Talking Transportation Technology (T3) Webinars

INTELLIGENT TRANSPORTATION SYSTEMS
PROFESSIONAL CAPACITY BUILDING

Tuesday, July 18, 2023 – 1:00PM

Traveler Information and Traffic Incident Management (TIM)

Part 3 of 5 in the Crowdsourcing for Operations Course via Webinar

Course developed by the Federal Highway Administration (FHWA) Every Day Counts (EDC) Crowdsourcing for Operations

U.S. Department of Transportation

INTELLIGENT TRANSPORTATION SYSTEMS
PROFESSIONAL CAPACITY BUILDING

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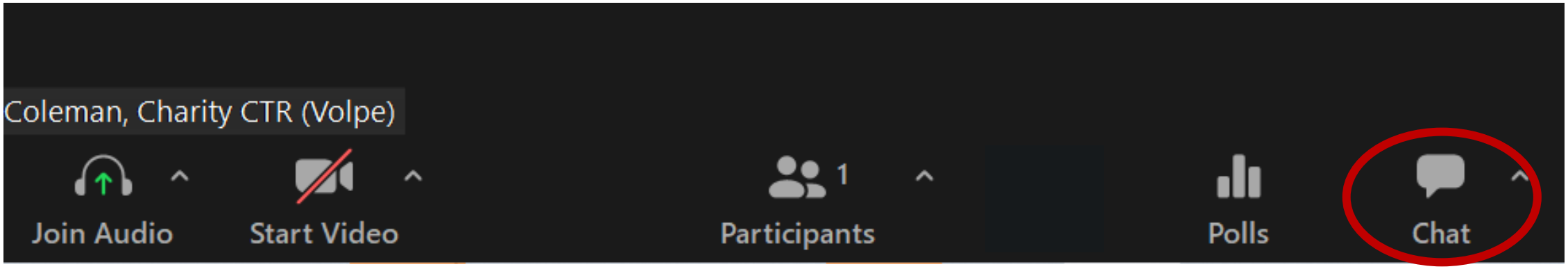
Use the Chat Pod

- Click on Chat icon on your screen
- Submit your question or comments in the Chat window



Questions/comments will be addressed after the last presentation, as time permits

Intelligent Transportation Systems Joint Program Office (ITS JPO)
Professional Capacity Building (PCB) Program Presents

Traffic Incident Management (TIM) and Traveler Information

Part 3 of 5 in the Crowdsourcing for Operations Course via Webinar

July 18, 2023

Course developed by the Federal Highway Administration (FHWA) Every Day Counts (EDC) Crowdsourcing for Operations Innovation, and delivered by the FHWA Office of Operations

U.S. Department of Transportation
Federal Highway Administration

Every Day Counts
Innovation for a Nation on the Move

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Today's Host and Presenters

Source: FHWA.

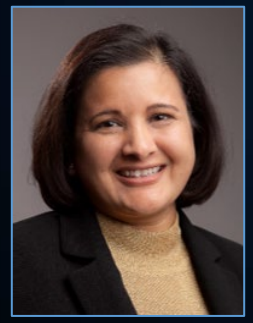
Ralph Volpe, Host
EDC-6 Crowdsourcing Colead

FHWA Resource Center
Operations Technical Service Team

Source: NJDOT.

Sal Cowan
Senior Director of Mobility

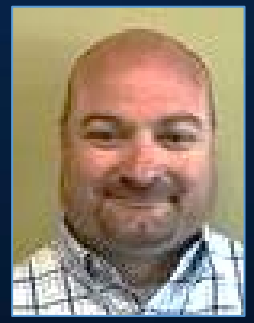
New Jersey Department of Transportation (NJDOT)



Source: Vaishali Shah.

Vaishali Shah
Senior Director of Transportation Systems

AEM Corporation



Source: PTC.

John Parker
Senior Traffic Operations Project Manager

Pennsylvania Turnpike Commission (PTC)

Webinar Agenda

1:05 p.m. Crowdsourcing Innovation and Course Background

1:10 p.m. Traveler Information Module

1:35 p.m. TIM Module

1:55 p.m. TIM and Traveler Information at PTC

2:10 p.m. Question and Answer

*EDT Time Zone

Source: Unsplash.

Every Day Counts
Innovation for a Nation on the Move

U.S. Department of Transportation
Federal Highway Administration

What Is Every Day Counts?

State-based innovation deployment model

Proven but underutilized innovations

2-year cycles

http://www.fhwa.dot.gov/innovation/everydaycounts/

EDC-6: Deepen Crowdsourcing Roots for a Bountiful Suite of Benefits

Adding data sources and applications

Improving data management

Source: FHWA.

Improving archived data usage

Sharing and integrating data

Crowdsourcing Course-in-a-Box

Course Goals:

- Broaden understanding and knowledge about how crowdsourced data can improve transportation operations
- Help participants consider whether specific applications of crowdsourcing may meet their organizations' needs

Course Tools:

- Editable instructor templates
- Instructor materials
- Course slide decks
- Student materials

Source: Pixabay.

Whom Is the Course Targeting?

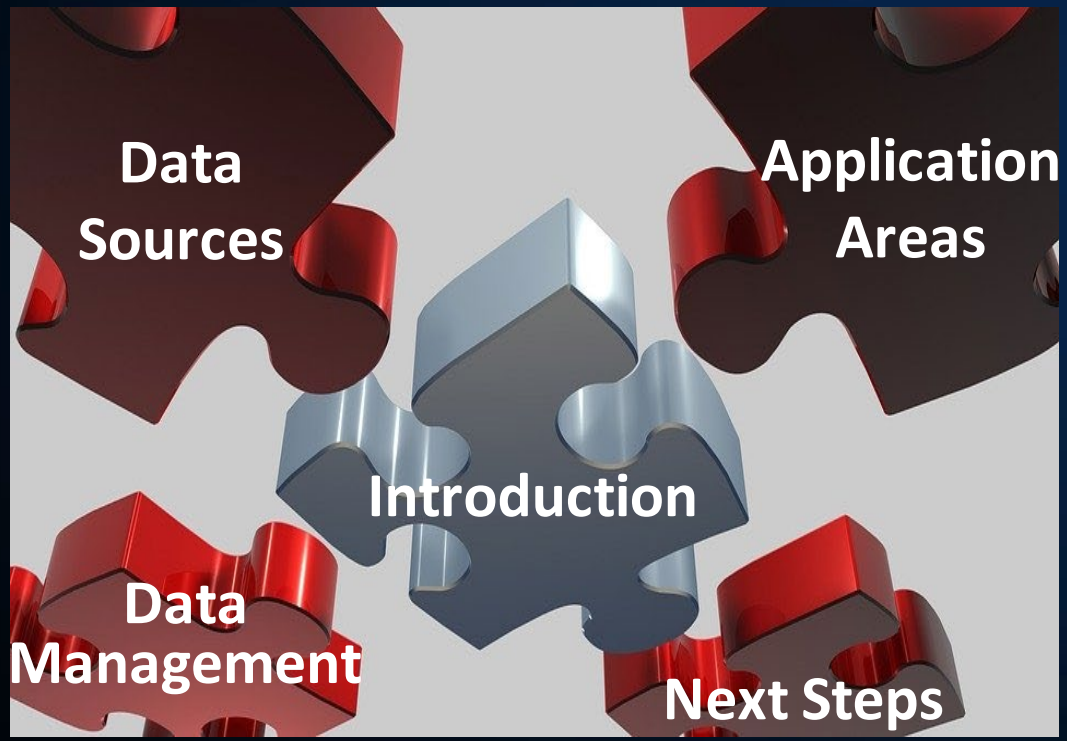
Transportation Groups

- Traffic management centers (TMCs)
- Traffic signal systems administrators
- Operations
- Maintenance
- Public works departments
- Emergency planning
- Work zone managers
- Safety and planning

Consider nontraditional invitees such as policymakers, locally elected officials, administrators, or other leaders.

Course Is Modular by Design

Five Lessons:



Source: Adapted from Pixabay.

Six Application Modules:

- Traffic Incident Management
- Traveler Information
- Arterial Management
- Work Zone Management
- Road Weather Management
- Emergency Management

Crowdsourcing Course Delivery by Webinar

Webinar	Date	Course Lessons and Modules
1	May 16	Crowdsourcing Introduction and Applications Lessons
2	June 20	Data Sources and Management Lessons (recording coming soon)
3	**July 18**	**Traveler Information and Traffic Incident Management Modules**
4	August 15	Road Weather and Arterial Management Modules
5	September 19	Emergency and Work Zone Management Modules and Next Steps Lesson

Summary of Webinar 2 Lessons

Data Sources

- Common crowdsourced data for use in Traffic System Management and Operations (TSMO) include vehicle probe; navigation, 311, and 511 applications; social media; connected vehicle; and multimodal data.
- Data vendors may integrate multiple data sources using a proprietary process.
- Accuracy depends on and varies with market penetration.

Data Management

- Data management keeps data organized, safe, and usable. It involves the entire lifecycle of data and supporting systems.
- Some crowdsourced data uses require storage and processing capabilities beyond traditional, on-premise data management systems.

Introductions

Please enter your name, agency, and job title in the chat window.

LESSON: Traveler Information
INSTRUCTOR: Sal Cowan, NJDOT

Source: Unsplash.

Lesson Objective

1. Understand how crowdsourcing data can enhance traveler information.
2. Learn about the different platforms for communicating traveler information.

Source: Colorado DOT

Traveler Information Challenges

- Infrastructure and staffing cost to generate traveler information.
- Timeliness of information.
- Accuracy of information.
- Jurisdictional stovepipes.
- Reaching travelers on their preferred information platform.

Source: FHWA

Crowdsourcing Applications for Traveler Information

"Citizen-supplied data will add to the eyes and ears of Oregon Department of Transportation staff already out on the roads and highways … it greatly enhances our ability to provide up to the minute and accurate traffic data to the public."

Oregon DOT ITS Manager

- ✓ Expand geographic coverage
- ✓ Quantitative predictive travel time
- ✓ Detailed information on issues impacting the roadway
- ✓ Improves the timeliness of traveler information

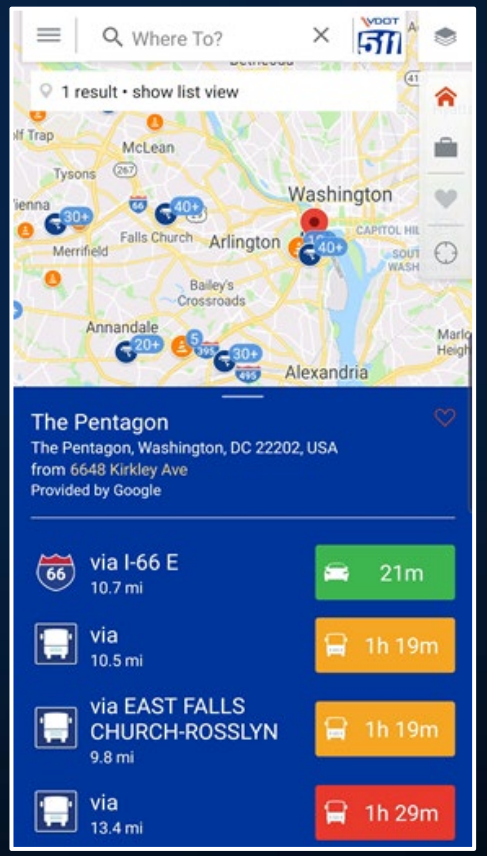
Traveler Information Crowdsourcing Examples

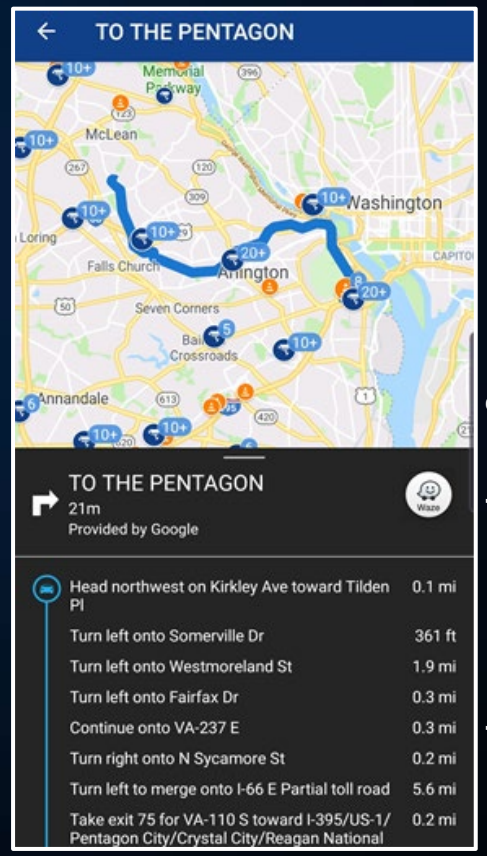
Agency	How Data is Used	Crowdsourced Data
Virginia DOT	Reaching traveler on preferred platforms, timely and accurate info	INRIX®, Waze®, Google®, Twitter
Arizona DOT	Expand geography and accuracy	INRIX®, HERE®
Kentucky Transportation Cabinet	Geographic coverage, timeliness, accuracy, and cost savings	Waze®
Pennsylvania DOT	Detailed, localized communication	INRIX®

https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/docs/crowdsourcing_applications.pdf

Example: Virginia DOT Integrates 511 Mobile, Web, and Navigation

- Virginia DOT App and Web use Waze®, INRIX®, Google®, and State DOT data.
  - Push notifications and alerts
  - Transit and parking information
  - Turn-by-turn navigation and travel times
- Virginia DOT notifies traveling public of road closures using Twitter.

