

# Every Day Counts, Round 6 (EDC-6)

## Crowdsourcing for Advancing Operations

Regional Transportation Operations Coalition  
Quarterly Meeting, Jan 14, 2020



U.S. Department of Transportation  
**Federal Highway Administration**



# What is Every Day Counts?

- State-based model
- Proven but underutilized innovations
- 2-year cycles

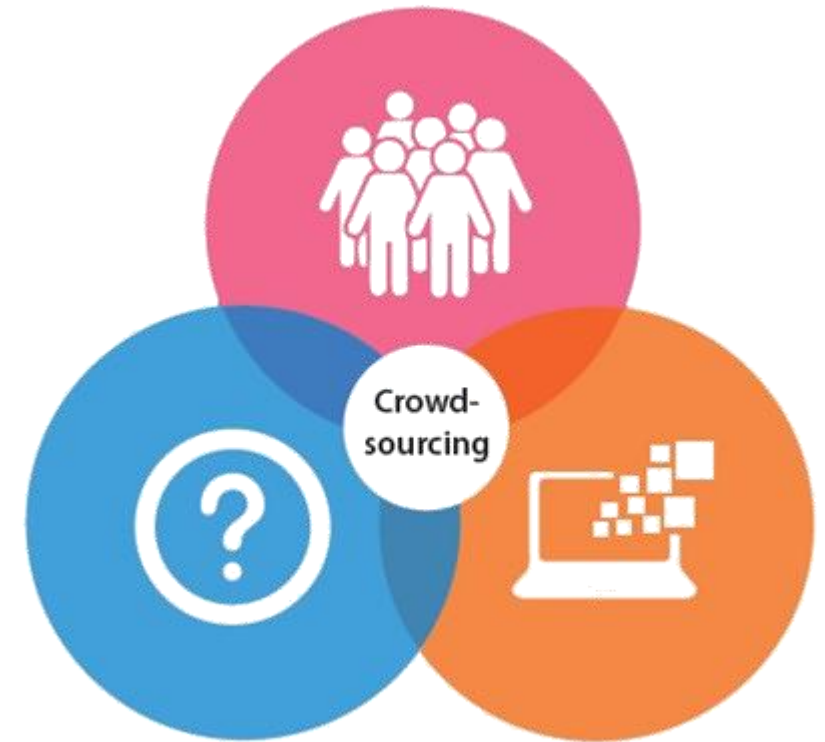
# What is Crowdsourcing?

The practice of...

addressing a need or problem...

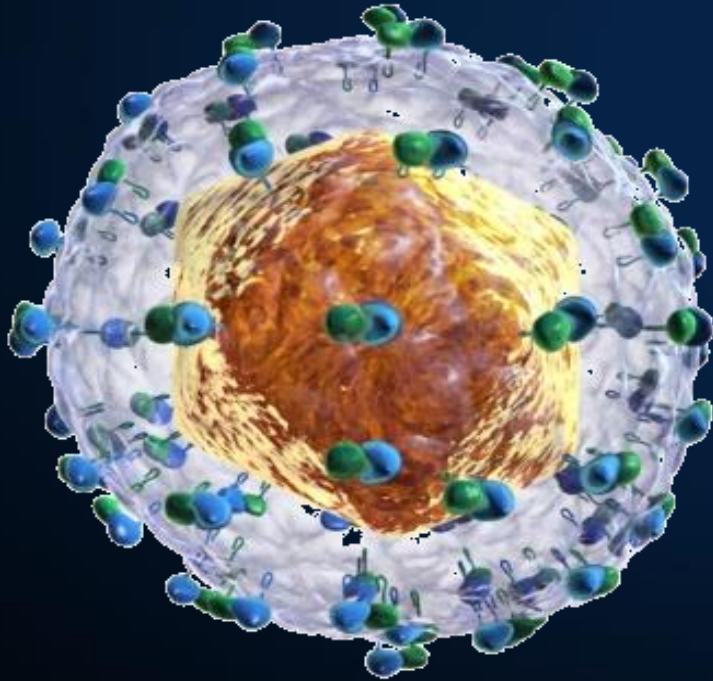
by enlisting the services of a  
large number of people...

via technologies.



