…

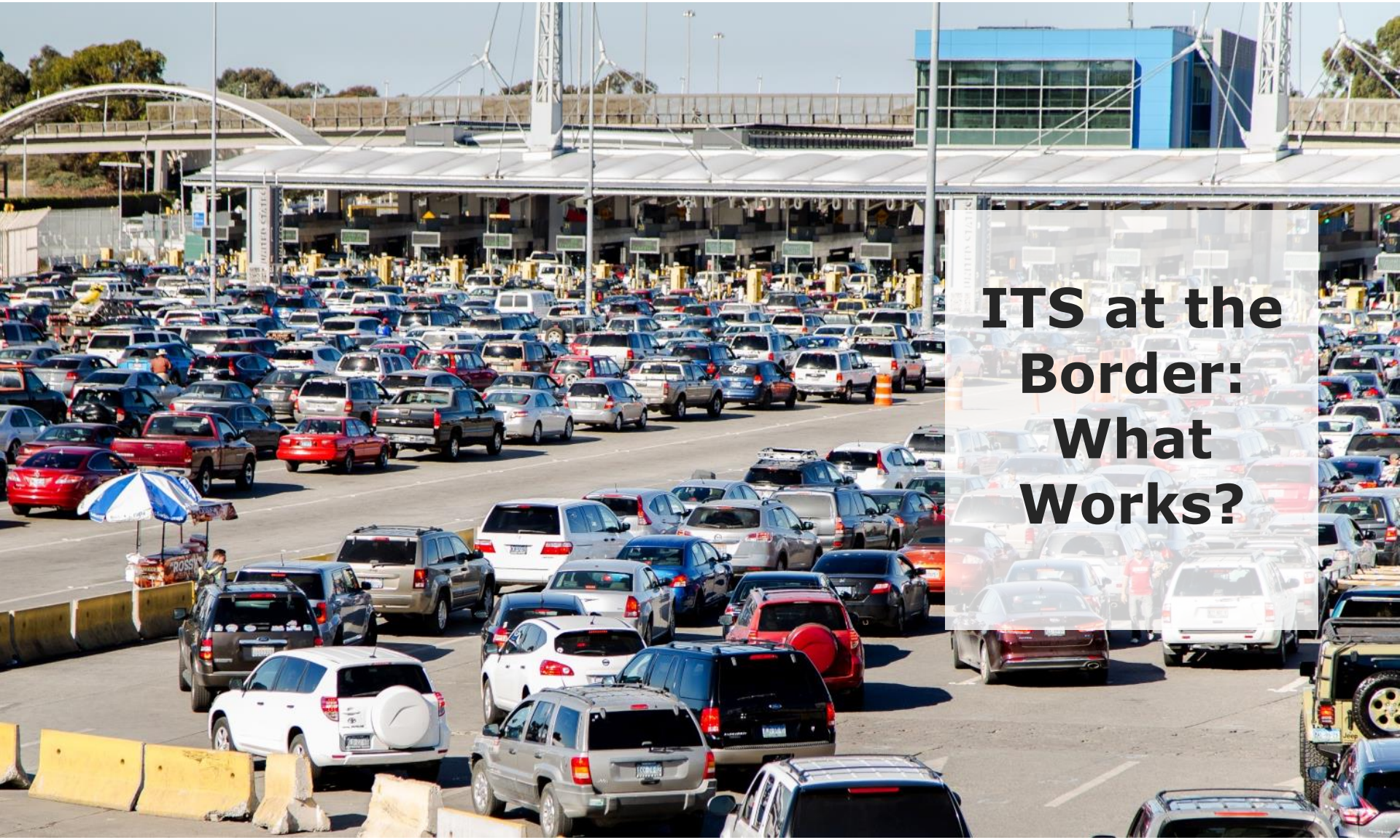


More Facts: Processing (Inspection) Times

	January, 2017		
	General	Ready	DCL
San Ysidro Throughput	48	65	101
Process Time (seconds)	71	51	31

- **Jan2017 CBP data** (above) shows average processing (inspection) times for SENTRI (31 sec.), ReadyLane (51 sec.) and Regular/General (71 sec.) cars…
- **This is consistent with hundreds of samples we've taken** during 2014-2016 at San Ysidro & Otay Mesa…