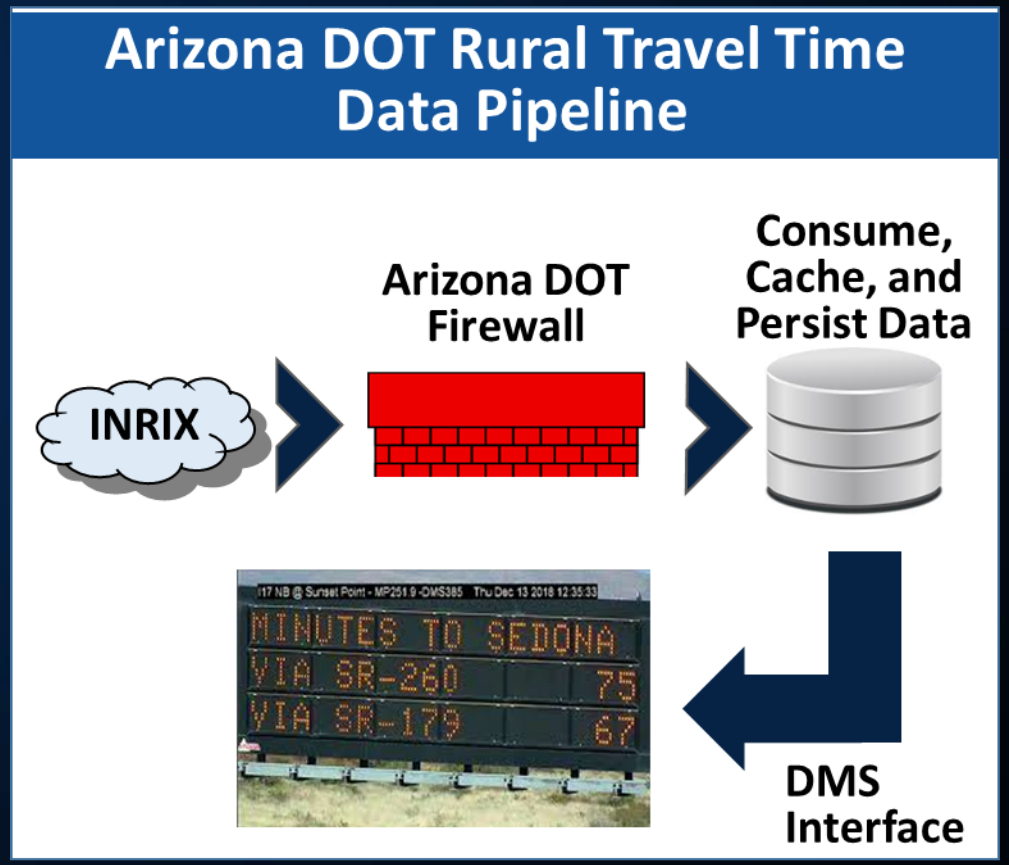




Source: Virginia Department of Transportation

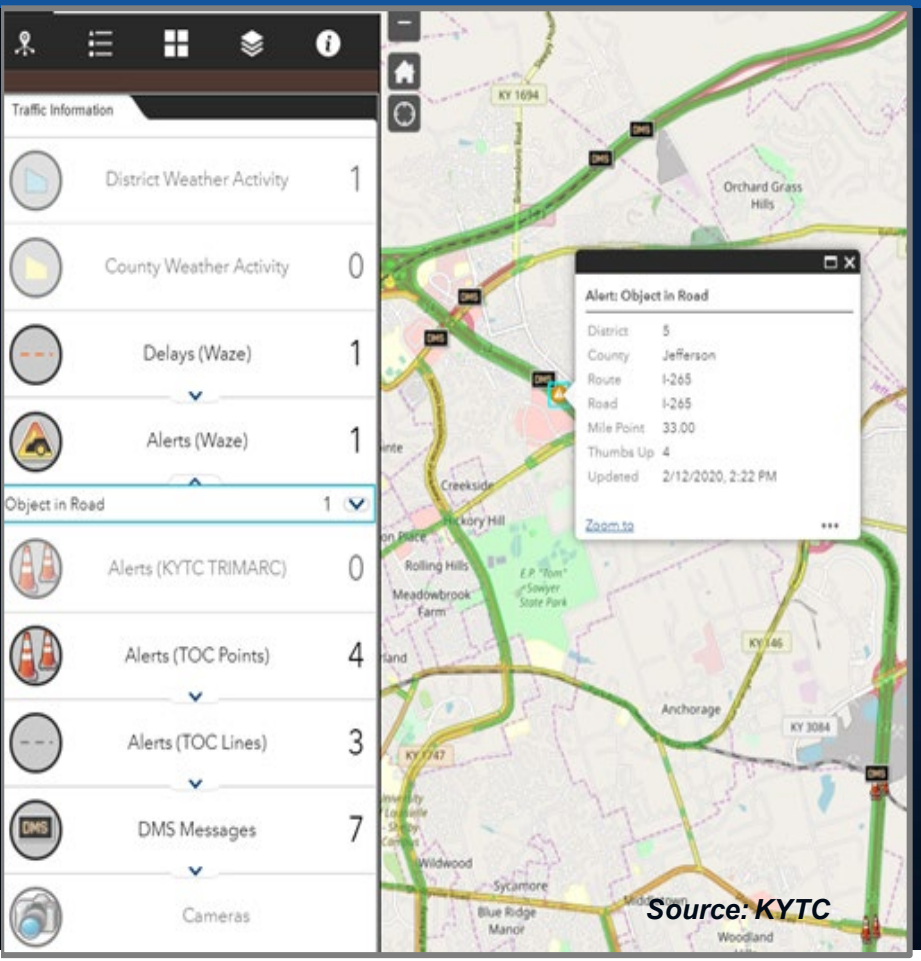
Example: Arizona DOT Traveler Information

- INRIX® data to post rural road travel times.
- HERE® Traffic Tiles for color-coded speed maps for AZ511.
- Data is accessible to any Arizona public agency and university.
- Data applied to adaptive ramp meter analysis and back of queue management.



Source: Arizona Department of Transportation

Example: Kentucky Transportation Cabinet (KYTC) 511 Website



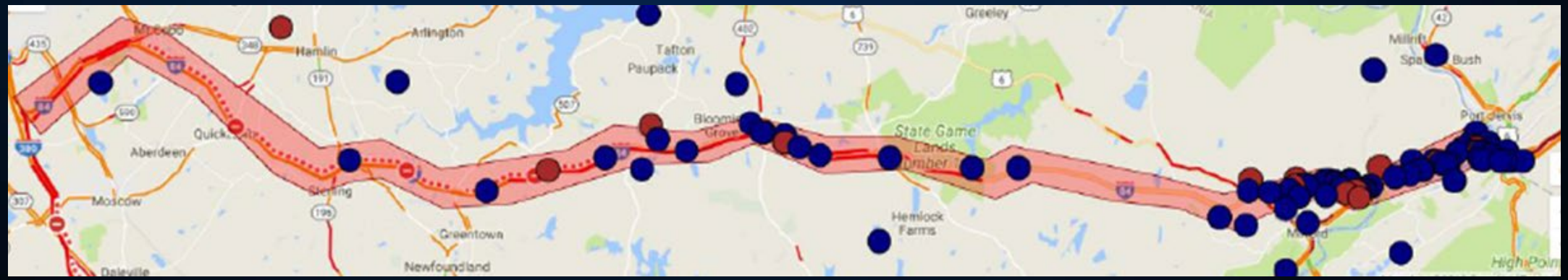
Source: KYTC

- In-house staff replaced legacy 511 system with GoKY website.
- System integrates crowdsourced, agency, and other data in real-time.
- KYTC shares events with Waze®.

RESULT: more timely, complete information with greater public reach at lower cost.

Example: Pennsylvania DOT Localized Traveler Push Notifications

- Uses Highway Emergency Link Platform (HELP) by iLog® enables to notify all cell users via wide-area emergency broadcast system (like an Amber Alert).
- Uses INRIX® data to identify queues and set geofenced area to send alert.



Source: Pennsylvania Department of Transportation

New Jersey
Traveler Information Systems

How Should Agencies Communicate With Their Customers?

One to One

+

Mass Communication

Every Way Possible!

New Jersey Traveler Information

Commercial Vehicle Notifications

511 Platforms and Voice Assistant Systems

Crowdsourced Data

Commercial Vehicle Notifications
Who Are We Working With?

Drivewyze®

Provider of North America's largest weigh station bypass system (Drivewyze PreClear)

INRIX®

Provider of real time traffic data and analytics to state agencies, cities and transportation authorities worldwide

Which Agencies Are Involved?

What Roads Are Covered?

Northern New Jersey Commercial Vehicle Alert Sections			
Route	Begin Milepost	End Milepost	Total Miles
1-78	0	58.5	58.5
I-80	0	68.5	68.5
I-280	0	17.85	17.85
I-287	0	67.54	67.54
NJ 440	0	5.15	5.15
		Total	217.54

Southern New Jersey Commercial Vehicle Alert Sections			
Route	Begin Milepost	End Milepost	Total Miles
I-195	0	34.2	34.2
I-295	0	76.56	76.56
I-76	0	3.08	3.08
I-676	0	4.75	4.75
NJ 42	6.2	14.3	8.1
		Total	126.69

New Jersey Turnpike			
Route	Begin Milepost	End Milepost	Total Miles
PHMTE			6.6
NBHCE			8.4
Mainline			118
Western Spur			10.5
I-95 Extension			5
		Total	148.5

Garden State Parkway			
Route	Begin Milepost	End Milepost	Total Miles
	0	106	106
		Total	106

Atlantic City Expressway			
Route	Begin Milepost	End Milepost	Total Miles
	0		48
		Total	48

Total Centerline Miles (all three agencies)

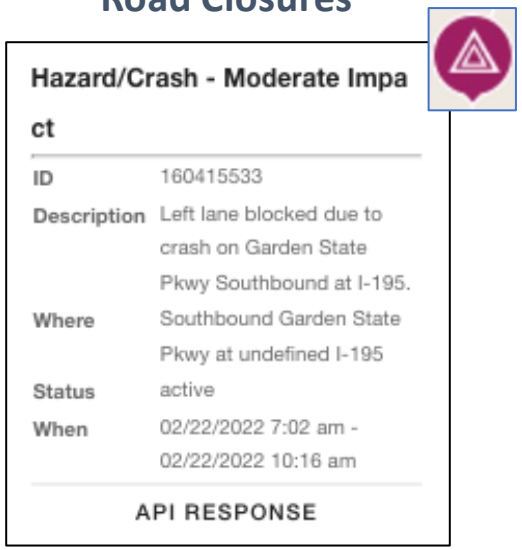
647

What Are We Doing?

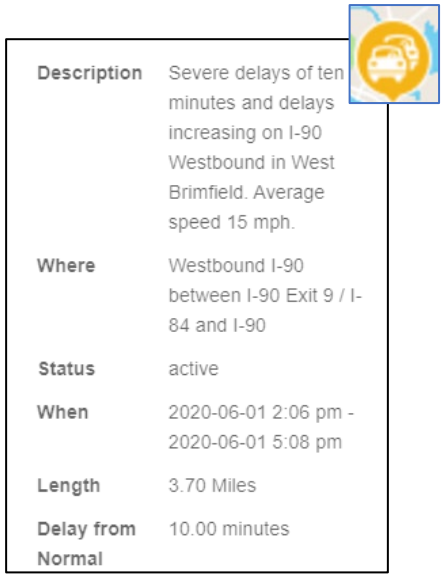
- Provide commercial drivers with real-time slowdown and congestion alerts.
- Help commercial drivers react before encountering stopped traffic or slowdowns

How Is It Done?

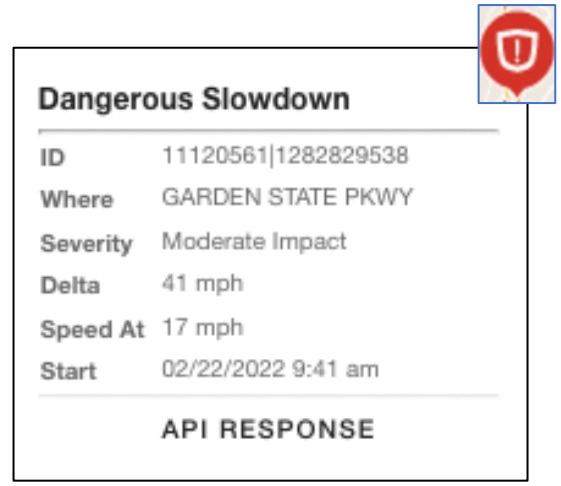
Road Closures



Congestion/Queues



Sudden Slowdowns

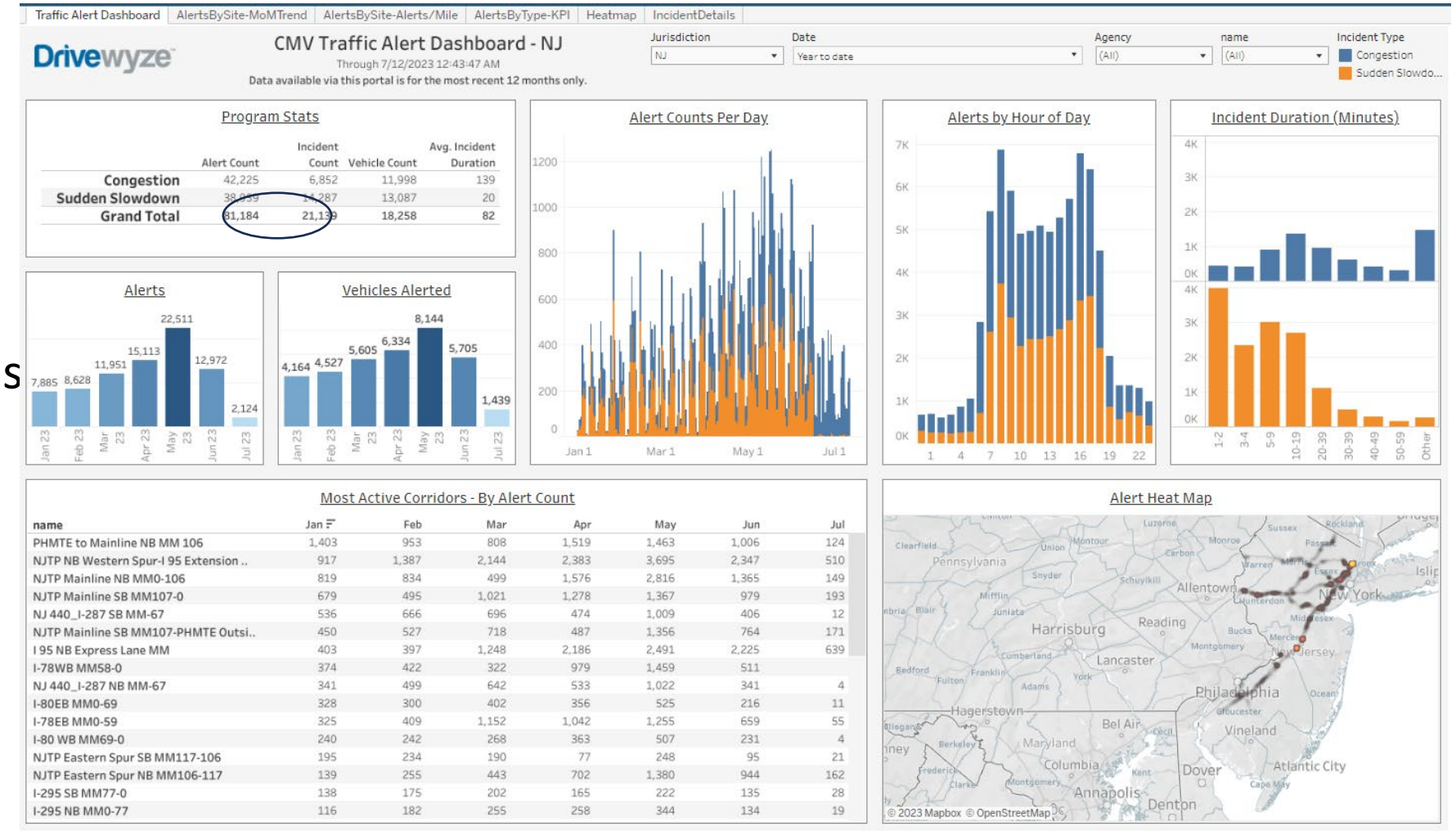


- INRIX Traffic Intelligence -- Real-time monitoring of nationwide road network
- Detects and characterizes closures, queues, and slowdowns
- Updates every 60-seconds - includes location and severity