# Industry Examples of Crowdsourcing

## Folding@home Stanford University



Source: Bruce Blaus

## Lego Ideas



Source: Unsplash

# Transportation Systems Management and Operations (TSMO)

- Optimizing existing facilities
- Moving people and goods
- Targeted solutions to congestion causes
- **Built on a foundation of monitoring current conditions**





# Real-Time Monitoring Limitations



Source: FHWA

- Big gaps in geographic coverage
- Timeliness of information
- Jurisdictional stovepipes
- Cost to deploy and maintain equipment

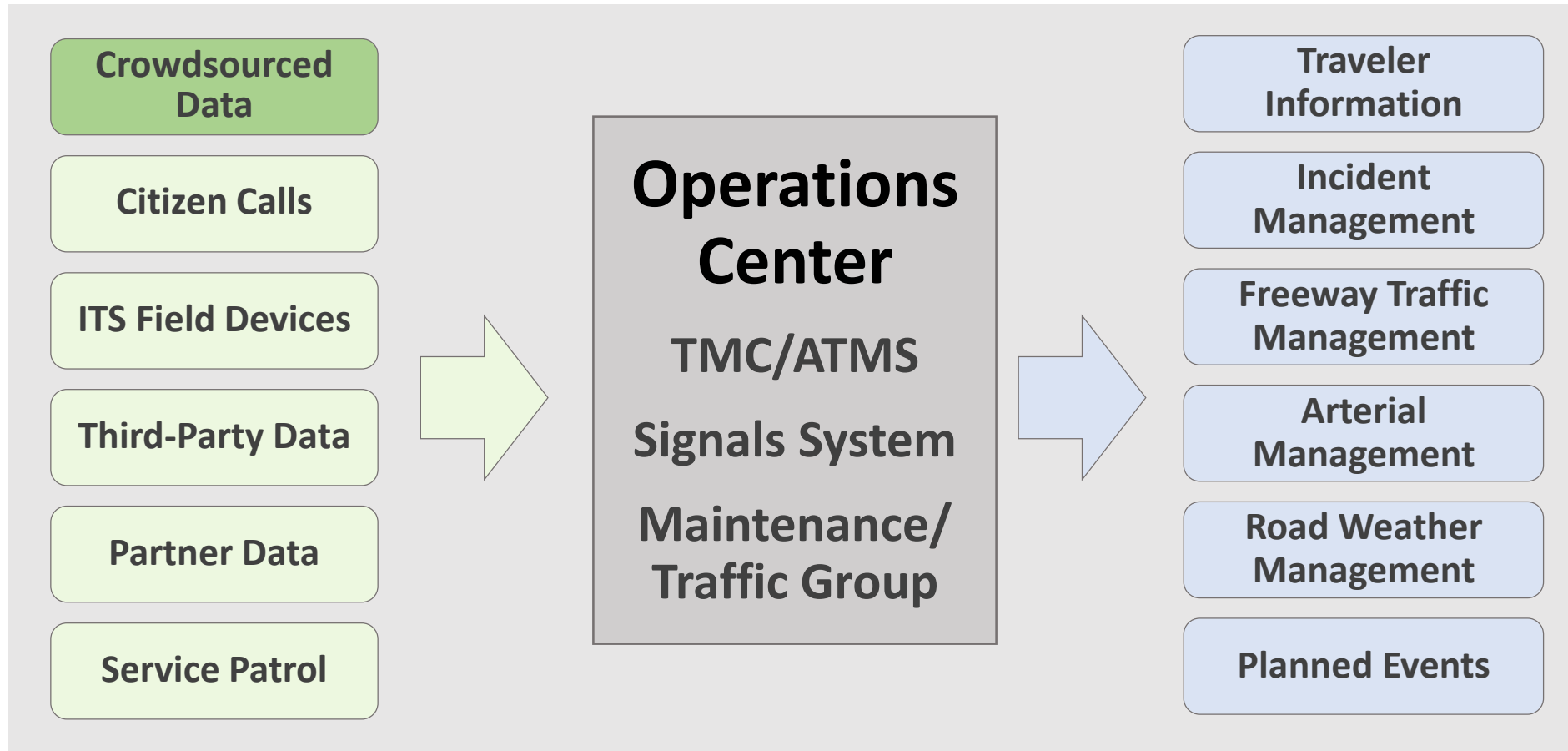
# Transportation Operations Crowdsourced Data

