



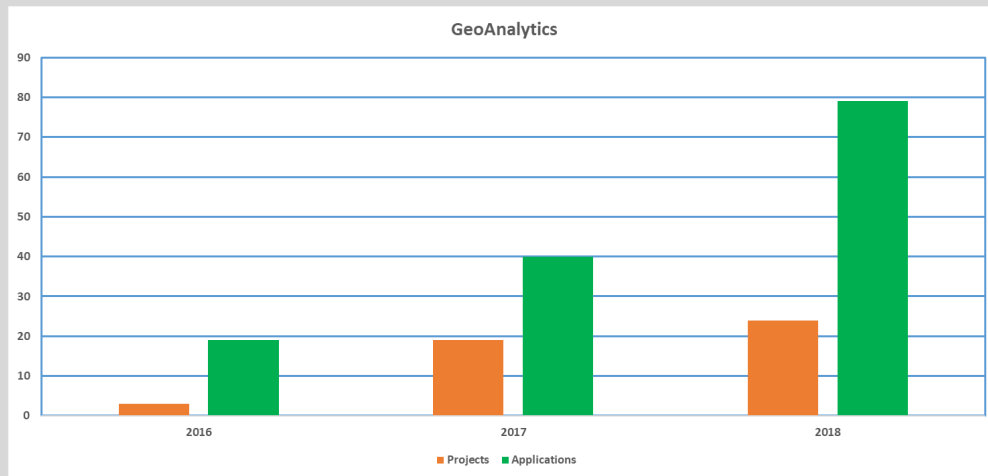
# TOPICS

- GIS Program Evolution
- Contributing Factors That Enable Success
- GeoAnalytics Solutions
- Future Challenges



# GEOANALYTICS PROGRAM EVOLUTION

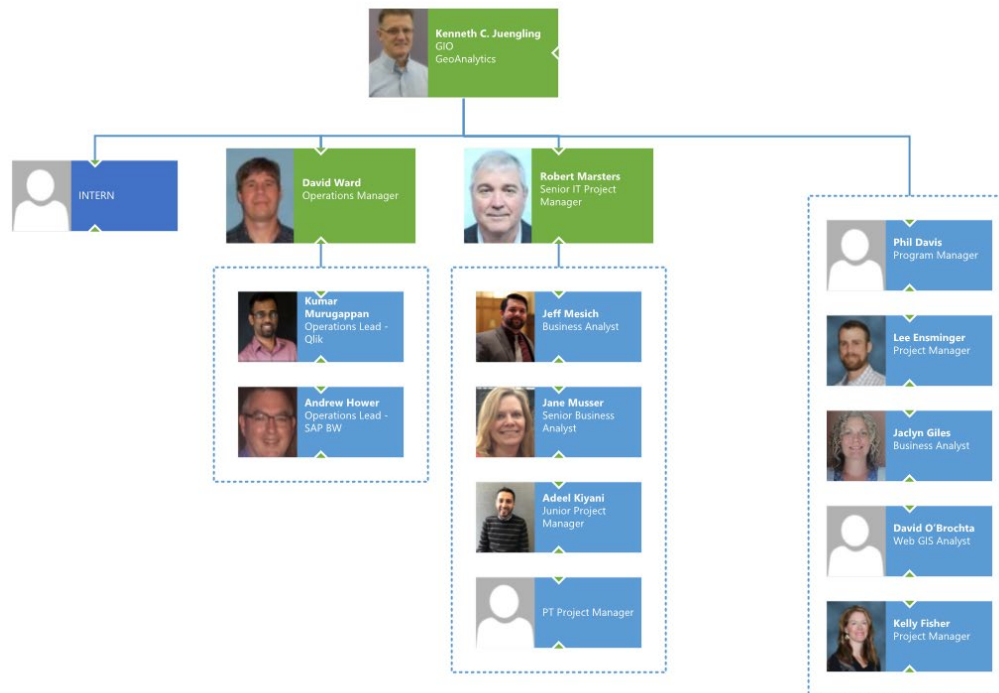
- 1998/1999: GIS Program Initiated
- 2008: GIS put on hold
- 2014: GIS Roadmap
- 2016: GIS Manager Hired  
|Analytics Proof of Concept
- 2017: Mapping & Analytics attempt to work more closely together, initial data BOC's
- 2018: Self serve focused GIS, Agile Development – Governance