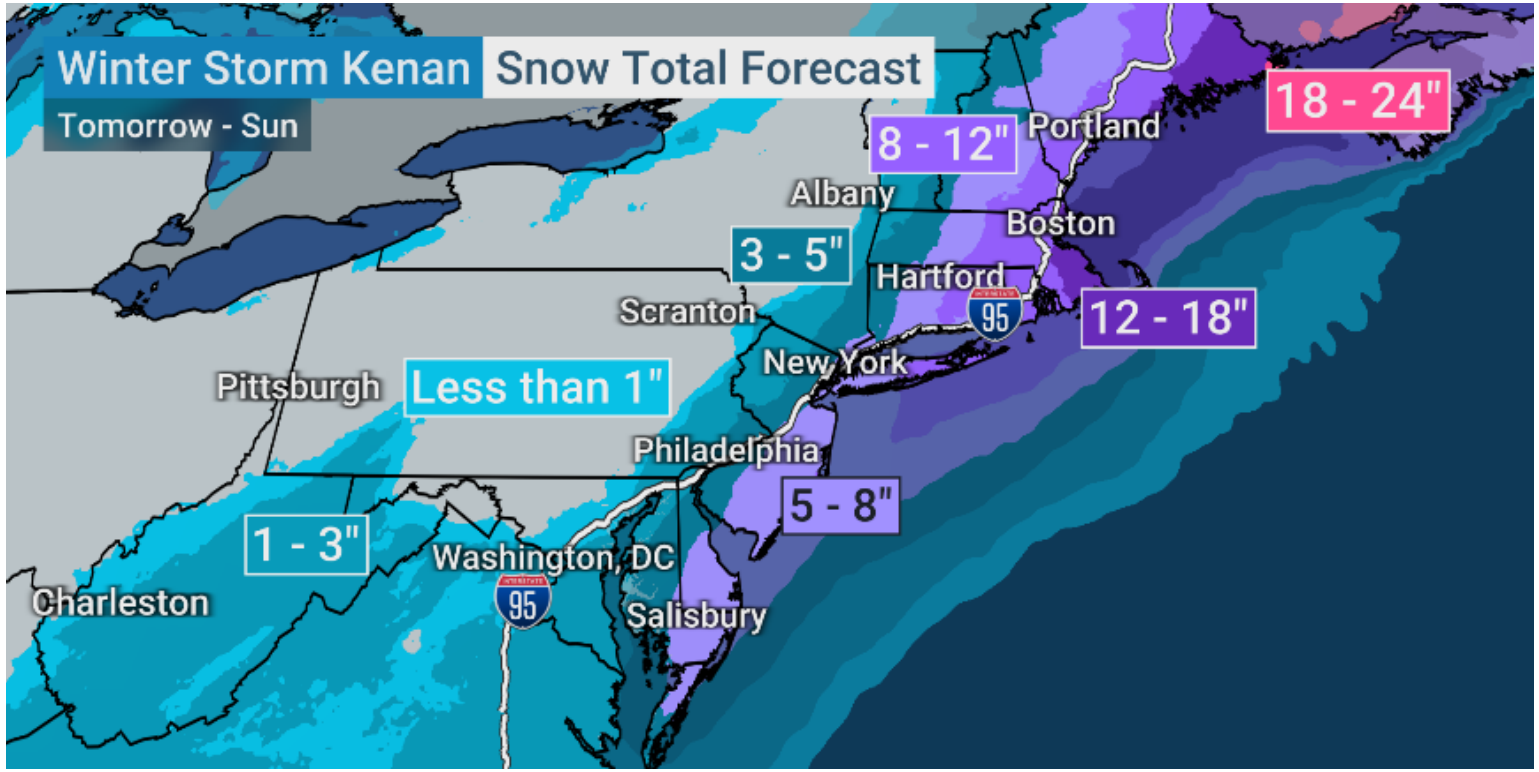
What Are We Getting?

Web-based dashboard showing # of alerts and vehicles alerted in NJ

81,000 alerts in 12 months along 13 limited access highways and toll roads



Using Technology to "Spread the Word"



January 29, 2022 – Winter Storm Kenan

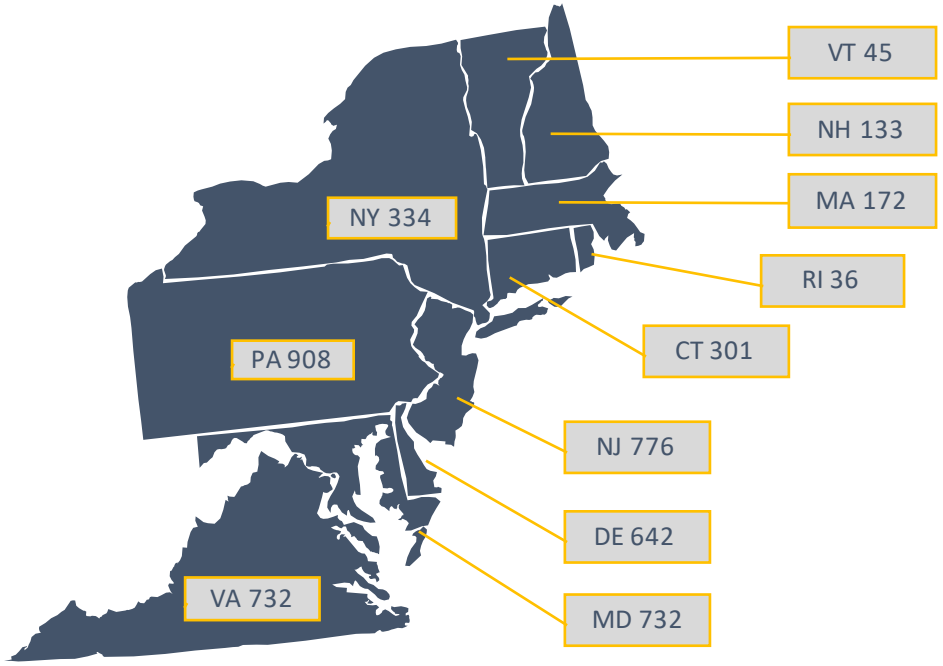
New Jersey
Traveler Information Systems

- 11 states activated 2 ¼ hours after initial request
- 10 states that do NOT subscribe CMV Alerts

- 11 State agencies
- 1956 NB interstate road miles

- 4,811 Trucks alerted over 30-hours

State	Location of Alert	Number of Trucks
CT	North I-95 NB	301
DE	North I-95 NB	642
MD	North I-495 NB	732
MA	North I-91 NB	165
MA	North I-495 NB	7
NH	North I95 NB	133
NJ	North I-95 NB	260
NJ	North I-295 NB	516
NY	North I-87 NB	25
NY	North I-495 NB	4
NY	North I-95 NB	305
PA	I-80 East EB	908
RI	North I-95 NB	36
VT	North I-91 NB	45
VA	North I95 NB	732
Total Number of Trucks Alerted		4811



Example of actual ELD alert.
This also goes into any smart device.

Using Technology to "Spread the Word"

June 11, 2023 - I-95 Philadelphia

Standardized TSMO Response

THE EASTERN TRANSPORTATION COALITION

TRANSCOM℠
TRANSPORTATION OPERATIONS COORDINATING COMMITTEE

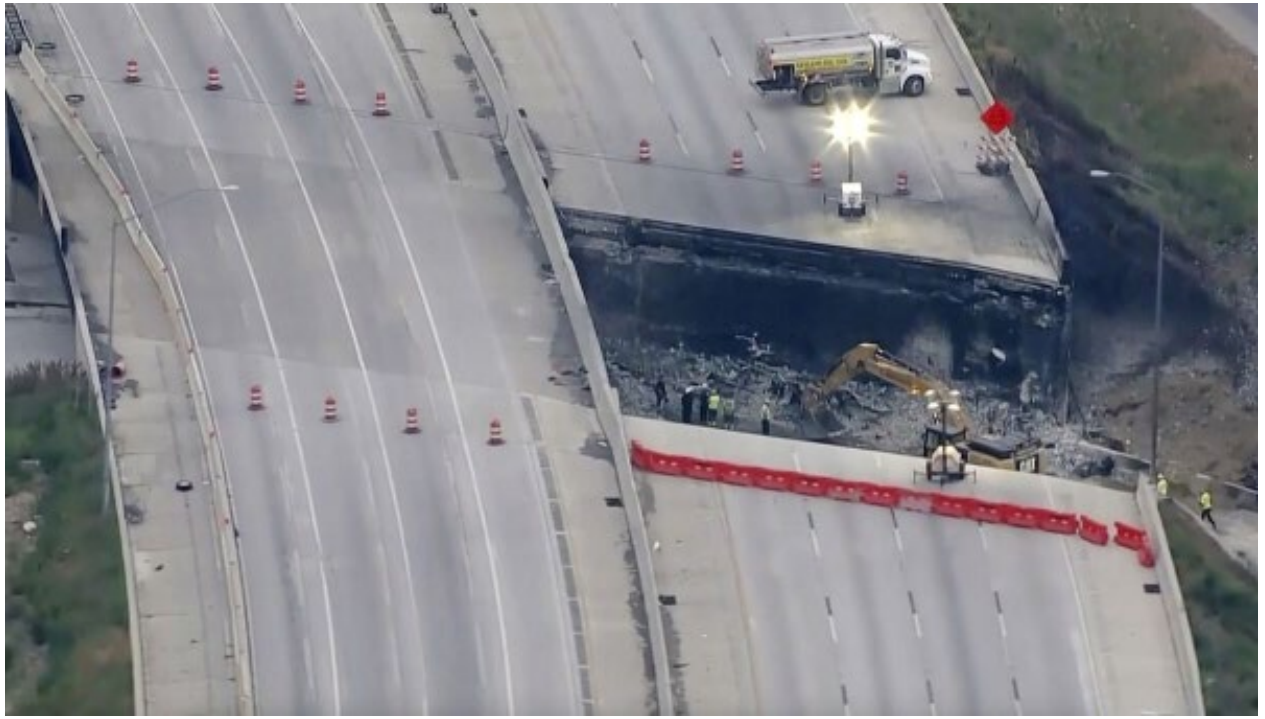
93 Variable Message Signs on 19 multi-agency roadways

511 system reporting the closure

Coordination with public and private partners (statewide & regional)

Standardized TSMO Response

"Spread the Word Further!"



We need to communicate to as many of the 160,000 daily vehicles we can

GeoFenced Alerts To Trucks

Site ID	Site Name	Alerts 6/25 - 6/26	Trucks 6/25 - 6/26	Alerts Total	Trucks Total
21049	PA I-95 Bridge Collapse Road Closure NB	147	125	1151	899
21050	PA I-95 Bridge Collapse Road Closure SB	113	96	942	862
21051	PA I-95 Bridge Collapse Road Closure Border Alert NB	318	302	4373	3385
21052	PA I-95 Bridge Collapse Road Closure Border Alert SB	37	35	704	589
21053	PA I-95 Bridge Collapse Road Closure Bridge Border Alert WB	439	399	7728	5235
21056	NJ I-95 Bridge Collapse SB I-295 at Exit 62 SB	53	49	969	713
21057	NJ I-95 Bridge Collapse WB 76 at I-676 WB	121	112	1806	1282
21058	NJ I-95 Bridge Collapse SB I-295 at Exit 40 SB	158	154	3357	2319
21059	NJ I-95 Bridge Collapse NB I-295 at Exit 23 NB	458	381	5015	4346
21060	NJ I-95 Bridge Collapse SB I-295 at Exit 28 SB	218	208	4050	2812
21061	NJ I-95 Bridge Collapse NB I-295 at Exit 28 NB	254	239	4738	3244
21062	NJ I-95 Bridge Collapse EB I-195 at Exit 7 EB	130	127	1759	1379
21063	MD I-95 Bridge Collapse NB I-95 at Maryland/DE border NB	826	774	10819	7874
21064	CT I-95 Bridge Collapse SB I-95 at the CT/RI border SB	97	94	2009	1597
21065	RI I-95 Bridge Collapse SB I-95 at the RI/MA border SB	52	50	1122	866
21066	NJ I-95 Bridge Collapse SB I-95 at the NJ/NY border WB	651	595	11147	7636
21067	NY I-95 Bridge Collapse SB I-95 at the NY/CT border SB	3778	2,468	12581	~~8684~~
	Total	7,850	6,208	74,270	53,722

53,722 commercial vehicles alerted between June 12th and June 26th

Traditional Traveler Information Platforms

Phone System
3 million calls
(2017-2022)

Website
Over 45 million visits
(2017-2022)

Social Media
17 Twitter Handles
Avg 7,700 tweets/mo

Intelligent Voice Assistant Platforms

In 2019, NJDOT coined the phrases…

"Alexa…talk to New Jersey Traffic"

"Hey Google…talk to New Jersey Traffic"

First State DOT in the country to use Alexa and Google Home to provide 511 information

Intelligent Voice Assistant Platforms

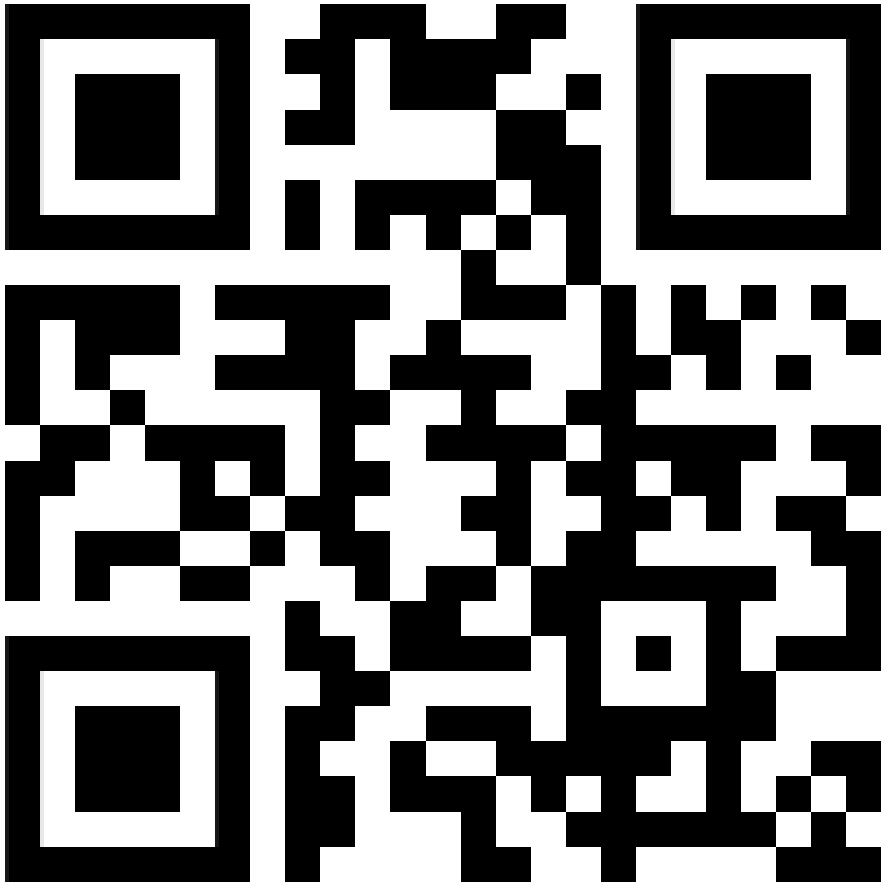
Why should DOT's provide traffic through these devices?