- Probe and vehicular
- Event
- Social media
- Mobile Infrastructure and Internet of Things
- Travel Behavior



Source: Pixabay

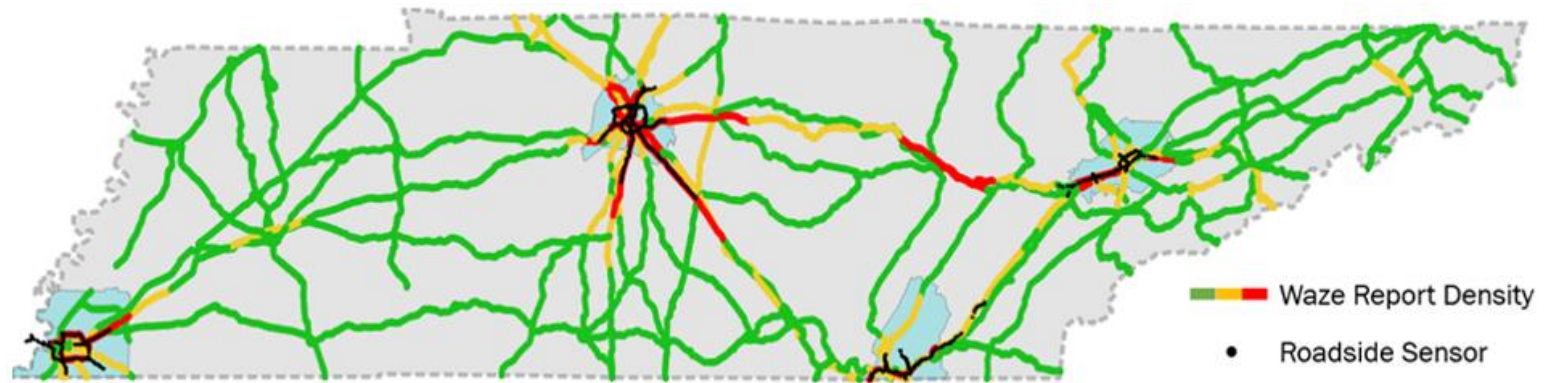
# Data Integration is Key to Deriving Value





# Crowdsourcing Helps Transportation Agencies

- ✓ Expand geographic coverage
- ✓ Reduce information time lags
- ✓ Overcome jurisdictional stovepipes
- ✓ Reduce ITS infrastructure costs
- ✓ **Implement proactive operations strategies and capabilities**



