



**INRIX**  
**Drive**wyze®

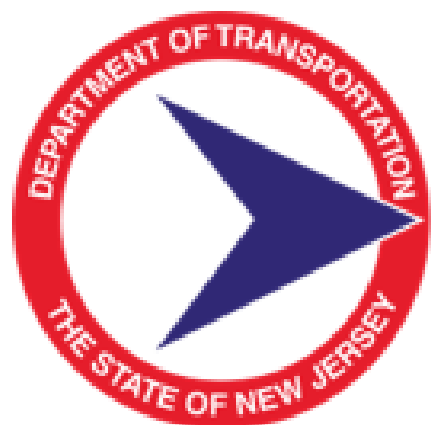
**NCoE**  
National Operations Center of Excellence

# NJDOT Using Crowd Sourced Data to Improve Road Safety

Real Time Communication with Truck Drivers

# New Jersey Department of Transportation

Who are we working with? Our partners



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



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



# INRIX Real Time Traffic Data

Foundational Data for Safety Alerts



## Precise + Actionable Traffic Data

Real Time traffic data detects changes that occur quickly



Detects and warns drivers of changes ahead, including congestion, queues, dangerous slowdowns, and road closures.



Real Time Safety Alerts provided to implement drive assistance



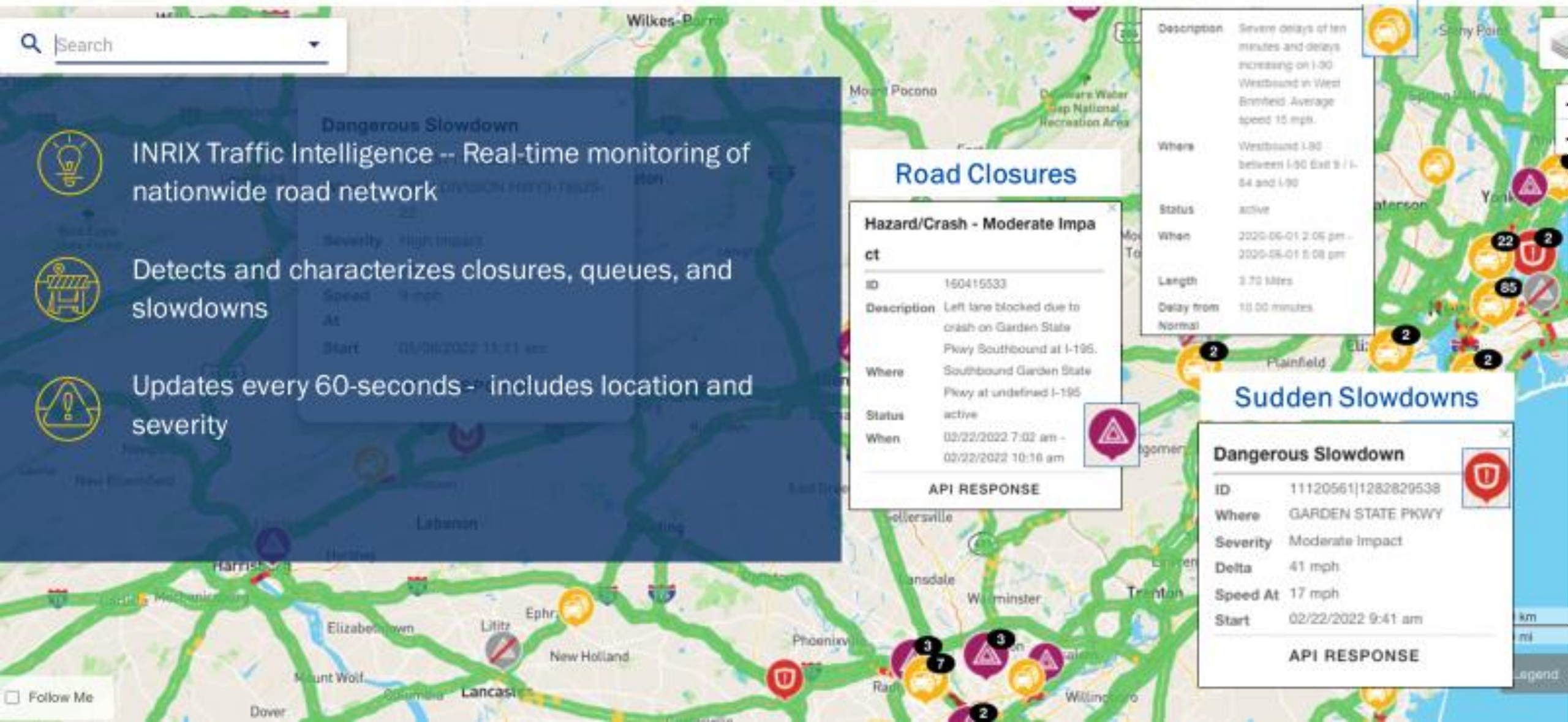


# New Jersey Department of Transportation



How is it done?? Real time data

Congestion/Queues





# Drivewyze Commercial Motor Vehicle Alerts



Help commercial drivers react before encountering stopped traffic or slowdowns

2.5 M Trucks / ~25% of all Tractor Trailers

## Proactive Alerts

Safety Notifications that appear on in-cab devices make truck drivers aware of upcoming congestion and sudden slowdowns

## Reduced Speed = Reduced Crashes

By warning drivers of congestion in real time, miles ahead, drivers have more time to slow down safely

## Driver Connection

Provides direct messaging and safety broadcasts for improved communication with drivers

Drivewyze Site

BYPASS



Congestion Ahead

Proceed with Caution



Sudden Slowdown Ahead

Proceed with Caution

# Commercial Motor Vehicle Alerts

How is it sent? Three key elements

## Automated Queue Warnings

- Drivewyze receives INRIX real-time traffic data - location and details for all Events on selected corridors.
- Drivewyze will geo-locate active events and share a single notification with drivers as they approach an event in their direction of travel.

## Agency Generated Messages

- Agency can provide (short) important truck-specific safety/regulatory messages within its region or approaching its region.
- Emergency weather-related restrictions, weight-related detours, etc.

## Alert Logging + Reporting

- The service provides a record of all messages
- Content, location, date/time
- Number of vehicles/devices that were received each message.

Drivewyze Provides direct messaging and safety broadcasts for improved communication with drivers in specific geo fenced regions