SENTRI 1	Sample 1 (Processing time for 1 Car)	0:00:05	0:00:10	0:00:15	0:00:27	0:00:18	0:01:00	0:00:15	0:00:25	0:00:12		0:00:22
		0:00:43	0:00:24	0:00:10	0:00:28	0:00:06	0:00:23	0:00:16	0:00:30	0:00:18	0:00:18	
		0:00:08	0:00:23	0:00:21	0:00:40	0:00:09	0:00:14	0:00:18	0:00:18	0:00:13	0:00:09	
		0:00:18	0:00:08	0:00:20	0:00:51	0:00:12	0:00:19	0:00:17	0:00:12	0:00:15	0:00:14	
SENTRI 2	Sample 2 (Processing time for 1 Car)	0:00:10	0:00:08	0:00:12	0:00:25	0:00:18	0:00:50	0:00:13	0:01:20	0:02:20		
		0:00:21	0:00:27	0:00:25	0:00:26	0:00:10	0:00:15	0:00:19	0:00:30	0:00:28	0:00:12	
		0:00:12	0:00:15	0:00:19	0:00:19	0:00:12	0:00:19	0:00:17	0:00:13	0:00:09	0:00:10	
		0:00:20	0:00:13	0:00:19	0:00:13	0:00:15	0:00:19	0:00:14	0:00:51	0:00:21	0:00:15	
Ready Lane	Ready Lane (Processing time for 1 Car)	0:01:18	0:00:42	0:01:23	0:01:23	0:01:31	0:01:37	0:00:40	0:04:40	0:02:35		0:00:57
		0:00:37	0:00:53	0:00:30	0:00:51	0:00:32	0:01:57	0:00:29	0:01:02	0:00:27	0:01:31	
		0:00:44	0:00:42	0:01:15	0:00:42	0:00:30	0:00:32	0:00:38	0:00:20	0:00:37	0:00:39	
		0:01:04	0:00:14	0:00:37	0:00:18	0:00:31	0:00:22	0:00:49	0:00:11	0:00:29	0:00:30	
Regular 1	Sample 1 (Processing time for 1 Car)	0:01:01	0:02:31	0:01:14	0:00:56	0:01:27	0:02:27	0:00:59	0:01:51	0:02:45	0:01:13	0:01:32
		0:01:54	0:01:30	0:01:59	0:00:29	0:00:33	0:01:37	0:01:01	0:01:11	0:01:06	0:01:46	
		0:02:11	0:01:37	0:01:26	0:02:16	0:02:16	0:01:43	0:01:51	0:01:33	0:01:57	0:00:42	
		0:01:42	0:01:03	0:00:42	0:01:13	0:01:58	0:00:45	0:01:44	0:00:59	0:00:21	0:00:50	
Regular 2	Sample 2 (Processing time for 1 Car)	0:02:00	0:00:52	0:01:55	0:01:45	0:01:20	0:01:38	0:03:10	0:01:38	0:01:34	0:02:37	
		0:01:20	0:01:33	0:01:13	0:01:23	0:01:04	0:01:02	0:03:07	0:01:15	0:00:38	0:01:07	
		0:02:46	0:03:23	0:00:41	0:01:56	0:00:47	0:01:07	0:02:51	0:01:31	0:00:47	0:00:44	
		0:01:20	0:00:59	0:01:00	0:02:06	0:01:25	0:00:42	0:01:06	0:01:07	0:00:51	0:01:30	



ITS at the Border: What Works?