Source: Tennessee Department of Transportation

# One Crowdsourced Data, Many Uses



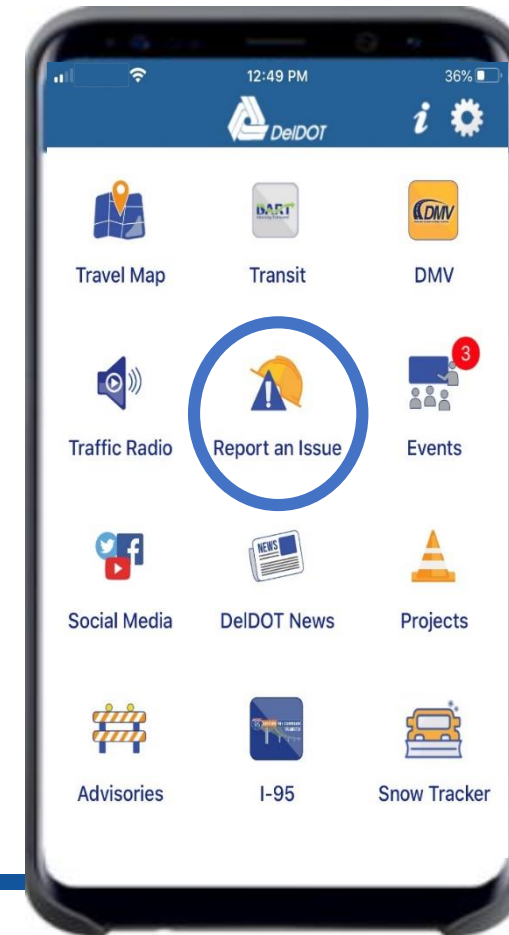
Source: Indiana DOT

## Indiana DOT uses vehicle probe data for:

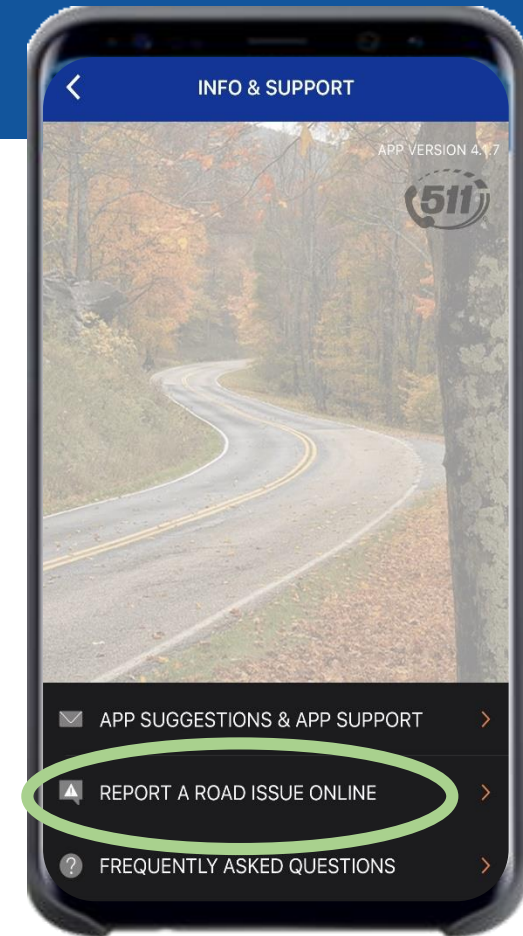
- Incident detection
- Work zone monitoring
- Snow and ice management
- Signal timing
- Traveler Information, 200+ travel times postings
- Capital project selection

# State DOTs Share Crowdsourced Data through Apps

- Virginia and Delaware DOT share crowdsourced info through the State's 511 app.
- Both allow travelers to report issues through their 511 apps.
- Both offer a one-stop experience for everything travel related.