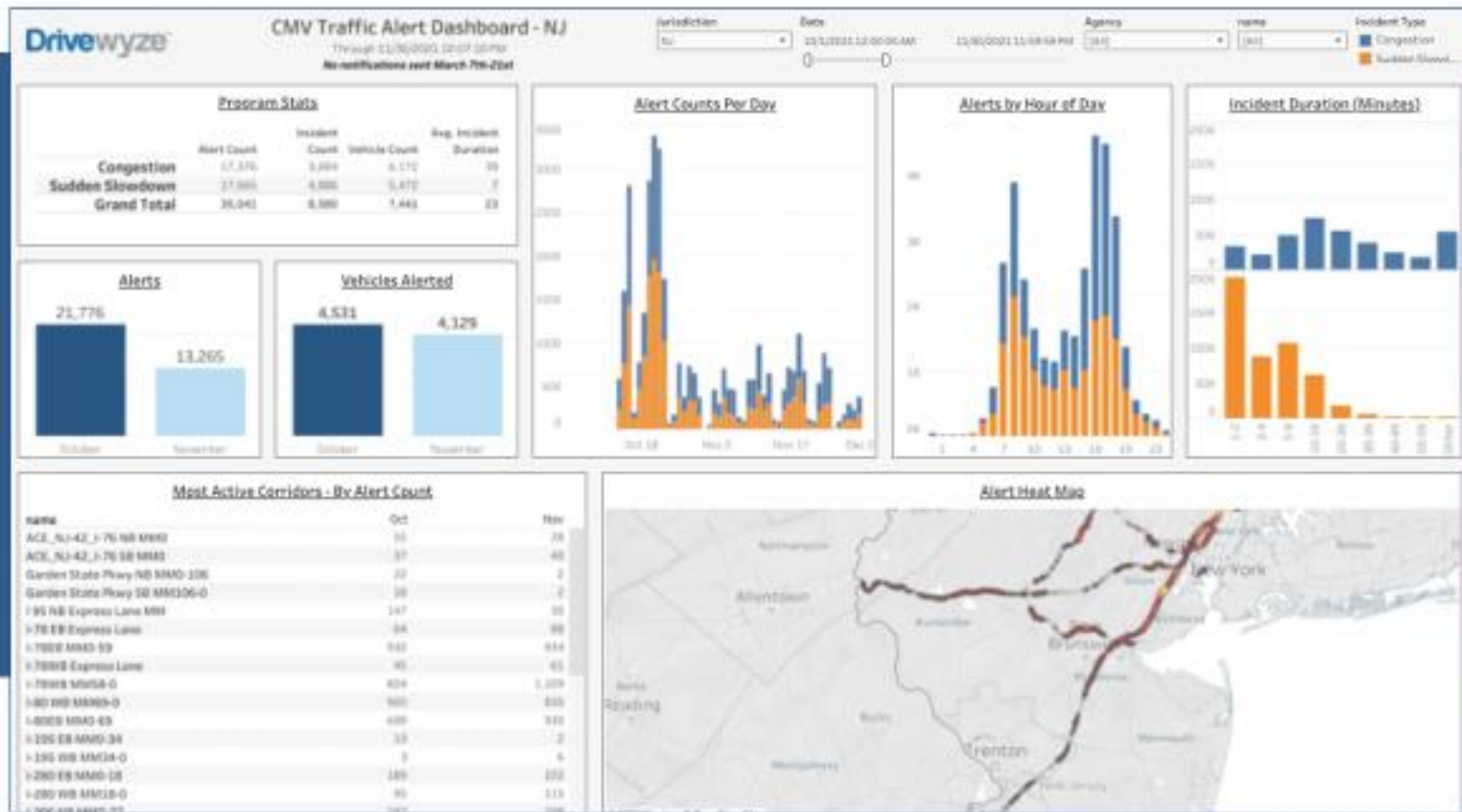
# New Jersey Department of Transportation



What are we getting? Traffic Alert Dashboard

## Traffic Alert Dashboard

- Program Stats / Counts
  - Alert
  - Incident
  - Vehicle
  - Duration
- Most Active Corridor by Alert Count\
- Alert Heat Map