Projects  
Applications



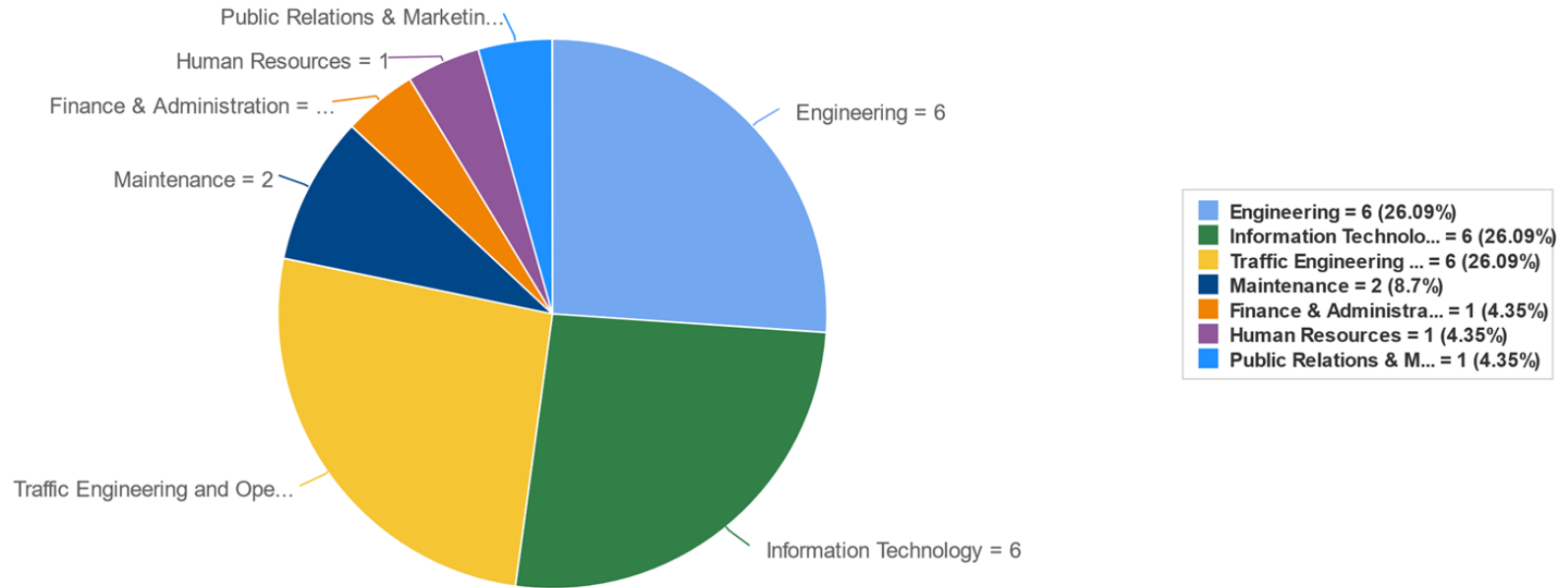
# GEOANALYTICS TEAM





# GEOANALYTICS

GeoAnalytics - % Active Project by Business

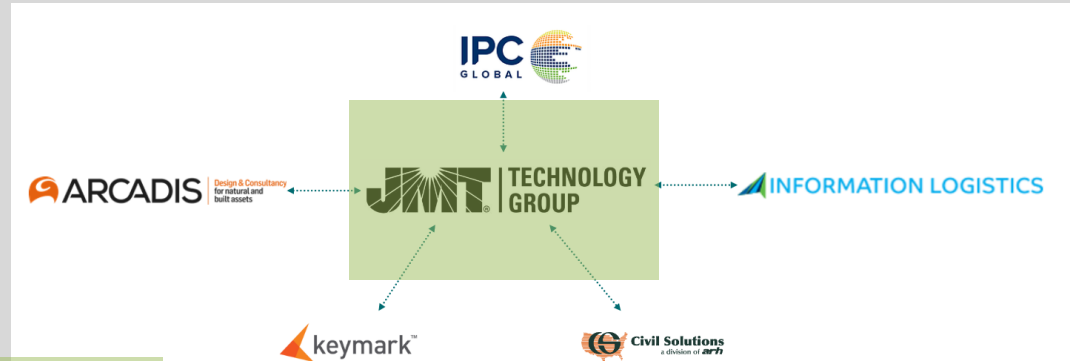




# GEOANALYTICS

Prime

New open end contracts being finalized...





## Shared Maps



PSP TraCS



PSP TraCS QC



Smart Map v2.3



Toll Violations Viewer

Welcome to the PTC Portal for ArcGIS. The PTC Smart Map is available to explore our first system-wide gathering of data from a variety of sources. Because some map