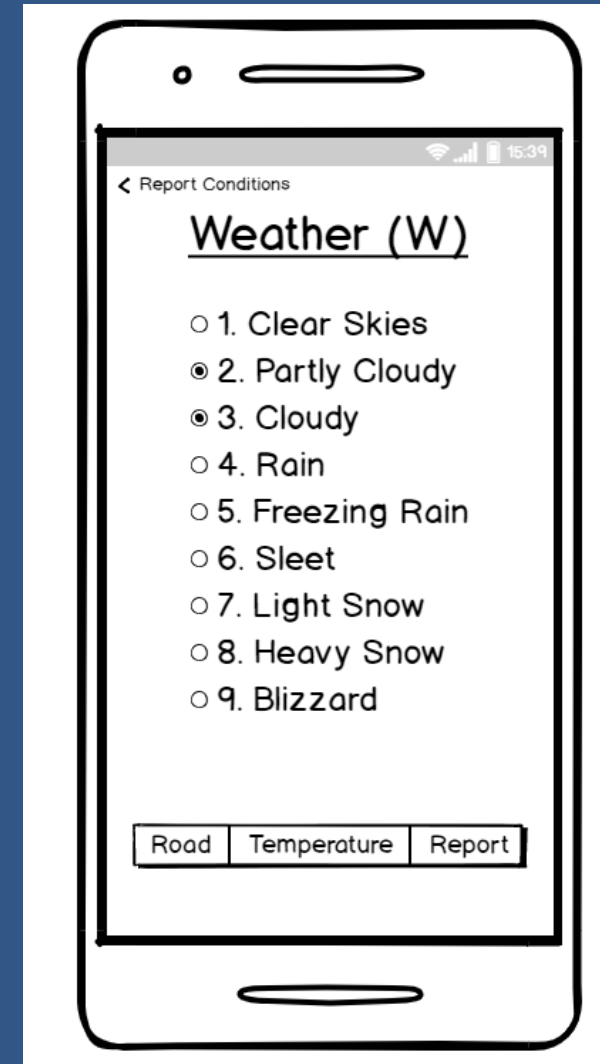
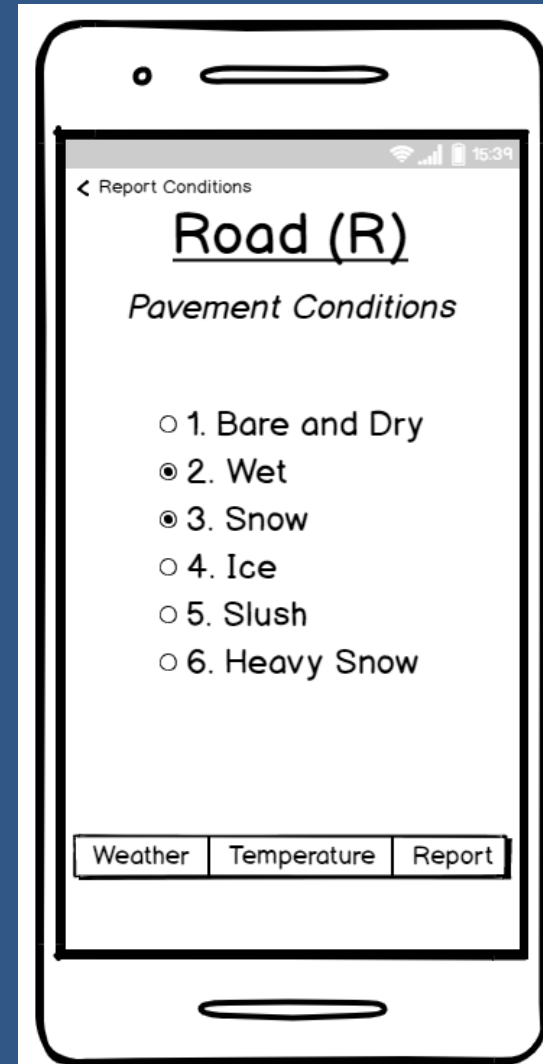
Source: Delaware DOT



Source: Virginia DOT

# MAINE: CROWDSOURCING TO IMPROVE EFFICIENCY

- RWT Project started in 2018 to help overwhelmed TMC operators
  - R(oad) W(eather) T(emperature) app developed for Compass
  - The app has been through one winter of field testing and is ready for full deployment
  - In-service / out-of-service app in 2020-2021
- Waze integration project started which filters events for the TMC operator to view geospatially.





# Work Zone Port Authority of New York and New Jersey

Based on project plans created by the LGA command center, segment were added by the Waze community at LaGuardia airport.

to Grand Central Pkwy W, Queens, New York

This segment has one or more road closures. Remove all road closures to edit it.

General Closures

⊙ Add advanced closure

+ Add a closure

📍 LGA Redevelopment

START	END
2017-04-14 20:00	2017-04-17 10:30

📍 LGA Redevelopment

START	END
2017-04-17 20:00	2017-04-20 10:30

📍 LGA Redevelopment

START	END
2017-04-20 20:00	2017-04-21 10:30

📍 LGA Redevelopment

START	END
2017-04-21 20:00	2017-04-24 10:30

📍 LGA Redevelopment

START	END
2017-04-24 20:00	2017-04-27 10:30





# EDC-5 Crowdsourcing for Operations Accomplishments

- 19 States advanced in their use of Crowdsourcing (as of 06/2020)
- 5 States initially not interested have since advanced
- 30+ State and local agencies benefitted from EDC-5 Crowdsourcing for Operations