500,000,000
Alexa-enabled devices

52,000,000
Google Home devices

What Is Crowdsourcing?

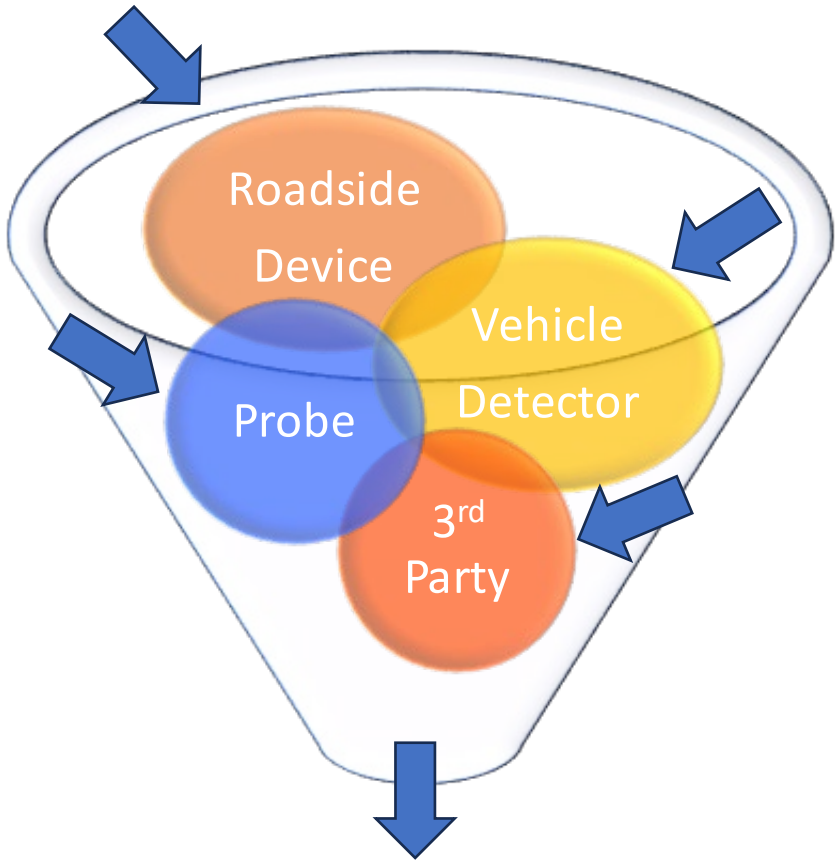
Collecting information from a group via the internet



Does NJDOT Use Crowdsourced Data to Manage Mobility?

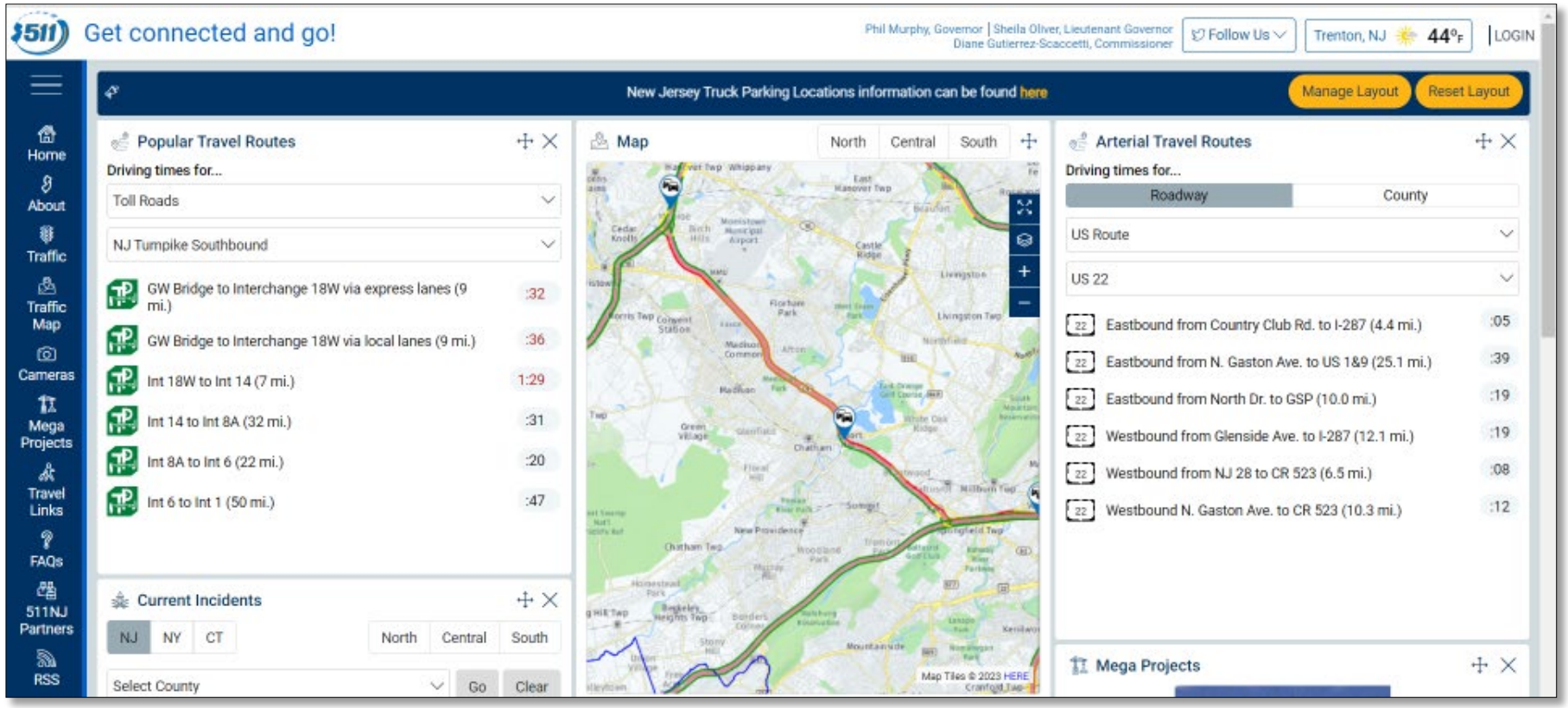
Yes…for more than 15 years

TRANSCOM Data Fusion Engine (DFE)



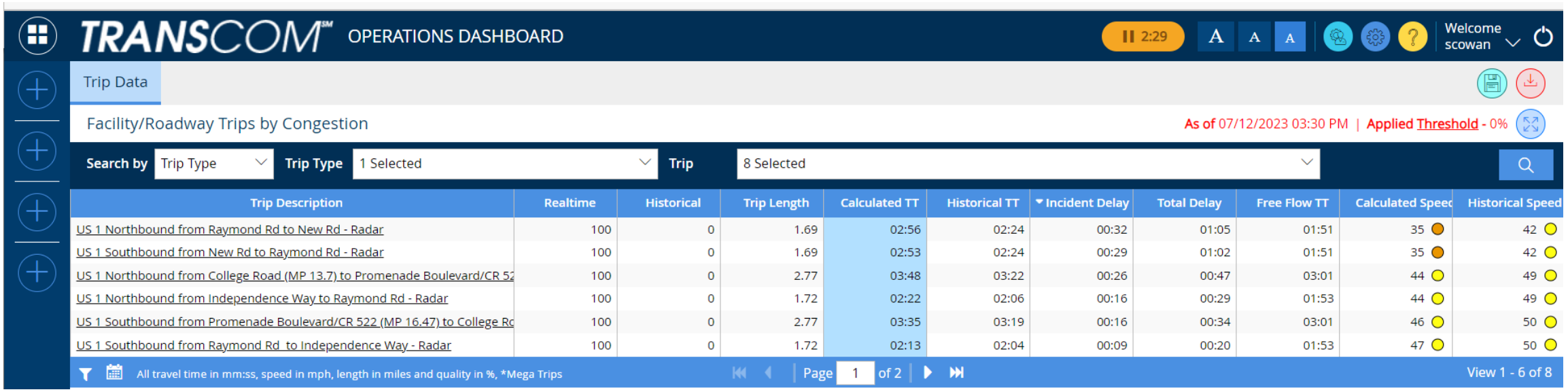
- **Identify all possible data sources**
- **Integrate and map data sources**
- **Develop "Business Rules" for data source**
- **Winning Source generated by DFE**
- **Results updated every minute**
- **Data Archived for future analysis**

NJDOT uses of Crowdsourced Data Public Use



NJDOT uses of Crowdsourced Data

Agency Analytics Use



Is NJDOT "Part of the Crowd"?

Yes…..we've done it before!

iCone
Connected Tech
PUT YOUR WORKERS ON THE MAP

Is NJDOT "Part of the Crowd"?

And we're doing it again!

HAAS ALERT

waze
OUTSMARTING TRAFFIC, TOGETHER

One more time….
How Should Agencies Communicate With Their Customers?

One to One

+

Mass Communication

Every Way Possible!

Knowledge Check

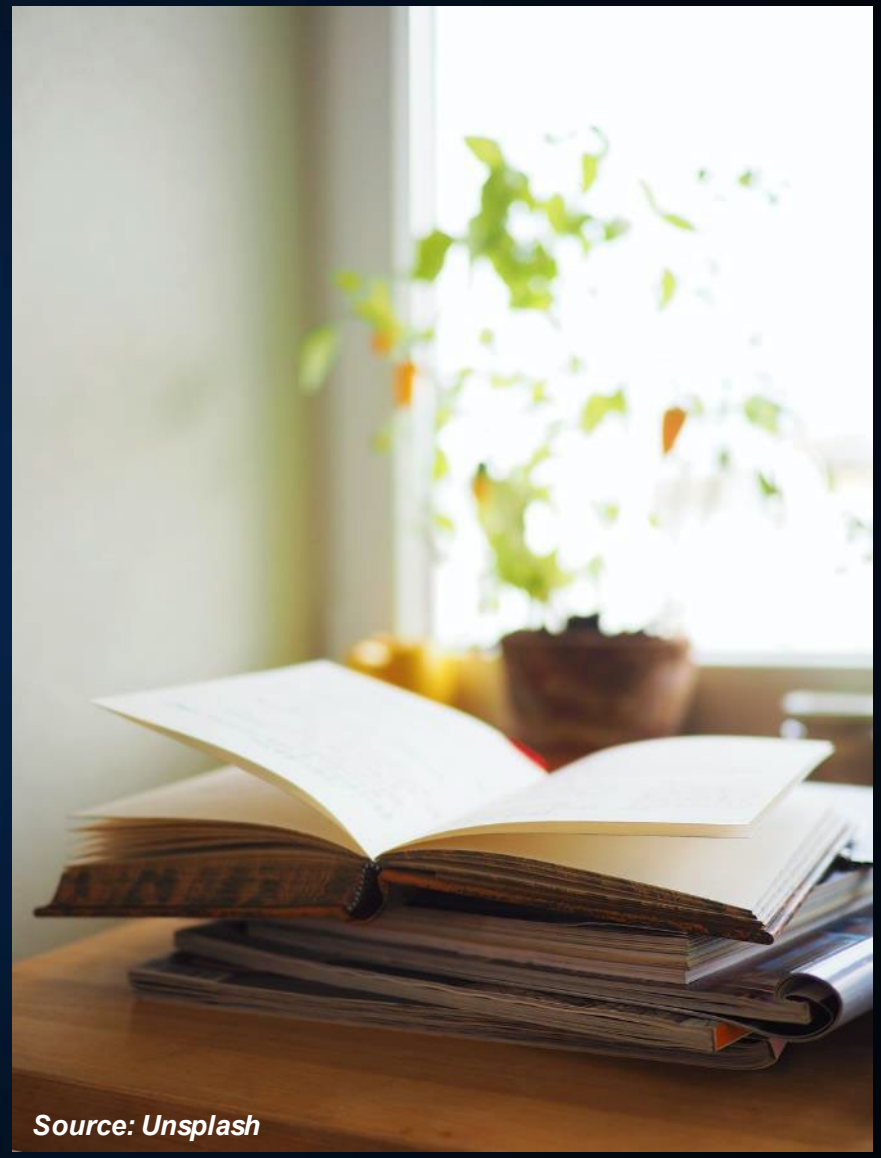
How can crowdsourcing data enhance traveler information?