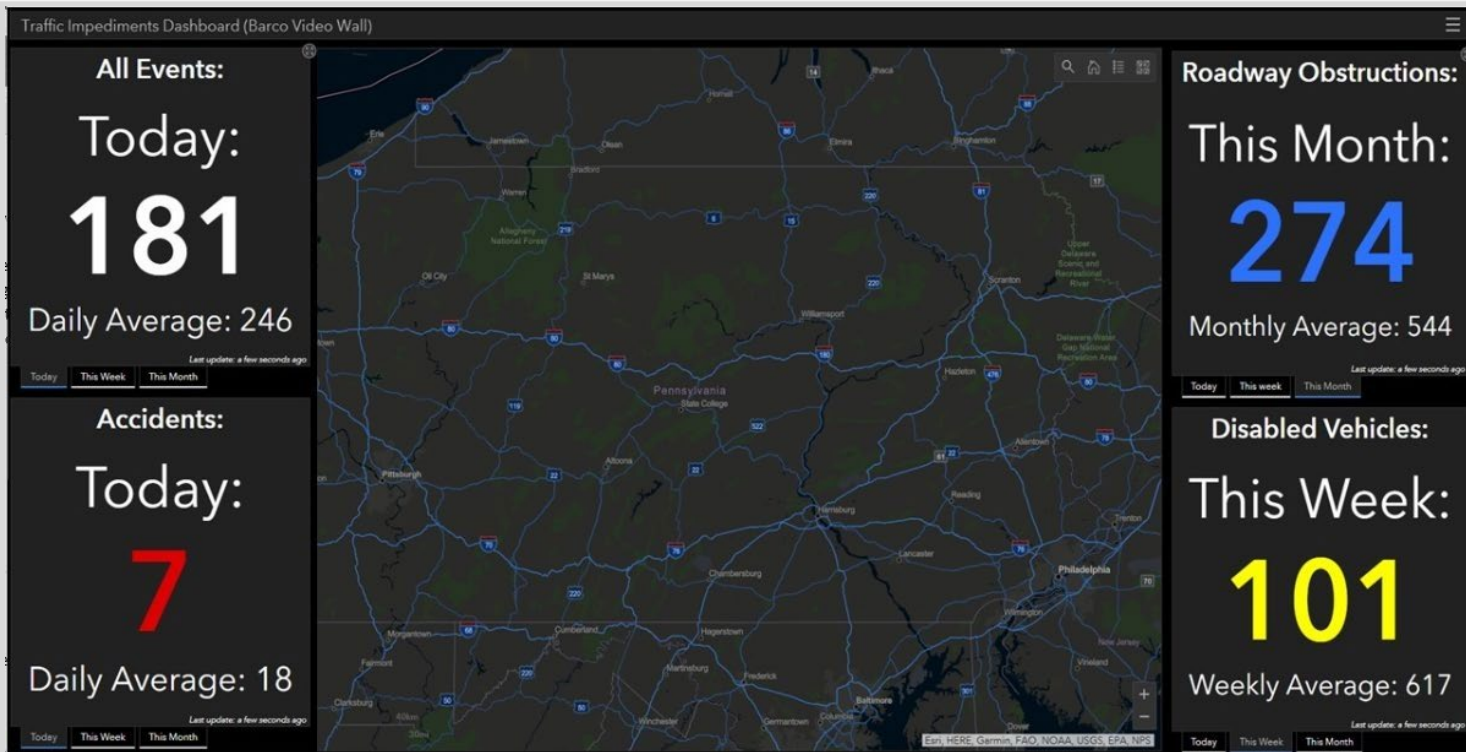


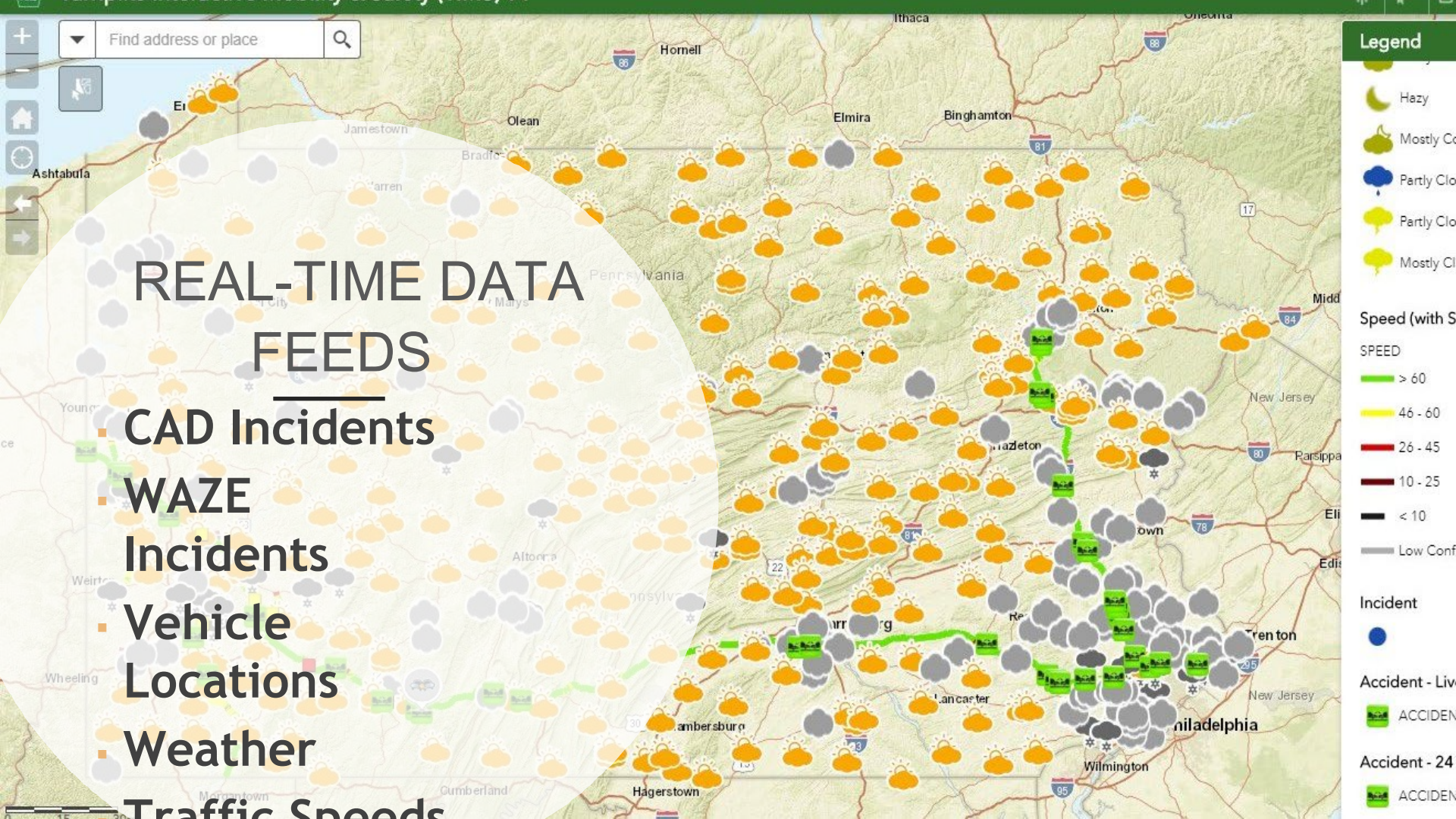
# TRAFFIC OPERATIONS CENTER (TOC)