# New Jersey Department of Transportation

## What are we getting? Traffic Alert Dashboard



### Average Alerts per Mile

- Length, Alerts/Mile Total

### Incident Details

- Start time
- ID
- Type (Sudden Slowdown / Congestion)
- Duration
- Lon/Lat

IncidentDetails						
name	Minutes of incident_start...	Incident Id	Incident Type	Incident Ds...	Alert List	Alert Lon
ACE_NJ-42_I-76 NB MM0	October 12, 2021 7:11 AM	43897	Sudden Slowdown	3	39.773024	-75.0421729
	October 14, 2021 7:34 AM	44017	Sudden Slowdown	3	39.7599991	-75.0430889
	October 14, 2021 7:34 AM	44121	Sudden Slowdown	3	39.7578990	-75.0372132
	October 14, 2021 7:44 AM	44133	Sudden Slowdown	3	39.7599991	-75.0430889
	October 14, 2021 7:58 AM	44135	Sudden Slowdown	3	39.7565236	-75.0431417
	October 14, 2021 8:04 AM	44142	Sudden Slowdown	3	39.7571471	-75.0421988
	October 15, 2021 7:38 AM	44251	Congestion	10	39.7565236	-75.0431417
	October 15, 2021 8:28 AM	44274	Sudden Slowdown	3	39.7562293	-75.0432245
	October 15, 2021 8:29 PM	44627	Sudden Slowdown	2	39.8229116	-75.0734443
	October 15, 2021 8:38 PM	44776	Sudden Slowdown	3	39.7599224	-75.0431309
	October 15, 2021 8:59 PM	44781	Sudden Slowdown	3	39.7573412	-75.0421949
	October 15, 2021 1:02 PM	44783	Sudden Slowdown	4	39.7897920	-75.0432205
	October 15, 2021 7:23 PM	44852	Congestion	9	39.8044533	-75.0430889
	October 16, 2021 1:20 PM	44892	Sudden Slowdown	3	39.8044533	-75.0430889
	October 16, 2021 8:47 AM	45254	Sudden Slowdown	3	39.8031817	-75.0430889
	October 16, 2021 8:48 AM	45255	Sudden Slowdown	3	39.8044533	-75.0430889
	October 16, 2021 8:48 AM	45256	Congestion	99	39.7899991	-75.0430889
	October 16, 2021 8:57 AM	45287	Sudden Slowdown	3	39.8044533	-75.0430889
	October 16, 2021 1:44 AM	45582	Sudden Slowdown	3	39.7899991	-75.0430889
	October 16, 2021 7:57 AM	45590	Congestion	18	39.7562293	-75.0432245
	October 20, 2021 1:34 AM	45831	Congestion	9	39.5212816	-74.6971324
	October 20, 2021 2:46 AM	45852	Congestion	9	39.5212816	-74.6971324
	October 20, 2021 4:38 AM	45957	Congestion	9	39.537141	-74.7122464
	October 20, 2021 6:42 AM	45999	Congestion	43	39.7565236	-75.0432205
	October 20, 2021 7:22 AM	45990	Congestion	40	39.7557379	-75.0321545
	October 20, 2021 1:27 PM	45996	Sudden Slowdown	3	39.7564311	-75.0430889
	October 20, 2021 7:35 AM	45997	Sudden Slowdown	14	39.7564311	-75.0430889
	October 20, 2021 7:52 AM	45998	Sudden Slowdown	3	39.7565236	-75.0432205
	October 20, 2021 8:05 AM	45949	Sudden Slowdown	3	39.7565236	-75.0432205
	October 20, 2021 8:05 AM	45949	Congestion	39	39.8031817	-75.0430889
	October 20, 2021 8:07 AM	45950	Sudden Slowdown	3	39.7571471	-75.0421988
	October 20, 2021 8:44 PM	46082	Sudden Slowdown	3	39.5760020	-74.7122008
	October 20, 2021 8:48 PM	46084	Sudden Slowdown	4	39.5821540	-74.7000007
	October 20, 2021 8:50 PM	46085	Congestion	4	39.5893220	-74.7000043
	October 21, 2021 1:18 AM	46343	Congestion	6	39.5212816	-74.6971324
	October 21, 2021 4:52 AM	46344	Sudden Slowdown	7	39.5212816	-74.6971324
	October 21, 2021 7:56 AM	46429	Sudden Slowdown	3	39.7571471	-75.0421988
	October 21, 2021 8:05 AM	46437	Sudden Slowdown	3	39.8044533	-75.0430889
	October 21, 2021 8:34 AM	46452	Sudden Slowdown	3	39.8044533	-75.0430889
	October 21, 2021 9:34 PM	46579	Sudden Slowdown	3	39.5688980	-74.7000007
	October 22, 2021 4:22 AM	46995	Sudden Slowdown	3	39.5770347	-74.7051367
	October 22, 2021 7:43 AM	46972	Sudden Slowdown	3	39.8044533	-75.0430889
	October 22, 2021 1:50 AM	46980	Congestion	2	39.7512816	-75.0430889