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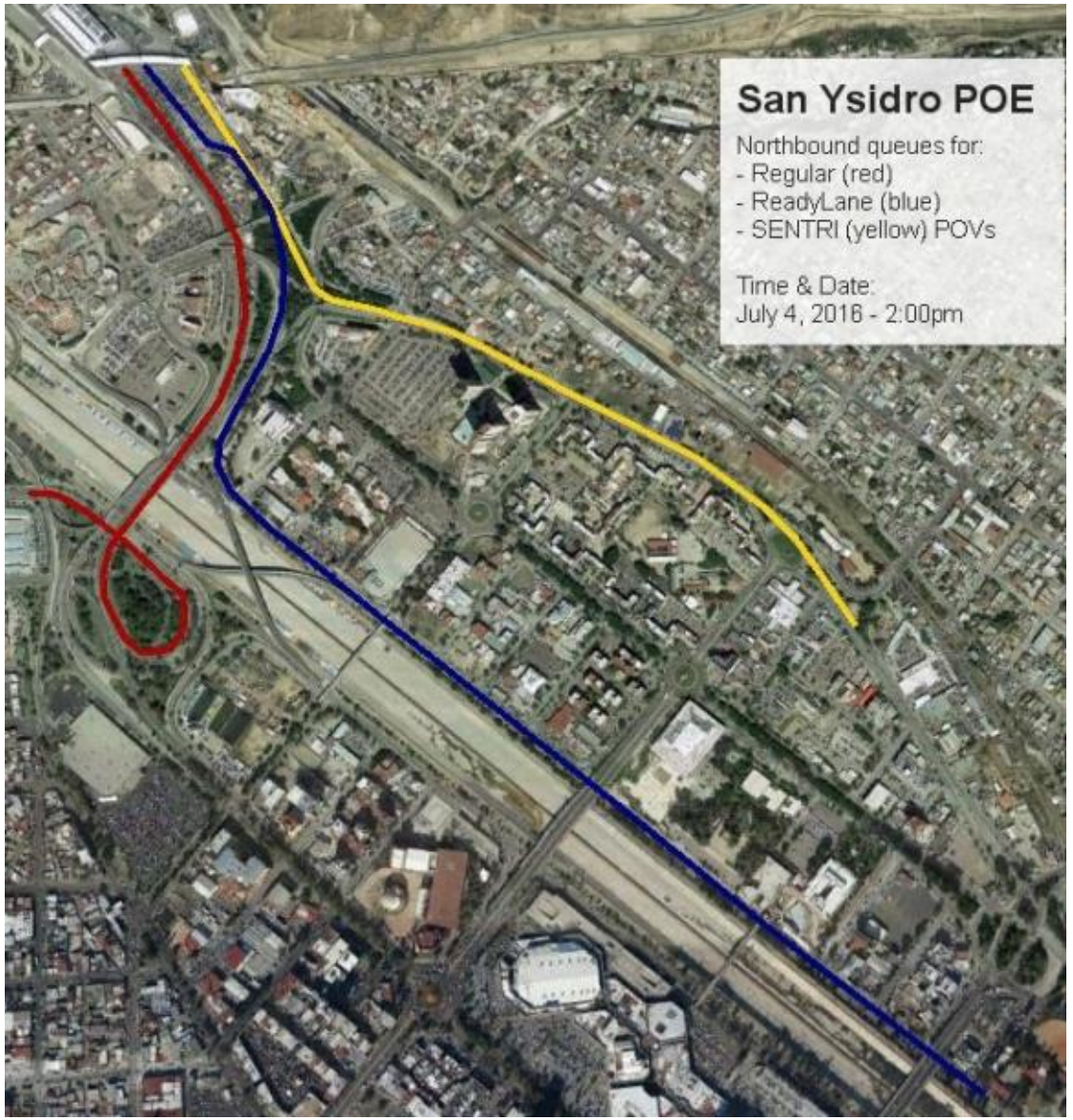
ITS At the Border: The Challenge of Measuring Delays

- **It's complicated:** Have to address two sides of a border, sharing of data, many lane types, security of equipment, etc…
- **Peak queues can be very, VERY long…** (see example at right), for commercial, POVs and pedestrians
- **What tech to use?** No single tech solution covers all needs & field conditions



Methods – From Low Tech to High Tech (1)

Manual recording of license plates for travel time data

- Data from two points: end of queue, end of delay…
- Very flexible, but labor intensive, costly & security issues, match rates 5-30%