A. Improves timeliness

B. Provides better accuracy

C. Can be delivered to preferred platforms

D. All of the above



Source: Unsplash

Knowledge Check

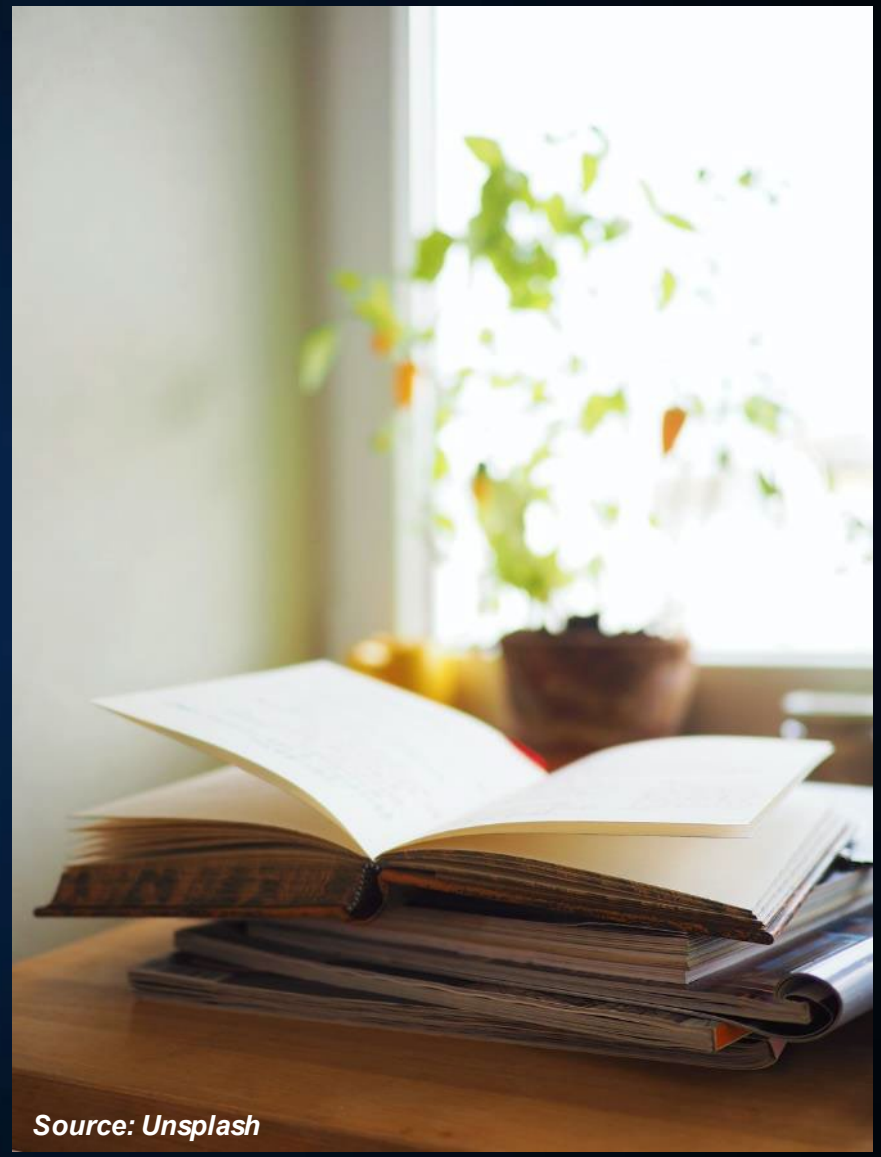
What platforms can be used to acquire data and communicate traveler information?

A. Twitter

B. 511 mobile app

C. Third-party mobile app

D. All of the above



Source: Unsplash

Traveler Information Crowdsourcing Resources

Adventures in Crowdsourcing webinars with Traveler Information content:

- Using Crowdsourced Data for Traveler Information
- Social Media for Improved Operations
- Business Case for Crowdsourced Data - Missouri Personalized Traveler Information Improves Responder Safety

FHWA EDC-6 Crowdsourcing for Advancing Operation Resource Site (bit.ly/CS4Ops)

LESSON: Traffic Incident Management
INSTRUCTOR: Vaishali Shah, AEM Corporation

Source: Unsplash.

Lesson Objective

Understand how crowdsourcing data can enhance Traffic Incident Management (TIM)

Source: Maryland DOT

What is Traffic Incident Management (TIM)

TIM consists of a planned and coordinated multidisciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible.

Source: Enforcement Engineering, Inc.

Traffic Incidents and Secondary Crashes

"A traffic incident is an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic."

Manual on Uniform Traffic Control Devices 6l.01, P02

"A secondary crash is a crash that occurs within the incident scene, queue, or backup, including the opposite direction, resulting from an original traffic incident."

FHWA Focus States Initiative

TIM Timeline

Incident duration and the time it takes to clear roadways affects travel reliability, incident responder and motorist safety, and the likelihood of a secondary crashes.

Source: FHWA

Detection
Verification

Traffic Incident Management Challenges

- Incident detection
- Queue formation and detection
- Operator workload
- The safety of responders and approaching motorists
- Managing alternate routes
- After action reviews

Source: Adapted from Unsplash


Source: Nassau County, FL Sheriffs Office


Source: Enforcement Engineering, Inc.

Source: Florida DOT

Crowdsourcing Applications for TIM

Source: FHWA

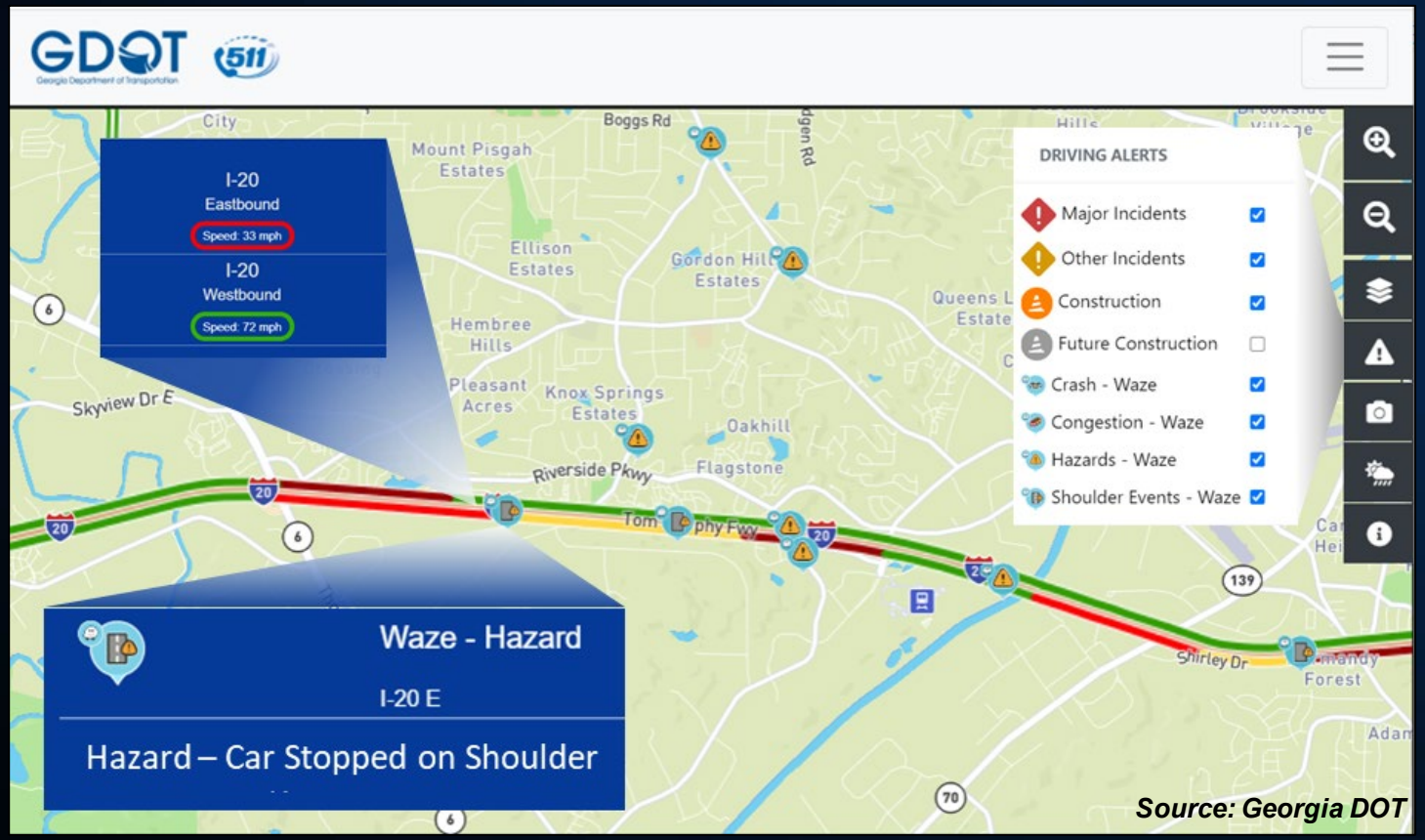
- Quicker incident detection
- Back of queue detection
- Reduces operator workload
- Responder and traveler safety
- Traffic and alternate route management
- After action reviews

TIM Crowdsourcing Examples

Agency	How Data is Used	Crowdsourced Data
Georgia DOT	Back of queue management	Waze®, INRIX®
Iowa DOT	Quicker incident detection	Waze®, INRIX®, Twitter®
City of Frisco, TX	Quicker incident detection, reduce operator workload, traveler safety	Waze®
Connecticut DOT	Incident detection and response	Waze®, HERE®
St Louis, MO	Responder and traveler safety	Make Way® and Waze®
Lake County, IL	Traffic and alternate route management	Waze®

https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/docs/crowdsourcing_applications.pdf

Example: Georgia DOT Manages Back of Queue Using Crowdsourced Data



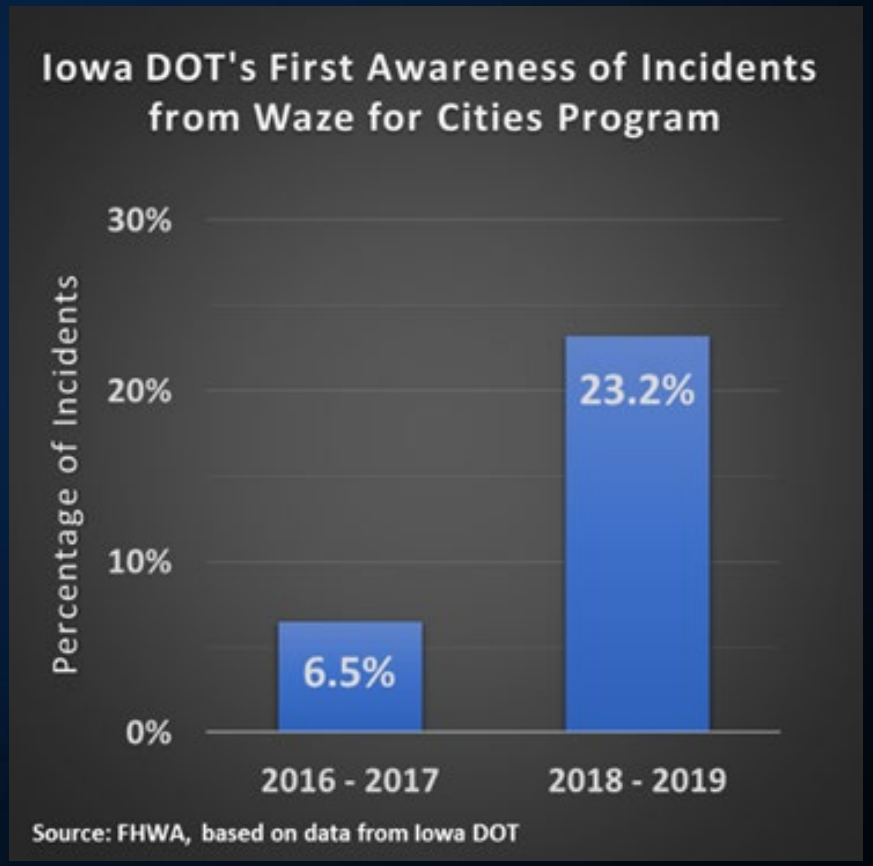
Source: Georgia DOT

Georgia DOT Safety Service Patrol uses Waze® and color-coded speed maps from their public-facing 511 site to position mobile message signs and warn approaching drivers of slow downs.

Example: Iowa DOT uses Waze to Shorten Incident Detection Time

Waze® data informs traffic management center (TMC) operators of roadway incidents in advance of other sources approximately 25 percent of the time.

Iowa DOT also uses vehicle probe data and social media to detect incidents, in addition to ITS cameras, safety service patrol, and law enforcement computer-aided dispatch.



Source: FHWA using data from Iowa DOT

Example: City of Frisco, Texas Improves Public Safety Dispatch

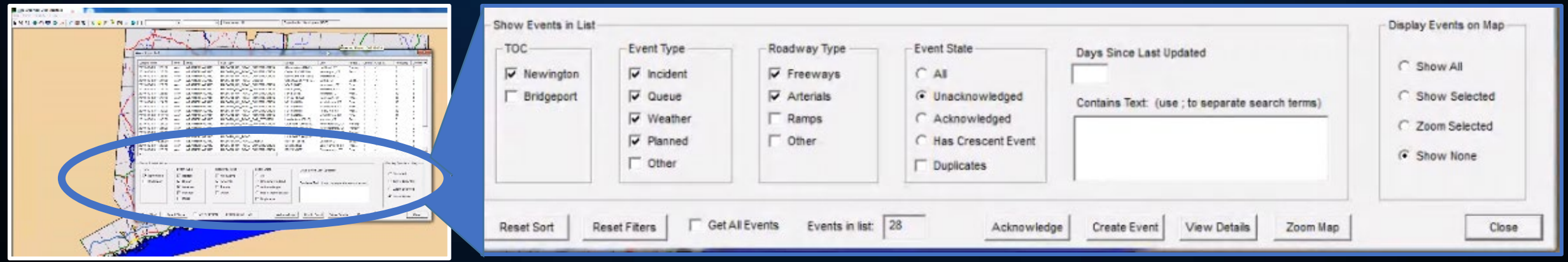
The navigation app-reported incidents occur five to seven minutes earlier than 10 percent of 911 phone calls.[1]

When dispatch officers define emergency road closures in their GIS system, they are automatically sent to the navigation app provider and appear on the app interface.

[1]Preliminary analysis by City of Frisco, Texas

Example: Connecticut DOT Waze Interface Improves Detection and Response

- Connecticut DOT developed a Graphics User Interface (GUI) for viewing Waze data.
- This simplifies the workload for their operators and expedites incident detection and response strategies.