# SITUATIONAL AWARENESS







# EARLY WARNING DETECTION

## Early Warning Detection

**TURN PIKE** Last Reloaded On 3/20/2019 10:02:01 AM

**District**

**Roadway**

**Waze Type**

**Waze Subtype**

**Conditions**

**Toll Booths**

Speed Threshold: -10

-10

Visibility Threshold: 0.5

0.5

Wind Speed Threshold: 30

30

Waze Rating Minimum: 3

3

Waze Confidence Minimum: 2

2

Waze Reliability Minimum: 5

5

### 23 Active Watch Points

District	Segment	Conditions	LI...	Speed...	LI...	Waze Alerts	Visibility/Radar	Wind Spe...
District 4	Mainline, Eastbound : 351-351.3	Mostly Sunny (38...	>>	5	>>	1	6	0.0 (N)
District 1	Mon-Fayette, Southbound : 17-17.6	Partly Sunny (40.0...	>>	-34	>>	0	7	1.5 (S)
District 3	Mainline, Westbound : 280.6-281.1	Sunny (39.42F)	>>	2	>>	1	8	0.8 (N)
District 2	Mainline, Eastbound : 162.9-163.6	Partly Sunny (36.6...	>>	-29	>>	0	9	1.4 (N)
District 3	Mainline, Westbound : 295.3-295.8	Sunny (39.47F)	>>	-25	>>	0	9	0.6 (N)
District 3	Mainline, Westbound : 258.6-259.2	Mostly Sunny (38...	>>	-48	>>	0	9	1.8 (E)
District 4	Mainline, Westbound : 304.4-304.9	Sunny (39.47F)	>>	-45	>>	0	9	0.6 (N)
District 4	Mainline, Westbound : 305-305.5	Sunny (39.47F)	>>	-48	>>	0	9	0.6 (N)
District 4	Mainline, Westbound : 305.6-306.2	Sunny (39.47F)	>>	-48	>>	0	9	0.6 (N)
District 2	Mainline, Eastbound : 162.9-163.6	Partly Sunny (36.6...	>>	-29	>>	1	9	1.4 (N)
District 4	Mainline, Eastbound : 321.8-322.3	Mostly Sunny (39...	>>	4	>>	1	9	0.8 (N)
District 4	Mainline, Eastbound : 323.6-324.2	Mostly Sunny (39...	>>	1	>>	1	9	0.9 (S)
District 4	Mainline, Westbound : 305.6-306.2	Sunny (39.47F)	>>	-48	>>	2	9	0.6 (N)
District 4	Mainline, Westbound : 305-305.5	Sunny (39.47F)	>>	-48	>>	1	9	0.6 (N)
District 4	Mainline, Westbound : 304.4-304.9	Sunny (39.47F)	>>	-45	>>	3	9	0.6 (N)
District 2	Mainline, Eastbound : 147.6-148.1	Partly Sunny (35.6...	>>	-48	>>	0	10	0.8 (N)
District 4	Mainline, Westbound : 306.3-306.9	Mostly Sunny (39F)	>>	-26	>>	0	10	0.0 (N)
District 5	NE Ext., Northbound : 49.9-50.5	Sunny (36F)	>>	-32	>>	0	10	0.0 (N)
District 5	NE Ext., Northbound : 50.6-51.1	Sunny (36F)	>>	-49	>>	0	10	0.0 (N)
District 5	NE Ext., Northbound : 51.2-51.8	Sunny (36F)	>>	-44	>>	0	10	0.0 (N)
District 5	NE Ext., Northbound : 51.9-52.4	Sunny (36F)	>>	-23	>>	0	10	0.0 (N)
District 5	NE Ext., Northbound : 105.1-105.6	Sunny (32F)	>>	-56	>>	0	10	0.0 (N)

### Speed (Last Hour)



### JAM (Waze)

District	Segment	Waze Map
District 4	Mainline, Westbound : 305.6-306.2	>>
District 4	Mainline, Westbound : 305-305.5	>>
District 4	Mainline, Westbound : 304.4-304.9	>>
District 5	NE Ext., Northbound : 50.6-51.1	>>
District 5	NE Ext., Northbound : 51.2-51.8	>>