Improve  
Operations

Source: FHWA



Save Cost

Increase Safety  
and Reliability

Source: FHWA



Source: Pixabay

# Focus Areas for Crowdsourcing

## Traveler Information



## Incident Management



## Traffic Signal Management



## Work Zone Management



## Road Weather Management



## Maintenance Management



# EDC-6: Deeper Crowdsourcing Roots

Adding data  
sources and  
applications



Improving  
archived data  
usage

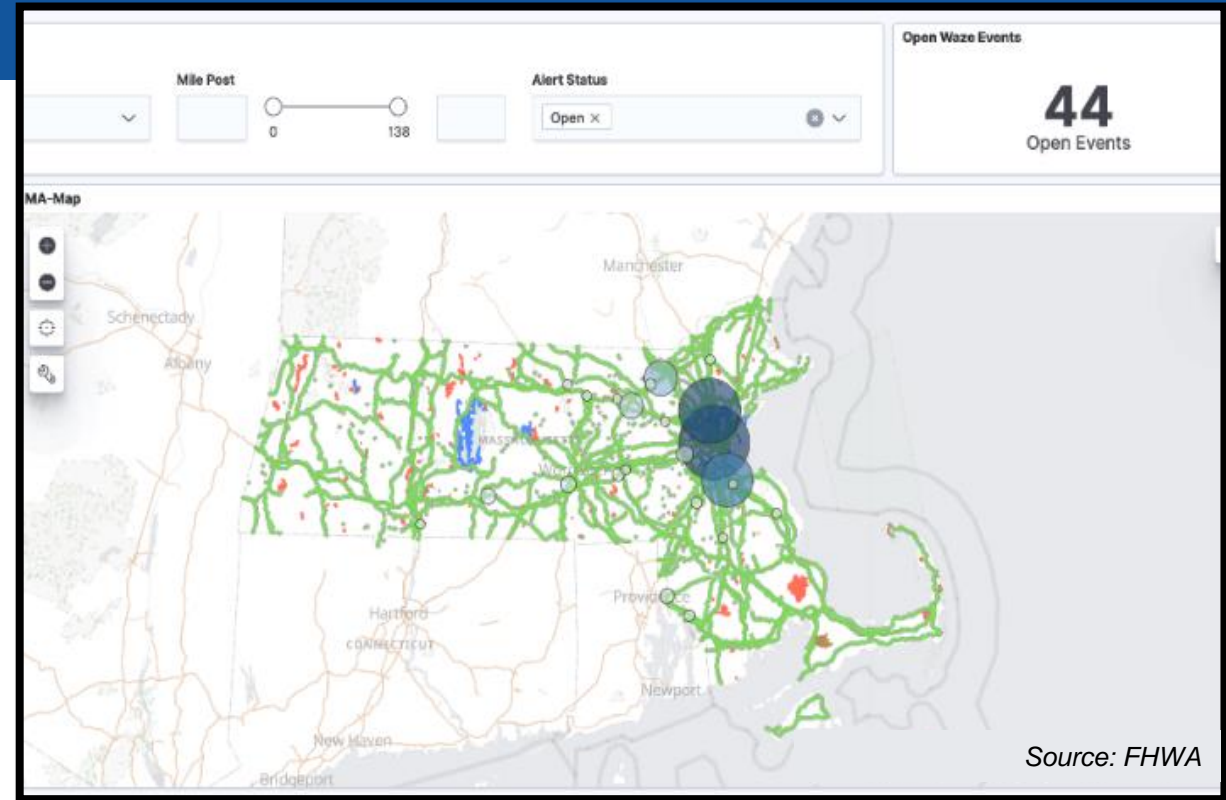
Improving data  
management

Sharing and  
integration of data



# EDC Crowdsourcing Resources

- Workshops and peer exchanges
- Technical assistance
- [Adventures in Crowdsourcing](#) webinar series
- [Website](#) – fact sheet, FAQs, sample applications
- [Subscribe to Crowdsourcing e-News](#)



EDC-5 Technical Support – Proof of Concept  
Real-time Dashboard

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<https://www.fhwa.dot.gov/innovation/>



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# Thank you

Questions / Comments Please?

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