Source: Connecticut DOT

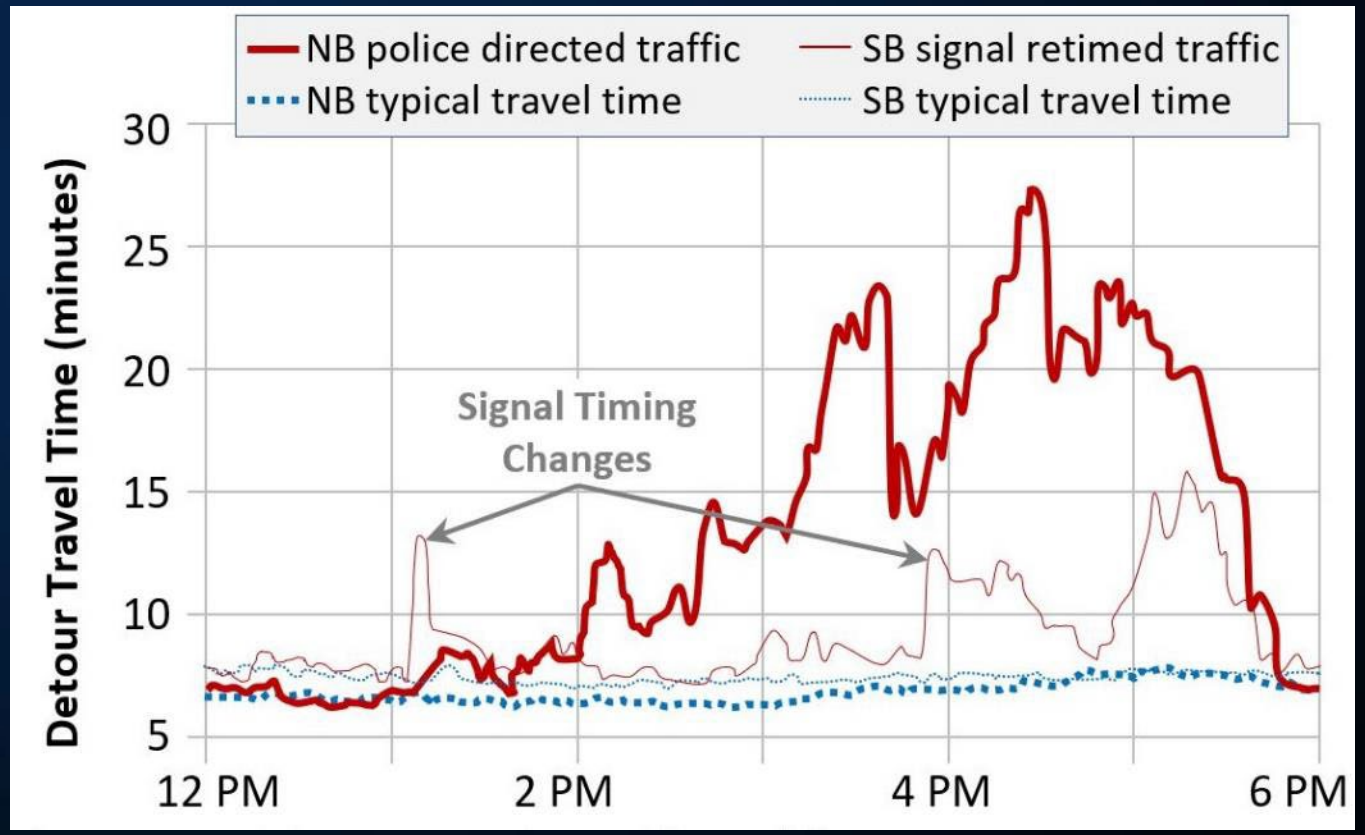
Example: St. Louis, Missouri Improved Incident Responder Safety through Crowdsourcing

Emergency response vehicle collisions with third parties declined by 40 percent in St. Louis when alerting motorists of responder activity.

Example: Lake County Real-Time Signal Plans for Arterial Incidents

Signals north of a major crash are switched to two different timing plans using crowdsourced travel time data.

Vehicles approaching the crash, headed southbound, experience far lower travel time compared to police directed northbound traffic.

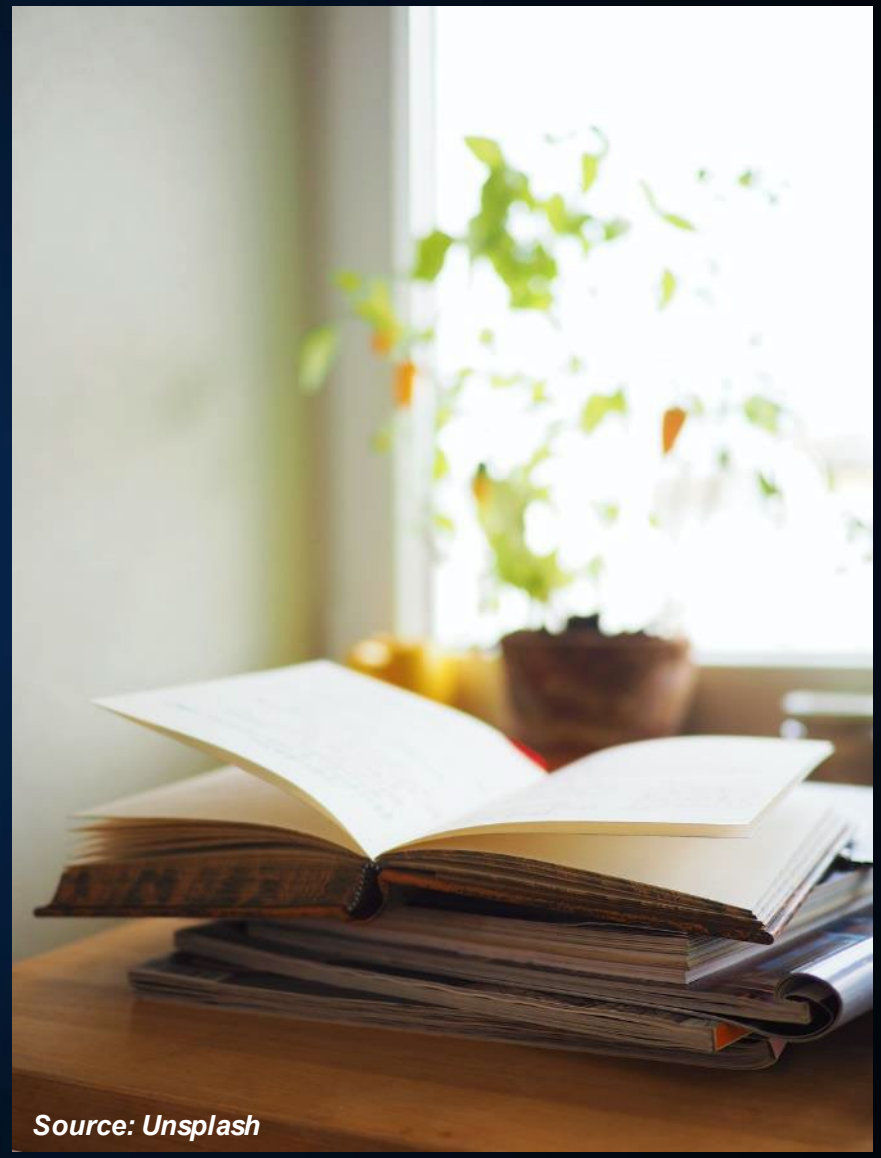


Source: Lake County DOT

Knowledge Check

How can crowdsourcing data enhance Traffic Incident Management (TIM)?

A. Faster incident detection.
B. Identification of back of queues.
C. Alerting drivers to the presence of roadside responders.
D. All of the above.


Source: Unsplash

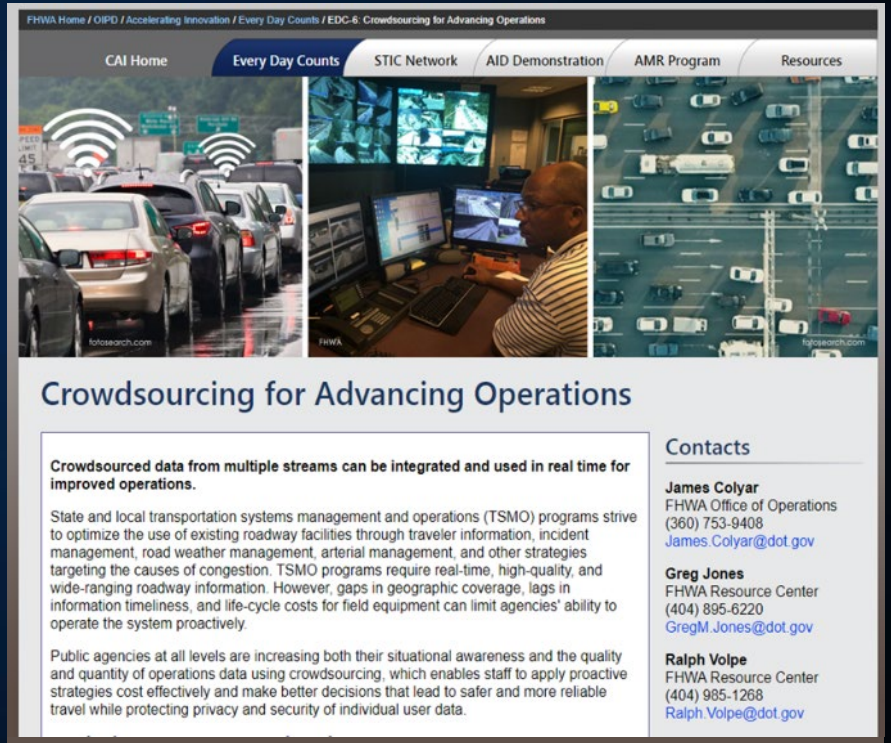
TIM Crowdsourcing Resources

Adventures in Crowdsourcing webinars:

- Incident Management Tools
- Identifying and Managing Back of Queues
- Business Case for Crowdsourced Data

Talking TIM webinars:

- Innovative Tools for Responder and Road Worker Safety (February 2021)
- Protecting the Queue (October 2020)



FHWA EDC-6 Crowdsourcing for Advancing Operation Resource Site (bit.ly/CS4Ops)

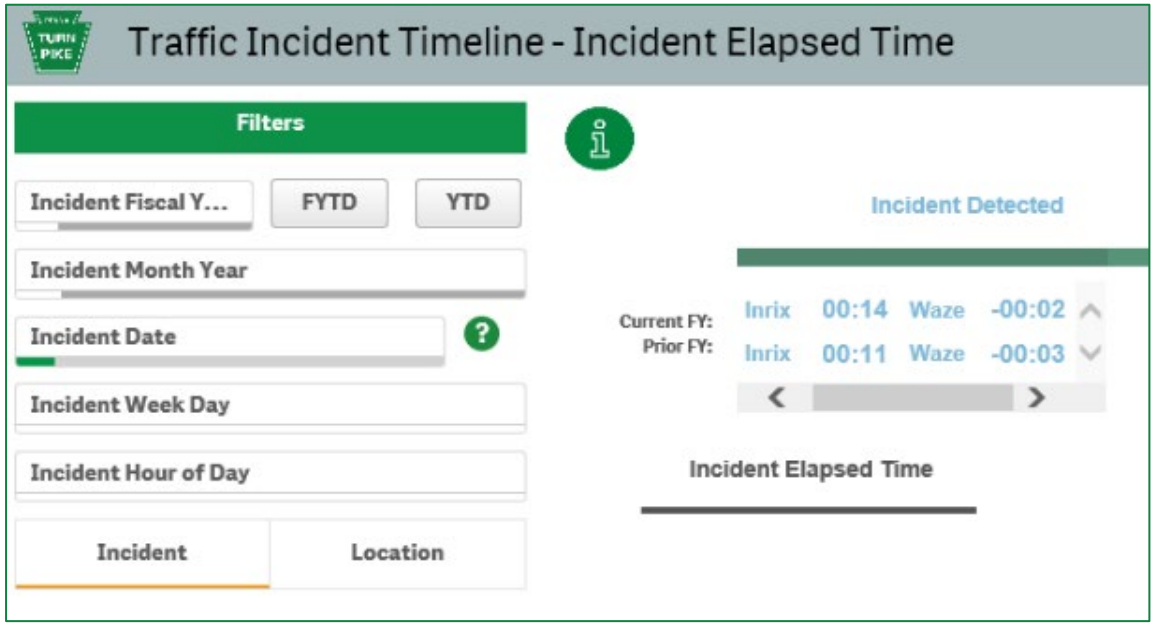
Crowdsourcing Traffic Incident Management at the New Jersey Turnpike

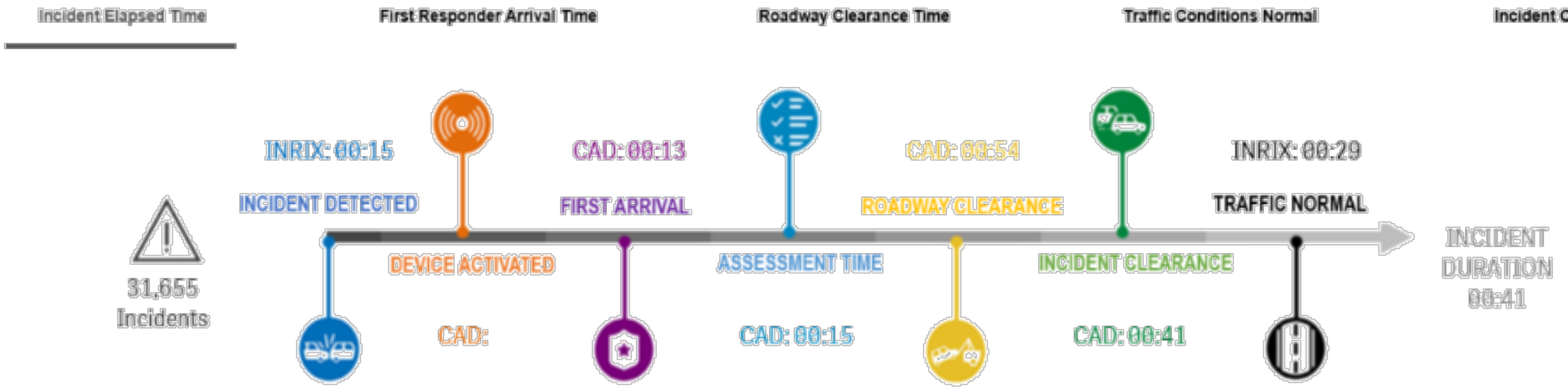
Source: Unsplash.

Crowdsourcing for TRAFFIC INCIDENT MANAGEMENT and TRAVELER INFORMATION

TIM Timeline

Pennsylvania Turnpike now integrates Waze and INRIX data for quicker incident detection, more targeted incident response, broader traveler information, after action reviews, and performance analysis.