### Accident (Waze)

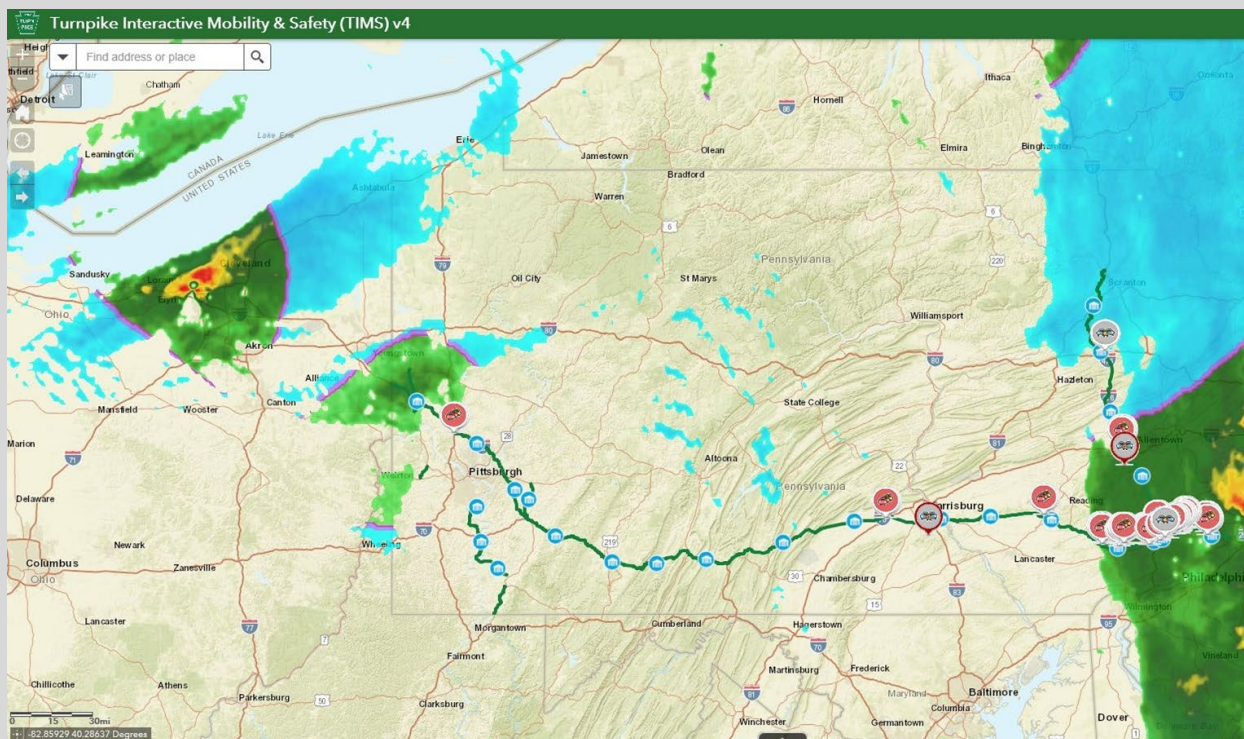
District	Accid...	Segment	Waze Map
District 4	Unknown	Mainline, Eastbound...	>>
District 4	Accident Ma...	Mainline, Westbound...	>>
District 4	Unknown	Mainline, Westbound...	>>

### Event Monitor

Time	7- Events	T...	Locati...	Lane Blocked
00:12:32	1903004470	TC	@A51.7N	No Lane Blocked
00:24:15	1903004469	DV	@T342.5W	No Lane Blocked
00:36:59	1903004465	PD	@T273.8W	No Lane Blocked
00:42:08	1903004464	ACC	@T323.9E	No Lane Blocked



# VISUALIZATION







# SOCIAL MEDIA TRENDING

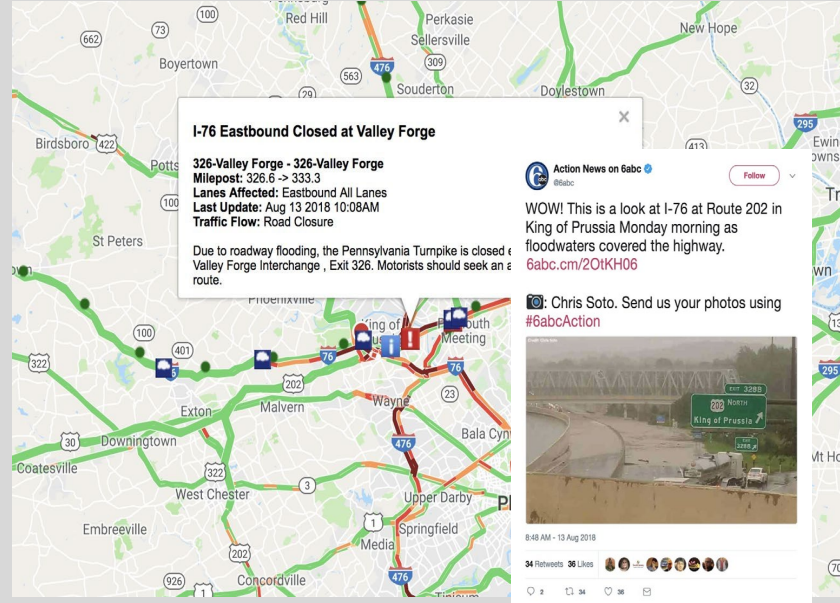


**CBS 21 News**  
@CBS21NEWS

UPDATE: All lanes are now open, but there is still heavy traffic in the area, according to the PA Turnpike Commissi...

<https://t.co/ofJuXGv1Sj>

08:15 PM Aug 19, 2018



**I-76 Eastbound Closed at Valley Forge**

**326-Valley Forge - 326-Valley Forge**  
Milepost: 326.6 -> 333.3  
Lanes Affected: Eastbound All Lanes  
Last Update: Aug 13 2018 10:08AM  
Traffic Flow: Road Closure

Due to roadway flooding, the Pennsylvania Turnpike is closed at Valley Forge Interchange, Exit 326. Motorists should seek an alternate route.