Avg Alerts Per Mile				
name	length	Alerts/Mile	Alerts/...	Alerts/...
		Oct	Nov	Total
ACE_NJ-42_I-76 NB MM0	55	1	1	2
ACE_NJ-42_I-76 SB MM0	55	1	1	1
Garden State Pkwy NB MM0-106	107	0	0	0
Garden State Pkwy SB MM106-0	107	0	0	0
I-95 NB Express Lane MM	5	31	6	38
I-195 EB MM0-34	34	0	0	0
I-195 WB MM34-0	34	0	0	0
I-280 EB MM0-18	17	11	13	25
I-280 WB MM18-0	17	6	7	13
I-295 NB MM0-77	77	3	3	5
I-295 SB MM77-0	76	4	6	10
I-676 NB MM5-0	5	5	1	6
I-676 SB MM0-5	5	5	1	6
I-78 EB Express Lane	10	0	0	15
I-78EB MM0-59	58	16	16	32
I-78WB Express Lane	9	3	7	11
I-78WB MM58-0	58	14	19	33
I-80 WB MM69-0	68	13	12	26
I-80EB MM0-69	68	10	14	24
NBHCE EB MM0-6	6	3	1	3
NBHCE WB MM6-0	6	9	1	11
NJ 440_I-287 NB MM-67	73	14	19	33
NJ 440_I-287 SB MM-67	73	23	21	43
NJTP Eastern Spur NB MM106-117	11	58	18	76
NJTP Eastern Spur SB MM117-106	11	119	23	142
NJTP I-95 SB Express Lane	4	13	6	18
NJTP I-95 - Western Spur SB MM122-106	17	105	45	150
NJTP Mainline NB MM0-106	106	23	8	31
NJTP Mainline SB MM107-0	106	8	8	16
NJTP Mainline SB MM107-PHMT Extension	61	20	11	32
NJTP NB Western Spur I-95 Extension	17	174	50	224
PHMTE to Mainline NB MM 106	61	51	13	64



# New Jersey Department of Transportation

## Real Time Commercial Motor Vehicle Alerts Use Case



Total Centerline Miles (all three agencies) = 647

Northern New Jersey Commercial Vehicle Alert Sections			
Route	Begin Milepost	End Milepost	Total Miles
I-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

# New Jersey Department of Transportation – Storm Alert Request



Major winter storm alert





# New Jersey DOT Use Case



## Winter Storm Kenan

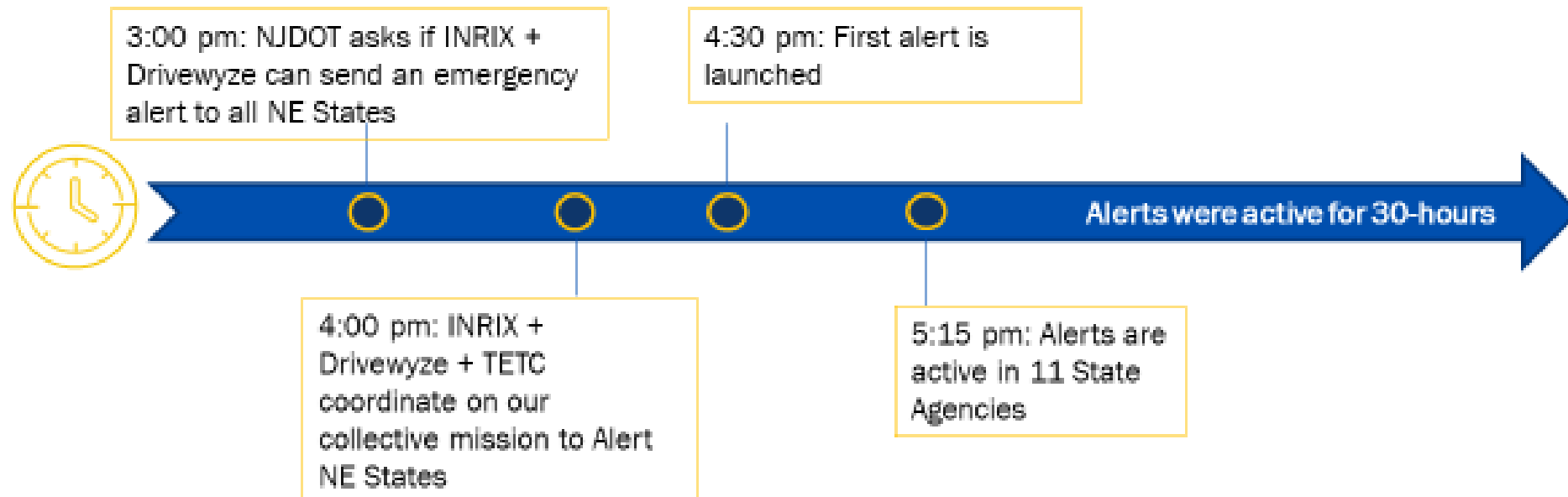
Q - Can INRIX + Drivewyze provide alerts for Truck Restrictions due to the upcoming storm?