PTC Crowdsources Operations

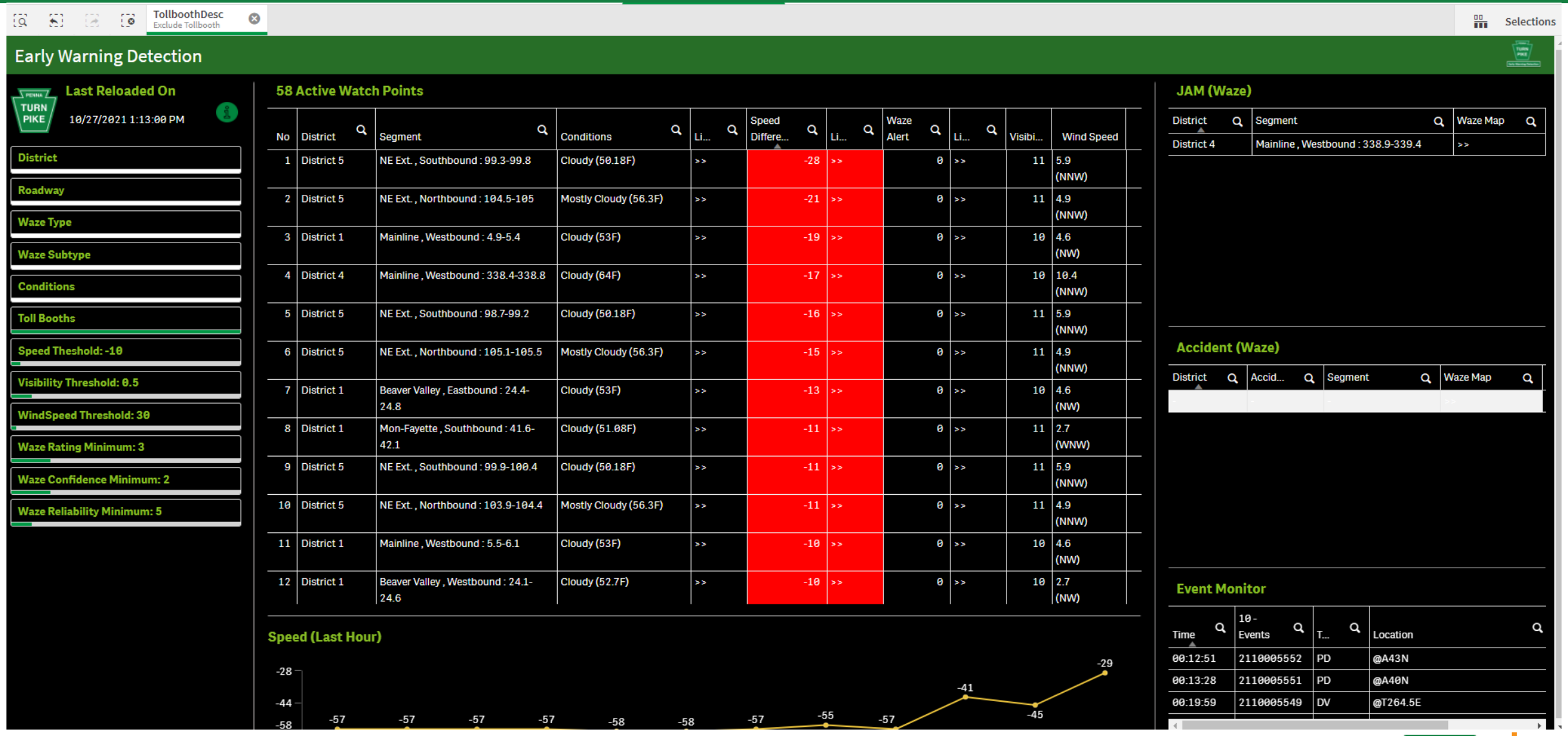
Waze Connected Partner

- Share incident and work zone data
- PTC receives Waze data for our roadway
- PTC can close a road in Waze
- PTC can set speed limits and provide other safety messages and planned detours for Waze users
- **PTC will soon start dispatching via Waze**
- **Working to get Waze Speeds for every mile of the Turnpike**

INRIX Probe Speed Data Consumer

- Pulls speed data from PTC road segments every 2-minutes
- Prioritizes segments with greatest speed differentials

Early Warning Detection Tool



No	District	Segment	Conditions	Li...	Speed Differe...	Li...	Waze Alert	Li...	Visibi...	Wind Speed
1	District 5	NE Ext. , Southbound : 99.3-99.8	Cloudy (50.18F)	>>	-28	>>	0	>>	11	5.9 (NNW)
2	District 5	NE Ext. , Northbound : 104.5-105	Mostly Cloudy (56.3F)	>>	-21	>>	0	>>	11	4.9 (NNW)
3	District 1	Mainline , Westbound : 4.9-5.4	Cloudy (53F)	>>	-19	>>	0	>>	10	4.6 (NW)
4	District 4	Mainline , Westbound : 338.4-338.8	Cloudy (64F)	>>	-17	>>	0	>>	10	10.4 (NNW)
5	District 5	NE Ext. , Southbound : 98.7-99.2	Cloudy (50.18F)	>>	-16	>>	0	>>	11	5.9 (NNW)
6	District 5	NE Ext. , Northbound : 105.1-105.5	Mostly Cloudy (56.3F)	>>	-15	>>	0	>>	11	4.9 (NNW)
7	District 1	Beaver Valley , Eastbound : 24.4-24.8	Cloudy (53F)	>>	-13	>>	0	>>	10	4.6 (NW)
8	District 1	Mon-Fayette , Southbound : 41.6-42.1	Cloudy (51.08F)	>>	-11	>>	0	>>	11	2.7 (WNW)
9	District 5	NE Ext. , Southbound : 99.9-100.4	Cloudy (50.18F)	>>	-11	>>	0	>>	11	5.9 (NNW)
10	District 5	NE Ext. , Northbound : 103.9-104.4	Mostly Cloudy (56.3F)	>>	-11	>>	0	>>	11	4.9 (NNW)
11	District 1	Mainline , Westbound : 5.5-6.1	Cloudy (53F)	>>	-10	>>	0	>>	10	4.6 (NW)
12	District 1	Beaver Valley , Westbound : 24.1-24.6	Cloudy (52.7F)	>>	-10	>>	0	>>	10	2.7 (NW)

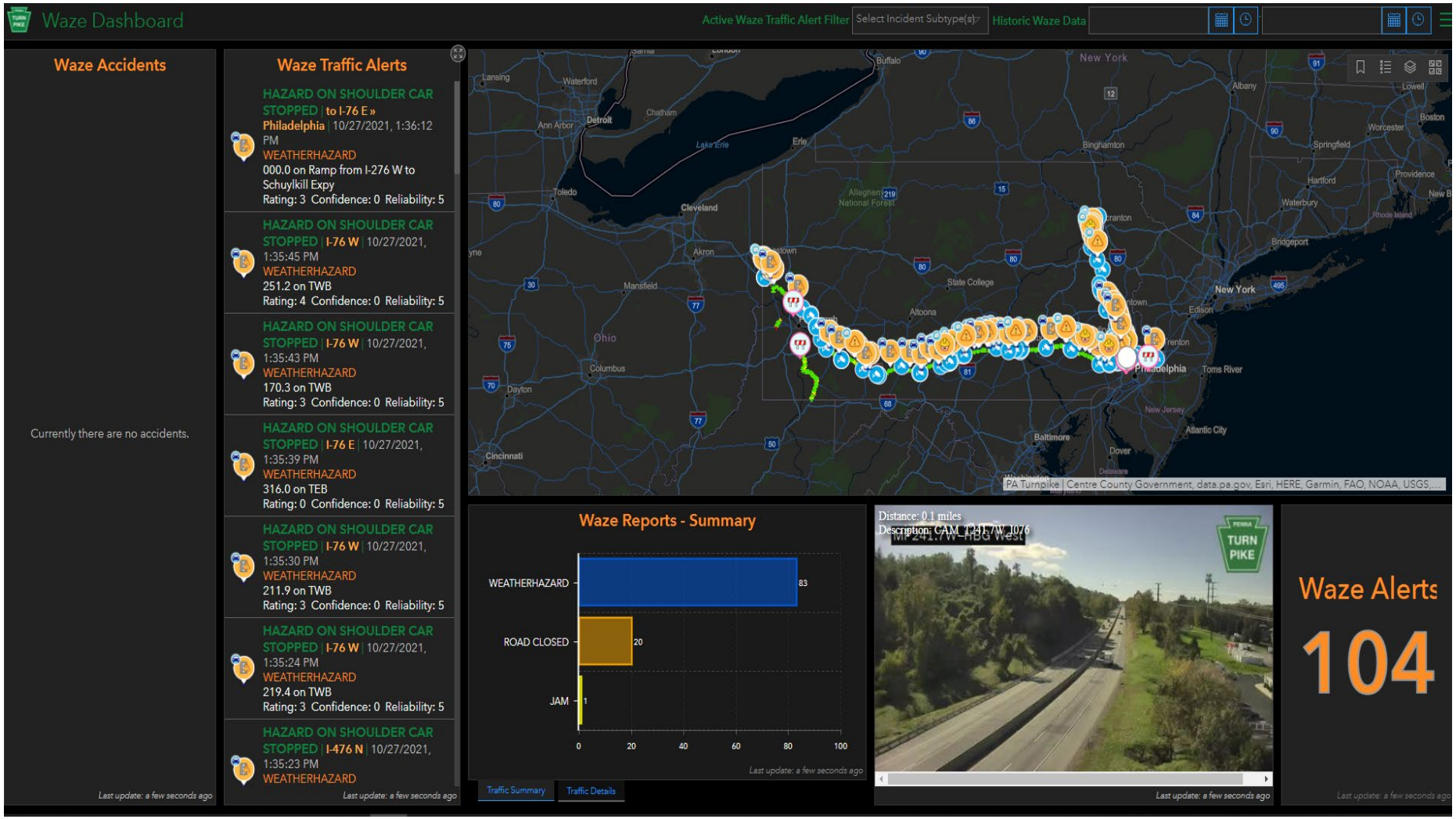
District	Segment	Waze Map
District 4	Mainline , Westbound : 338.9-339.4	>>

District	Accid...	Segment	Waze Map

Time	10-Events	T...	Location
00:12:51	2110005552	PD	@A43N
00:13:28	2110005551	PD	@A40N
00:19:59	2110005549	DV	@T264.5E

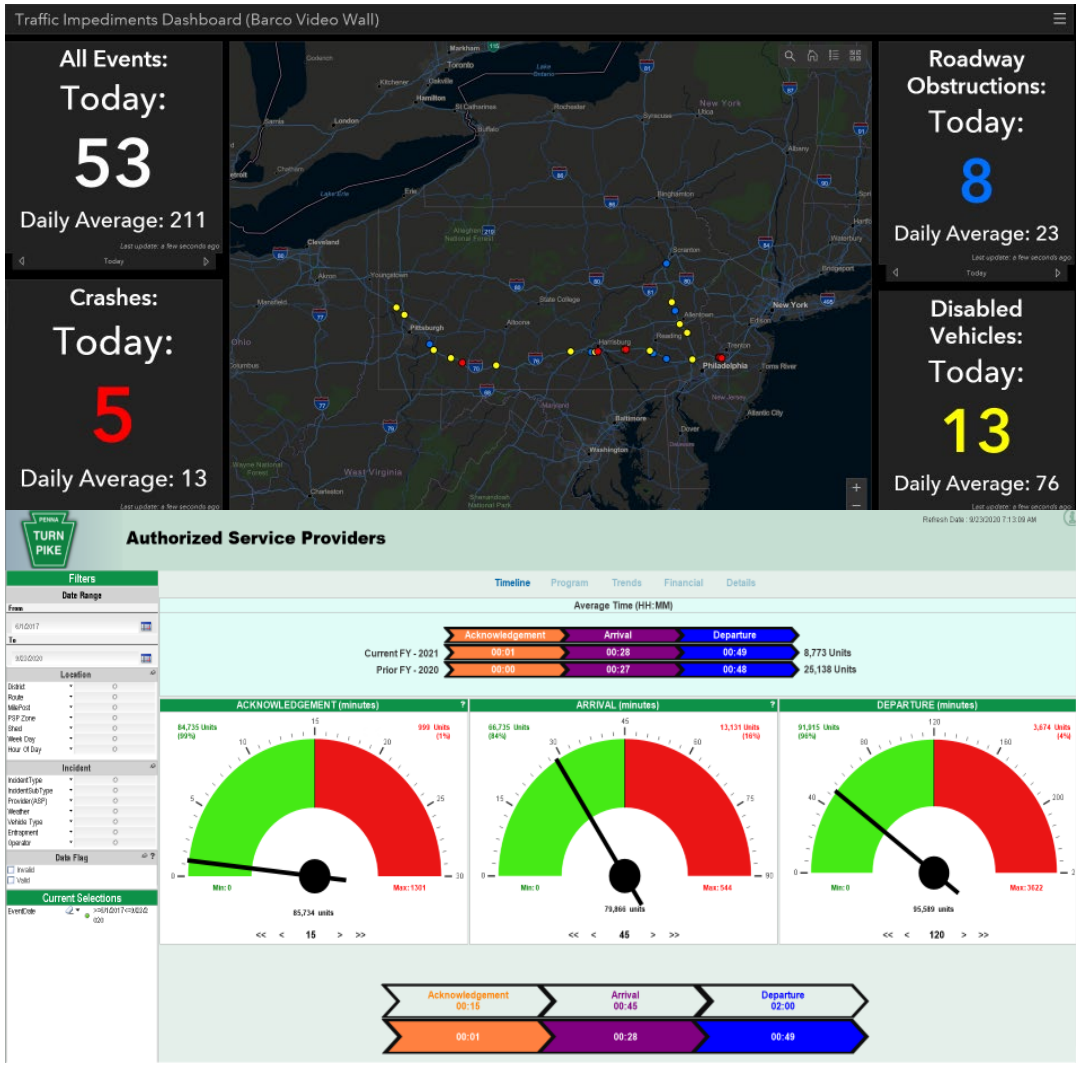
Waze Dashboard

- Real-Time Waze alerts
- Summary report
- Closest camera
- Link to Live map
- Geolocated to MP