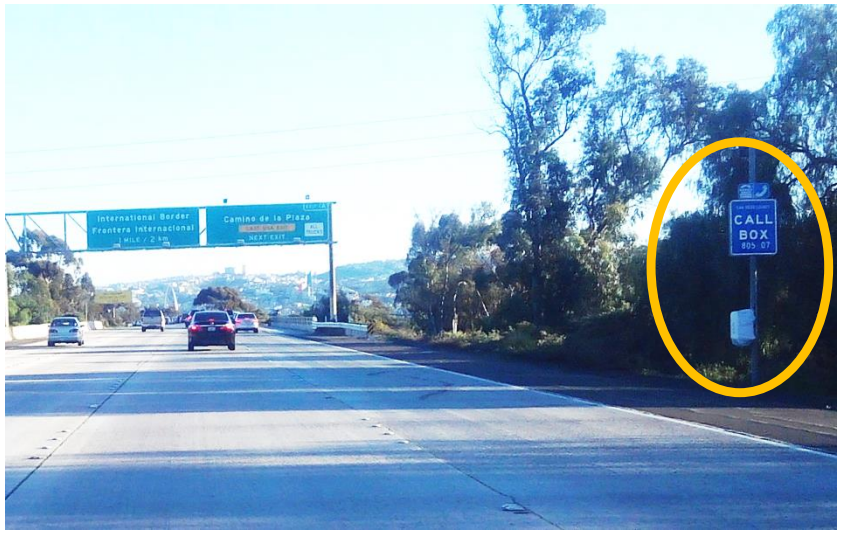
LPRs – license plate readers

- Used extensively by CBP & Aduanas
- Excellent read rates (90%+)
- Limits: fixed collection points, queues may be beyond sites, lighting/imaging can be issue, can be costly (but decreasing)

Methods – From Low Tech to High Tech (2)

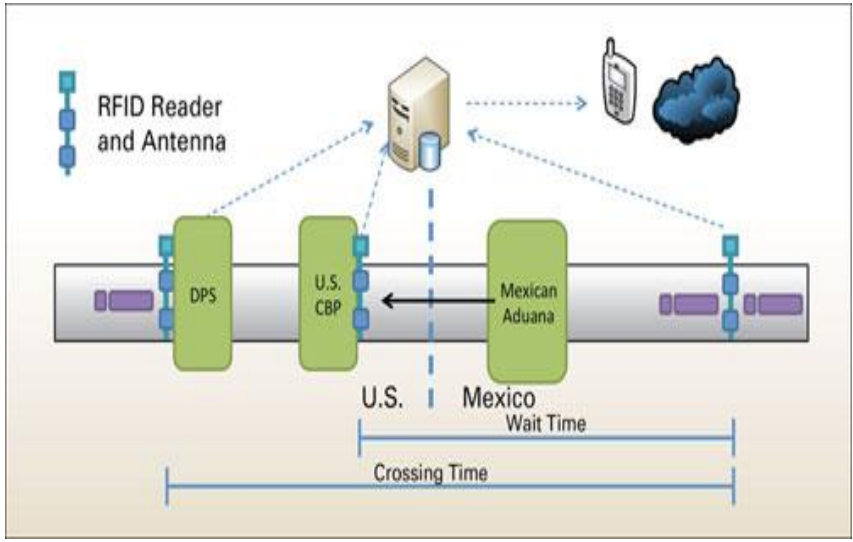
Bluetooth & Wifi sensors

- Remote sensing of BT or Wifi signals becoming common; little public interaction, is anonymous
- Modest level of samples; Limits: has fixed collection points, poss. data delay between points



RFID

- Similar tech as SENTRI/WHTI, but used to measure delays at 7 cargo POEs along US-MX border; excellent read rates
- Limits: best for "small" pool of frequent crossers; Limits: fixed collection points, poss. data delay between points



Courtesy of Texas Transportation Institute

Methods – From Low Tech to High Tech (5)

GPS, apps or cell phone data

- Uses **probe vehicles** (equipment or app recruitment needed), or anon. GPS data from **cell phone providers**
- Highly accurate (can be real time); requires little infrastructure investment, positions not fixed; Limits: Recruitment can be tough & may be costly

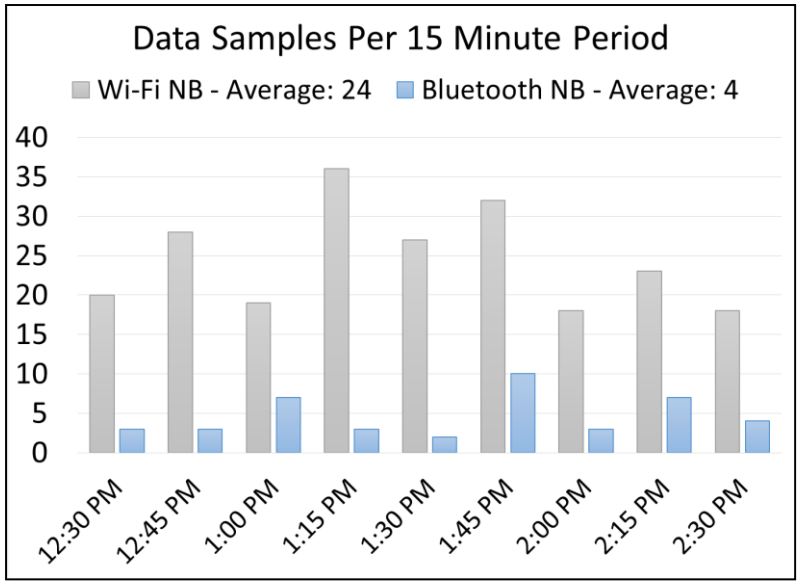
Photo courtesy of San Diego Union Tribune