A - Yes!

Q - Can you alert the entire Northeast (even though only NJDOT has the service)??

A - Yes - we did!!!....we did because of the NJ request and the concern for the NE states...

It didn't take long to get things movin'!



# New Jersey DOT Use Case

## Winter Storm Kenan



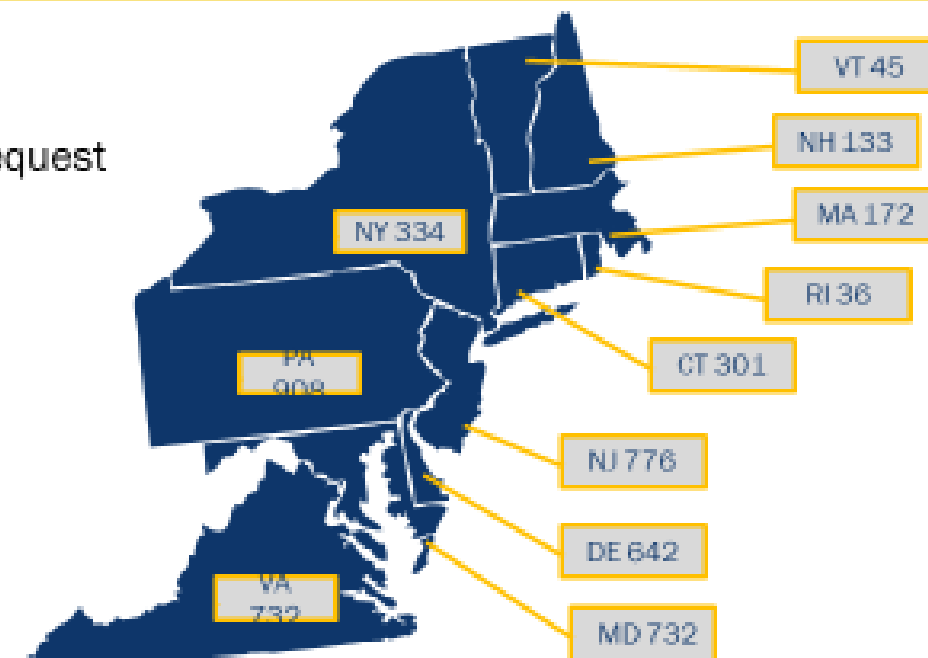
- 11 states activated 2 ¼ hours after initial request
- 10 states that do NOT subscribe CMV Alerts



- 11 State agencies
- 1956 NB interstate road miles



- 4,811 Trucks alerted over 30-hours
- 339 Alerts in New York State



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 I-95 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 I-95 NB	732
Total Number of Trucks Alerted		4811



Actual Alert Viewed in ELD



Geo-Fence Alert Examples in NJ



Thank you!



INRIX

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