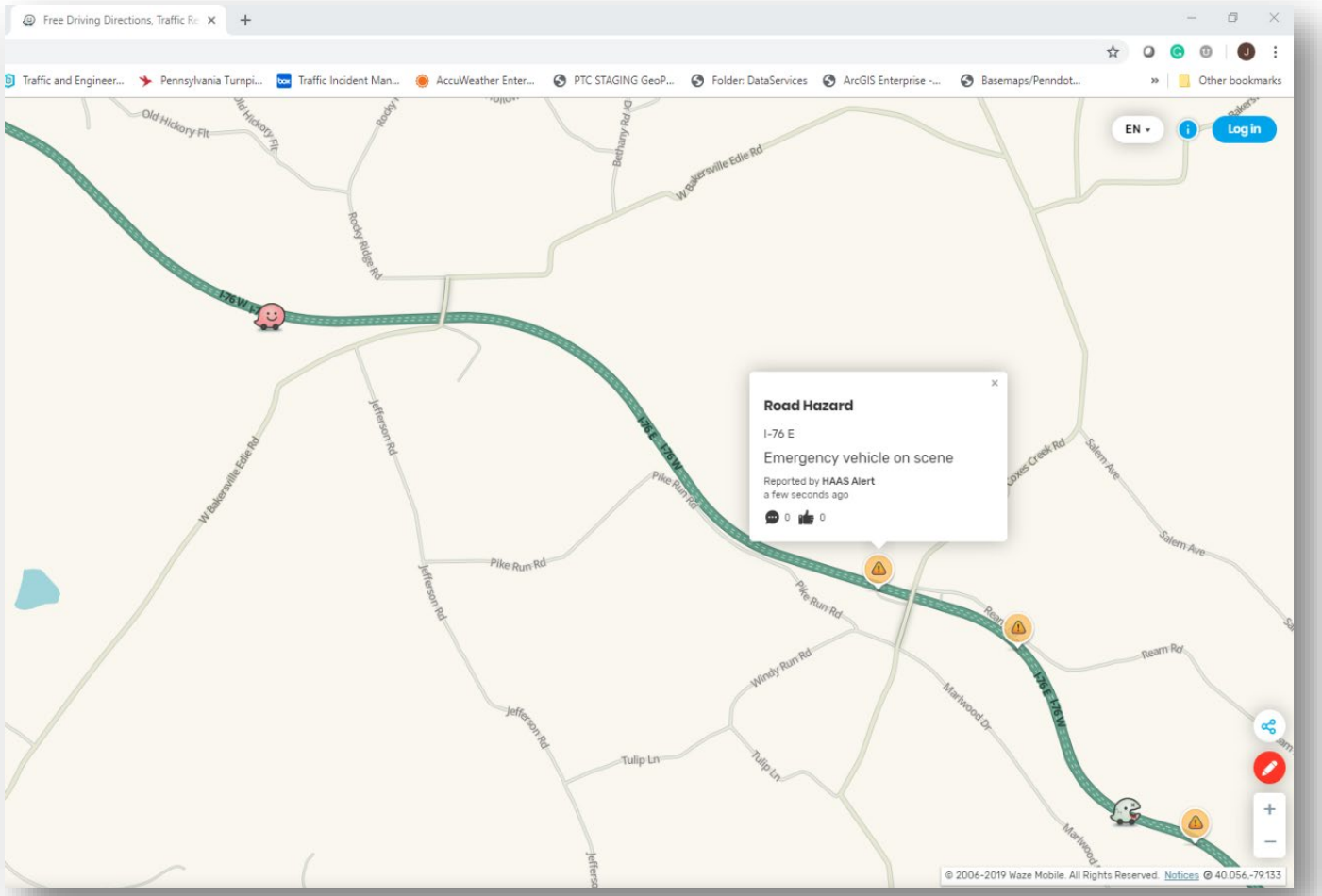
TEO/Geo Analytics Program – Metrics and Dashboards

- Turnpike Interactive Mobility & Safety (TIMS) v6
- TIMS v4 (Barco Wall)
- Traffic Impediments (Barco Wall)
- Work Zone Dashboard
- Deer Encounters Live
- TIMS Viewer Lite
- Traffic Impediments (Desktop)
- Waze Dashboard
- Deer Encounters Analysis
- ITS Devices for AET
- Early Warning Detection
- Active Incident Summary Window (Barco Wall)
- Incident Timeline
- CADS Reporting
- TEO Mobility Dashboard
- Executive Mobility Dashboard
- ASP Dashboard
- Work Zone Crashes Dashboard
- **Weather Dashboard**
- **Wrong Way Driver Dashboard**



HAAS Alerts

Digital Alerts that go to Waze to tell drivers to Move Over for emergency vehicles that are on scene on the roadway



- Activated with light bar
- 178 vehicles
- ½ mile alert
- Over 7 million driver alerts in the first half year

Data Sharing / Partners

PENNA TURN PIKE SAFETY PATROL

pennsylvania STATE POLICE

EMERGENCY DIAL 911

EMERGENCY CELLULAR *11

waze

INRIX

TrafficVision

VAISALA

NATIONAL WEATHER SERVICE

AccuWeather

ATMS

Advanced Traffic Management System (ATMS)

APIs SHARE INFORMATION WITH 3RD PARTY DATA PARTNERS

waze

511

SiriusXM SATELLITE RADIO

TOMTOM

Drivewyze

TRUCKER PATH

Trimble

INRIX

Keystone Mesonet

Passenger Vehicle Navigation

App name	% of nav app users	PTC agreement	What we Share	US Users (Mil)
WAZE	23%	Yes – Connected Partner	Crash or Work Zone Closures	49.9
Google maps	58%	Yes	Live Road Closure for Crashes Work Zone – Future?	125.8
Apple maps	11%	No – in Process and testing feed	Crash or Work Zone Closures	23.8

Commercial Vehicle Navigation

App name	PTC agreement	Time Frame
Trimble – In most ELD devices and GPS units	Yes – Starting to test dev API – Accidents/Road Closurex/Work zone	Late 2021
DriveWyze	Yes – Warn Trucks of Dangerous Curves **Dangerous Slowdown and Congestion – 11,000 alerts since Oct 2022**	Since 2019
Freight Waves	Yes – • Short-term use for research • Long-term adding Accident/Road Closures/Work Zones it to Sonar Map	2021/22
Trucker Path - #1	Yes	2022
OnStar	Yes	2022
TOM TOM	Yes	2022

Future Connections

- MapQuest - Working with contacts
- GM – thru SDX (Situational Data Exchange)
- FED EX – In conversation with them – They are in process of re-platforming FEDEX ground/air and freight
- Amazon Fleet and AWS – to distribute feed

Future State of TETC Engagement With Mapping Companies:

Ticketing and Automated Handling

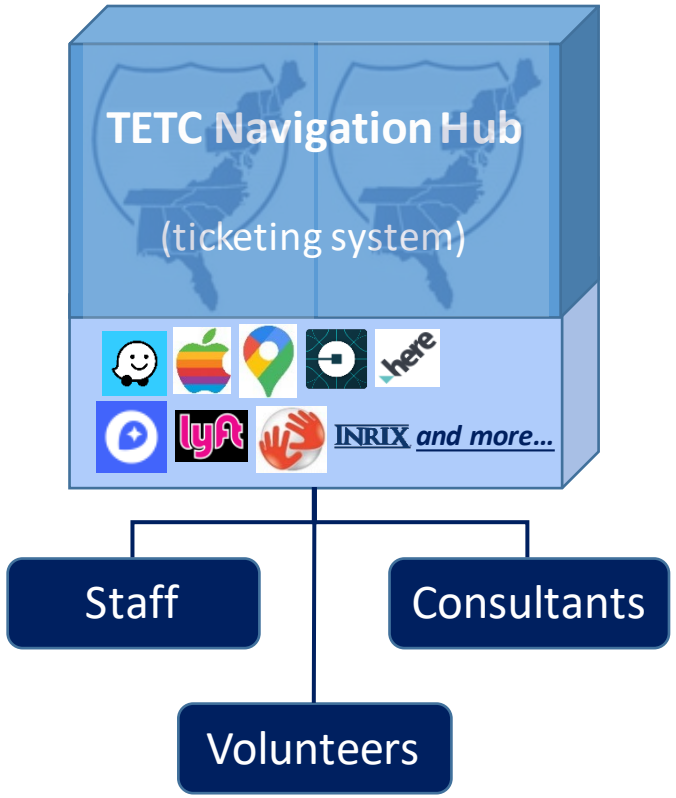
TETC Members

Member A

Member B

Member C

TETC Intake and Delivery



Member Needs

Immediate Needs

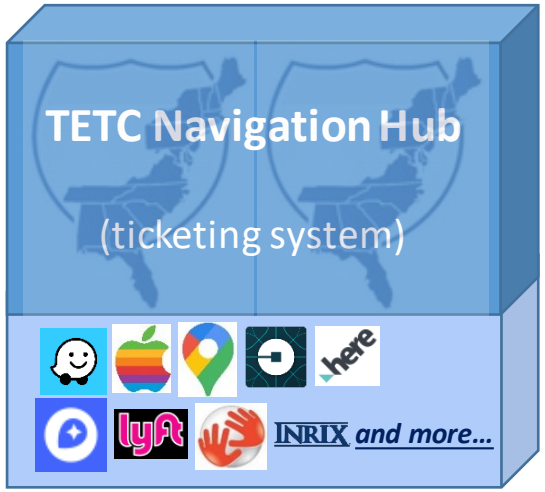
Long Term Needs

Deliverables

New Features	Trouble Shooting	Technical Advice
Reports by App	Reports by Activity	Reports by Region
Reports by Member	Case Studies	Training Sessions
Relationship Management	App Backlog	Backlog Progress

Travel Information Navigation Ticketing Hub

- Design completed March 2023
- Beta Testing completed April 2023
- Project launch held May 11 in Burlington, VT
- Coalition training sessions scheduled for June 16 and June 29



Thank You!

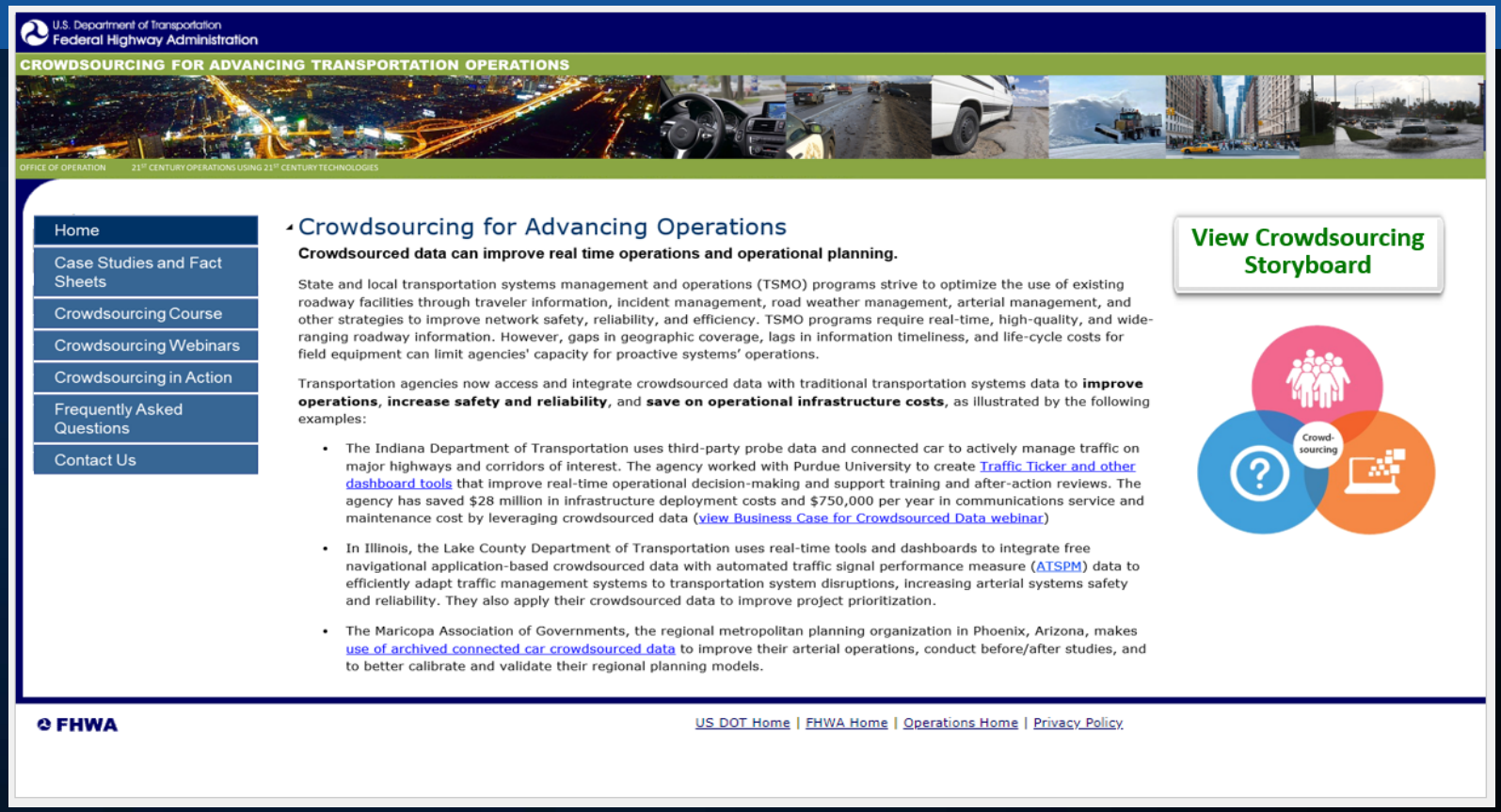
John Parker
Senior Traffic Operations Project Manager
Pennsylvania Turnpike Commission
Phone: 717-686-8059
cparker@paturnpike.com

Source: Pixabay.

Question, Answer, and Discussion

Crowdsourcing Beyond Every Day Counts Round Six

- New web presence
- Continue course delivery
- Continue technical support
- Continue free access to the EDC-6 Adventures in Crowdsourcing webinar series hosted by the National Operations Center of Excellence



Source: FHWA.

Concept website in development and intended for FHWA Office of Operations.

Thank you.

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360–753–9408

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U.S. Department of Transportation
Federal Highway Administration

Every Day Counts
Innovation for a Nation on the Move

Upcoming T3 Webinars

Webinar	Date	Time
Crowdsourcing for Advancing Operations: Road Weather and Arterial Management	Tuesday, August 15, 2023	1:00 P.M. - 2:30 P.M. ET
Crowdsourcing for Advancing Operations: Emergency and Work Zone Management and Next Steps	Tuesday, September 19, 2023	1:00 P.M. - 2:30 P.M. ET

Register: https://www.pcb.its.dot.gov/t3_webinars.aspx

To access the recording and past T3 webinars, visit:
https://www.pcb.its.dot.gov/t3_archives.aspx

Feedback

- A link to a feedback questionnaire is provided in the chat pod. Please take a few minutes to fill it out – we value your input

- To receive notifications of upcoming events, send an email to T3@dot.gov with "Add to mailing list" in the subject line

Thank you!

INTELLIGENT TRANSPORTATION SYSTEMS
PROFESSIONAL CAPACITY BUILDING