**Action News on 6abc**  
@6abc

WOW! This is a look at I-76 at Route 202 in King of Prussia Monday morning as floodwaters covered the highway.  
[6abc.com/20IKH06](http://6abc.com/20IKH06)

**Chris Soto**. Send us your photos using [#6abcAction](https://twitter.com/6abcAction)

8:48 AM - 13 Aug 2018

34 Retweets 36 Likes



# GEOTAG PHOTOS

Feed posts in real-time

This Year ▾ Regions ▾ Keywords ▾ Sentiment ▾ Text Message ▾

Social Events

☰ ☲

☎ Cori Greene ☺ ▾ T283.5w tractor trailer crash 1 message 📎

☎ +1 (717) 368-6652 ☺ ▾ T288.3E TractorTrailer Crash 1 message 📎

☎ Zac Canders ☺ ▾ A72.4N Dog in road test 3 messages 📎

☎ +1 (619) 940-4627 ☺ ▾ A71.1n deer 2 messages 📎


☎ +1 (312) 380-1151 ☺ ▾ A23N car on the road 2 messages 📎

☎ +1 (619) 940-4627 ☺ ▾ A37.7s moose 8 messages 📎

☎ +1 (207) 664-3733 ☺ ▾ B15.2E this is the message 5 messages 📎

☎ Conversation with Cori Greene

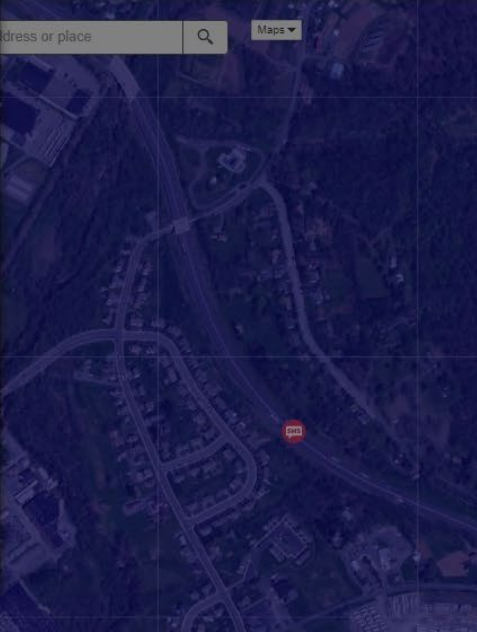
T283.5w tractor trailer crash



0/160 characters

Send

Address or place 🔍 Maps ▾





# GEOTAG PHOTOS

**Naming Key:** MilePostDirectionofTravelRouteID event details.

**Text Message Number:** 215-515-7073

**For Example:** 105.4WT bear in the road

This message would map to:

- Mile Post 105.4
- Westbound
- Mainline

**Requirements:**

- Space between the key and the event details
- Every message sent must have the key included
- Every message must include the event details
- Up to 10 photos per message

KEY	FULL LIST
NA	Northbound NE Ext.
SA	Southbound NE Ext.
EB	Eastbound Beaver Valley
WB	Westbound Beaver Valley
NG	Northbound A. Hutchinson
SG	Southbound A. Hutchinson
NM	Northbound Mon-Fayette
SM	Southbound Mon-Fayette
ES	Eastbound Southern Beltway
WS	Westbound Southern Beltway
ET	Eastbound Mainline
WT	Westbound Mainline
SH	Southbound I95
NH	Northbound I95



# GEOTAG PHOTOS

SEND A TEXT  
TO  
571-200-2059





# GEOTAG PHOTOS

My phone number(s): +1-571-200-2059

## Social Networks



Connect Your Facebook

Connect Your Twitter

Connect Your Instagram

## Social Media - ArcGIS Integration

### Feature Service URL

[https://services7.arcgis.com/YmSdHDKeZzpd5gKx/arcgis/rest/services/BentData\\_Text/FeatureServer/0](https://services7.arcgis.com/YmSdHDKeZzpd5gKx/arcgis/rest/services/BentData_Text/FeatureServer/0)

DETAILED ▾



Auto publish



Filter profanity



Include what3words



Save

## Map



Connect to ArcGIS Online

## Address Parsing



Twitter



Text Messages

## Confirmed Events - ArcGIS Integration

### Feature Service URL



Save

## Detected Events - ArcGIS Integration

### Feature Service URL



# GEOTAG PHOTOS

SOCIAL

DATAcapable

A map of Pennsylvania showing various cities and towns. A red dot is located near Harrisburg. An inset photo shows a white United States Postal Service truck on a snowy road with emergency responders.

@Ashley\_\_Murray

01:26 PM

A photo showing state police vehicles blocking ramps onto I-376 from Boulevard of the Allies.

**Ashley Murray**

State police blocking ramps onto I-376 from Boulevard of the Allies  
<https://t.co/l0gs7wZmAl>

@PATurnpikeAlert

09:32 AM

A photo showing an accident on I-476 near Quakertown and Lansdale.

**PA Turnpike Alerts**

CLEARED: Accident I-476SB @ MM31.6, bet Quakertown(Exit 44) & Lansdale(Exit 31)

@PATurnpikeAlert

09:15 AM

A photo showing an accident on I-476 near Quakertown and Lansdale.

**PA Turnpike Alerts**

Accident I-476SB @ MM31.6, bet Quakertown(Exit 44) & Lansdale(Exit 31) blocking the left lanes

@ed\_keeter

11:18 AM - 03/24/2019

A photo showing four rest stops on the Ohio Turnpike.

**Ed Keeter**

I have now been to FOUR rest stops on the Ohio Turnpike in a row that have had their milkshake machines out of order. #areyoukiddingme #iwantashake

@windowguy11

04:03 PM - 03/23/2019

A photo showing gas prices and turnpike tolls.

**WindowGuy Dustin**

@mwhiteburgh @Steigerworld The gas prices and turnpike tolls are tough on the smaller innersuburban youths.

< PREV

NEXT >



# GEOTAG PHOTOS



**From:** [info@datacapable.com](mailto:info@datacapable.com) <[info@datacapable.com](mailto:info@datacapable.com)>

**Sent:** Saturday, April 6, 2019 9:32:28 AM

**To:** Parker, Christopher

**Subject:** Notification: UtiliSocial PA Turnpike Operations inbound SMS messaging threshold surpassed

You have received 1 SMS messages in the past 15 minutes in the account with group name PA Turnpike Operations.