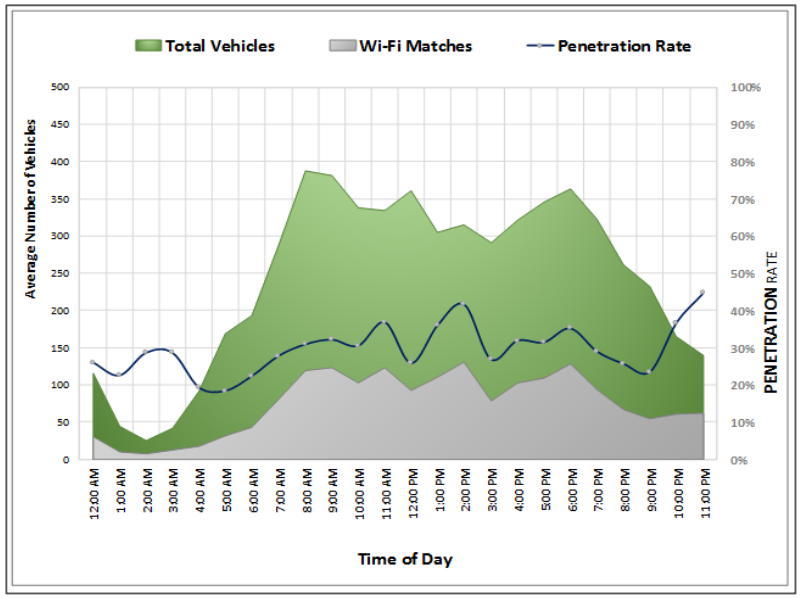
Facial recognition

- For car & pedestrians; has not yet been implemented for travel time measures – but increasing interest from airports
- Similar limitations as LPRs (fixed point, likely higher target for vandalism)

So, Which ITS To Use?

- **GPS-based apps might be ideal** – but recruitment is big barrier
- Non-intrusive sensing of **WiFi or BT is probably most likely** option – but which?
- **2015 ADOT Border Study:** Side-by-side sensors found WiFi signals much more prevalent than BT…
  - Often, 4-6 times more WiFi
- Same ADOT study found **WiFi signals from 20-30% of vehicles** (on average) at various AZ POEs
  - DeConcini: 30.6%
  - San Luis: 21.0%
- All cases: **Requires $$, and binational system/coordination**