Date	Number	Message
9:31 AM EDT	 +17242371492	<p>T85.2W accident recovery</p>  A photograph showing a white United States Postal Service (USPS) truck involved in an accident on a snowy road. Several emergency responders in yellow gear are standing around the truck, which is partially off the road. The scene is snowy and appears to be in a wooded area.

With one click, you may [unsubscribe](#) from all PA Turnpike Operations notifications (threshold, influencer, and detected events) at any time.



# GEOTAG PHOTOS



**Carl DeFebo**  
@cdefebo



TRAFFIC ALERT: The westbound @PA\_Turnpike (I-76) is closed between Reading and Lebanon-Lancaster exits due to a single-vehicle crash involving a tractor trailer blocking all lanes near milepost 283.5. A diesel spill likely indicates a detour of a few hours. Expect delays exiting.

♥ 8 2:13 PM - Feb 12, 2019

💬 17 people are talking about this





# GEOTAG PHOTOS



Person 90%

Truck 90%



# GEOTAG PHOTOS



Transport 96%

Asphalt 95%

Mode Of Transport 94%

Road 92%

Vehicle 91%

Motor Vehicle 90%

Trailer Truck 89%

Snow 88%



# GEOTAG PHOTOS



Transport 96%

Asphalt 95%

Mode Of Transport 94%

Road 92%

Vehicle 91%

Motor Vehicle 90%

Trailer Truck 89%

Snow 88%



# GEOTAG PHOTOS

## Turnpike reopens after crash site cleared near Lebanon-Lancaster exit

Updated Feb 12, 2019; Posted Feb 12, 2019



The westbound lanes of the Pennsylvania Turnpike are closed between the Reading and the Lebanon-Lancaster interchanges due to a single-vehicle tractor-trailer crash.

**69 NEWS**  
WFPM-TV  
Serving Eastern PA and Western NJ

Allentown  
57°

TREAT LATENT TB INFECTION IN 12 WEEKS  
Priftin® (rifapentine) in combination with Isoniazid (INH) consists of doses taken over 3 months as directly observed therapy.

HOME NEWS WEATHER TRAFFIC SPORTS VIDEO ENTERTAINMENT FEATURES COMMUNITY BU

NEWS

### Crash cleared on Pa. Turnpike near Reading interchange

Posted: Feb 12, 2019 05:59 PM EST  
Updated: Feb 12, 2019 05:59 PM EST

[f](#) [t](#) [i](#) [s](#) [e](#)

▶

### Crash cleared on Pa. Turnpike near Reading interchange

## Cashless Tolling Readiness

Time Frame AET in Place Today

AET Readiness

All Readiness Categories

Function

Toll Plaza

Project in Progress

All Progress Types

# Cashless Countdown

# Days: 1,293

Last update: a few seconds ago

Fiber and Conduit Installed



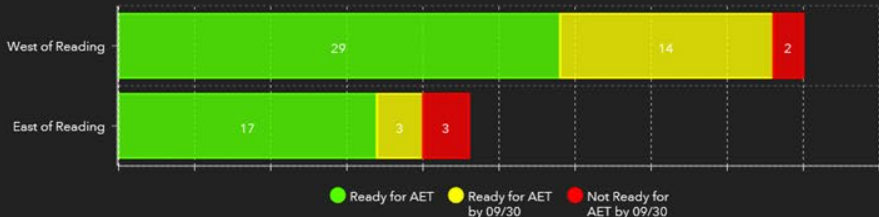
563 Total Miles of Roadway

Total Conduit Installed

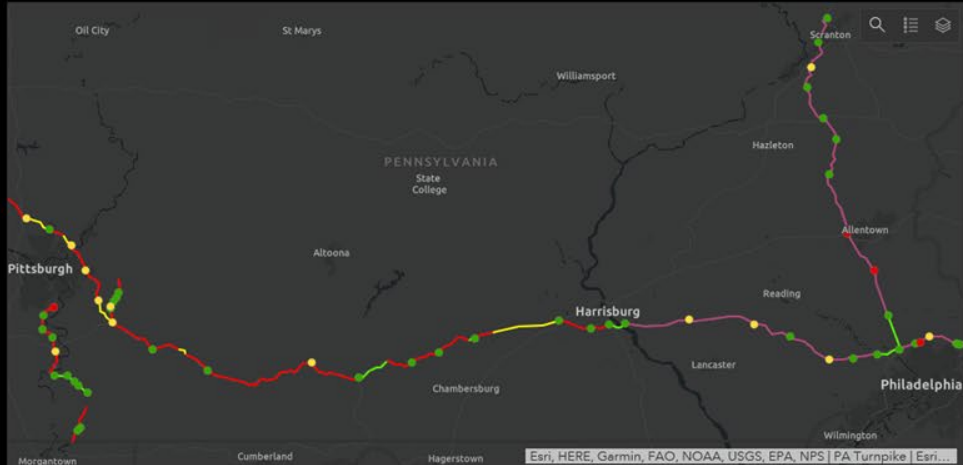


563 Total Miles of Roadway

## AET Readiness



Last update: 14 minutes ago



### B17 Mount Jackson Rd/Pa 108 - Int

- Future % Utilized with AET In-Place Plus Existing Data after new circuit installed: %
- % Utilized with AET In-Place Plus Existing Data: 18.00%
- Project in Progress?: Yes

### B18.6 West Toll 18 - Int

- Future % Utilized with AET In-Place Plus Existing Data after new circuit installed: %
- % Utilized with AET In-Place Plus Existing Data: 125.90%
- Project in Progress?: Yes

### B20 Moravia/Pa 168 - Int

- Future % Utilized with AET In-Place Plus Existing Data after new circuit installed: %
- % Utilized with AET In-Place Plus Existing Data: 11.40%
- Project in Progress?: Yes

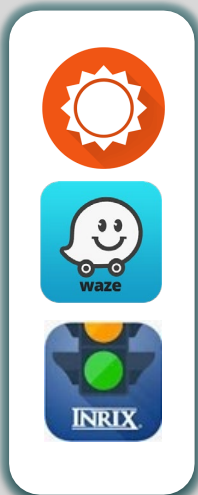
### B29 Beaver Falls/Pa 551/Pa 18 - Int

- Future % Utilized with AET In-Place Plus Existing Data after new circuit installed: %

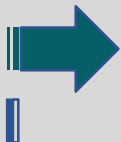
Last update: 14 minutes ago



# Winter Activation



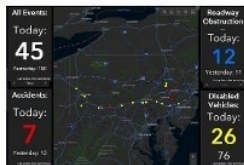
Real-Time  
Data  
Feeds



## Shared Maps



TIMS v4



Traffic Impediments  
Dashboard (Barco Video)

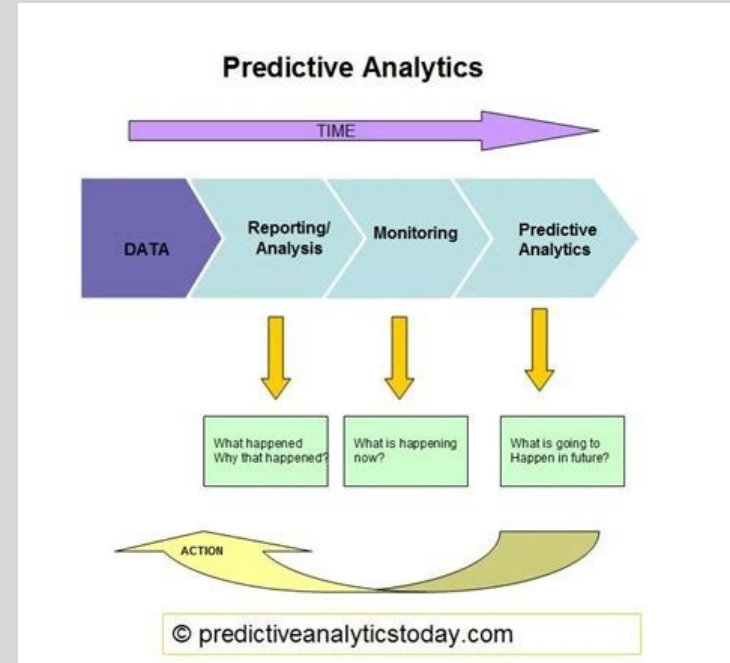
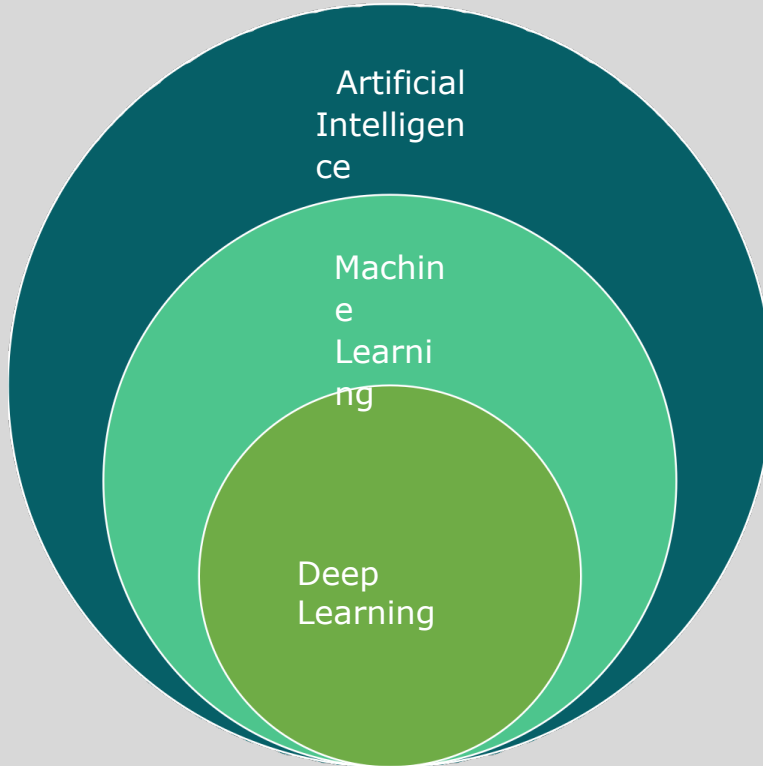


Traffic Impediments  
Dashboard (Desktop)





# FUTURE CHALLENGES





# GEOANALYTICS

## Coming Soon

- Executive Dashboard – Mobility
- TEO Mobility
- Maintenance – Annual Plan
- IT
- Facilities
- Customer Service/Call Centers
- Executive Dashboard – Infrastructure
- Executive Dashboard - Finance

## Coming Soon

- Attenuator Management System
- Traffic Operations Center Situational Awareness Mobile App
- Ribbon Wall
- Maintenance GIS Requirements Study
- HR GIS Requirements Study
- Work Zone Dashboard Requirements