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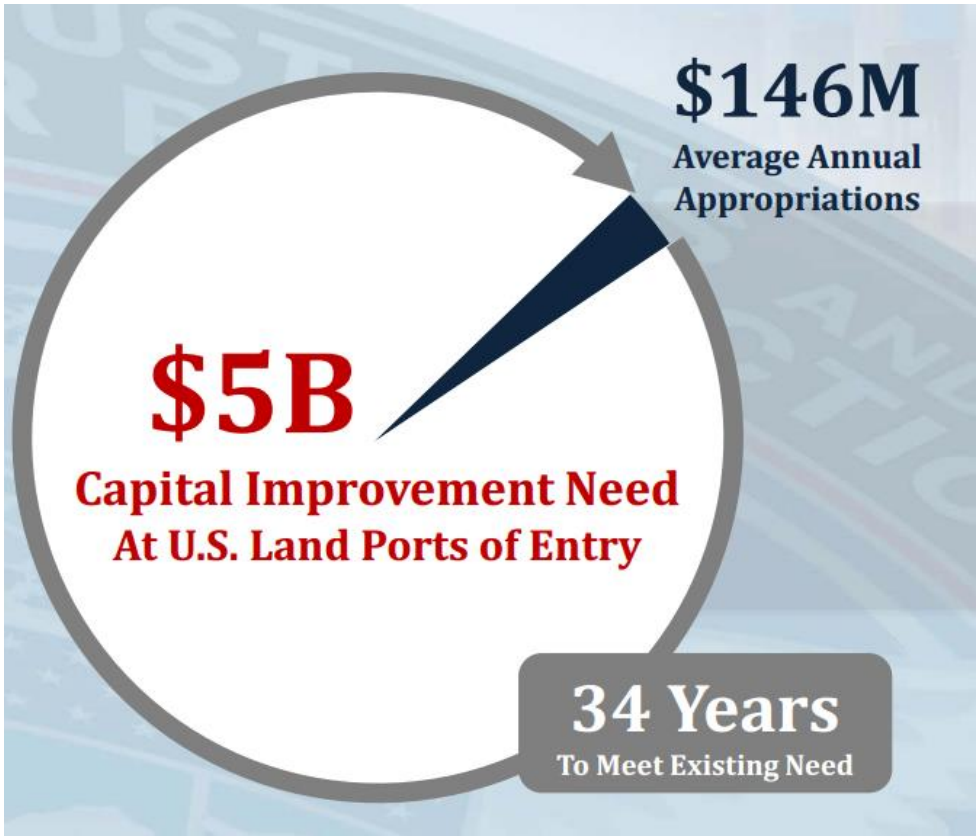
Investment at the Border: The Argument for P3s



- $$ for infrastructure & ITS tough to find…
- 328 POEs (air, land, sea)
  - Over 165+ Land POEs
- Past estimate from CBP: $5B needed on US-side for Land POEs…
- Only way we'll see improvements: P3s
- 2013: Section 559 "Donation Acceptance Program" (DAP)
- Over 60+ DAP agreements to-date

CBP Donation Acceptance Program – Snapshot

Partner Name	Port of Entry
Dallas/Fort Worth International Airport	Dallas/Fort Worth International Airport
City of Houston Airport System	George Bush Intercontinental Airport Houston; Hobby Airport
Miami-Dade County	Miami International Airport, Port of Miami
City of El Paso, Texas	Paso Del Norte Bridge, Yselta Bridge
South Texas Assets Consortium	Americas Bridge, Juarez-Lincoln Bridge, Colombia-Solidarity Bridge, and World Trade Bridge in Laredo, Texas
	Gateway International Bridge, Veterans International Bridge, and Free Trade International Bridge in Cameron County, Texas
	International Bridge at Rio Grande City, Texas
	Pharr-Reynosa Bridge in Pharr, Texas
	Hidalgo International Bridge and Anzalduas International Bridge in McAllen, Texas

- **CBX/Otay-Tijuana Ventures LLC** (private)
  - **Precursor to DAP; $120M investment**
- **City of El Paso** (local govt)
  - **$90K in local funds (bridge tolls)**
  - **Removal of two traffic medians at Ysleta POE**
- **Greater Nogales Santa Cruz County Port Authority** (non-profit)
  - **Funding upgrades to air-conditioned docks**

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P3s Aren't New…

Privately-funded bridges some of the first US-CA & US-MX border crossings…

Plenty of historic examples: some purely-private, others public non-profit corporations…

- **Niagara Falls Bridge Commission (NY non-profit corp)**
  - 1846: Started as two private companies (US + CA)
  - 1938: US Congress authorized Commission to buy out assets of two companies
  - Members: New York State & Ontario Province (equal)
- **Ambassador Bridge (private US corporation)**
  - Going through $1B expansion (all privately funded)
- **Windsor Detroit Bridge Authority (CA public benefit corp)**
  - Building $2.1B Gordie Howe Bridge
  - CA-Michigan agreement; CA-3 members, MI-3 members

Moving Forward…

- Have to accept **we can't look in past for historic BWT data**
- Need to **improve sharing of what data exists** (similar to Cascade Gateway Border Data Warehouse by International Mobility & Trade Corridor Program/Whatcom County)
- Need to **explore mechanisms to both invest in new ITS infrastructure at POEs** (NB & SB, large & small)
- Need to explore **creation of entity for 559/DAP application**

¡Gracias!

¿Preguntas?

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