
MoDOT
Kansas
Department of Transportation
Kansas City
SCOUT
MoDOT + KDOT
POTHOLE
CPR
Customer Proactive Reporting

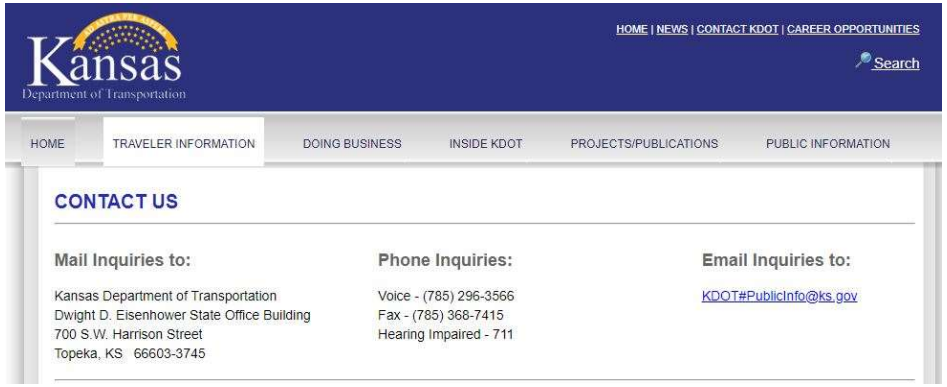
The Pothole Issue

- Average price tag of almost **$600 per repair**, damage cost drivers a staggering **$26.5 billion** in 2021 alone

https://www.kmbc.com/article/high-number-of-potholes-already-developing-on-missouri-highways/43099470#

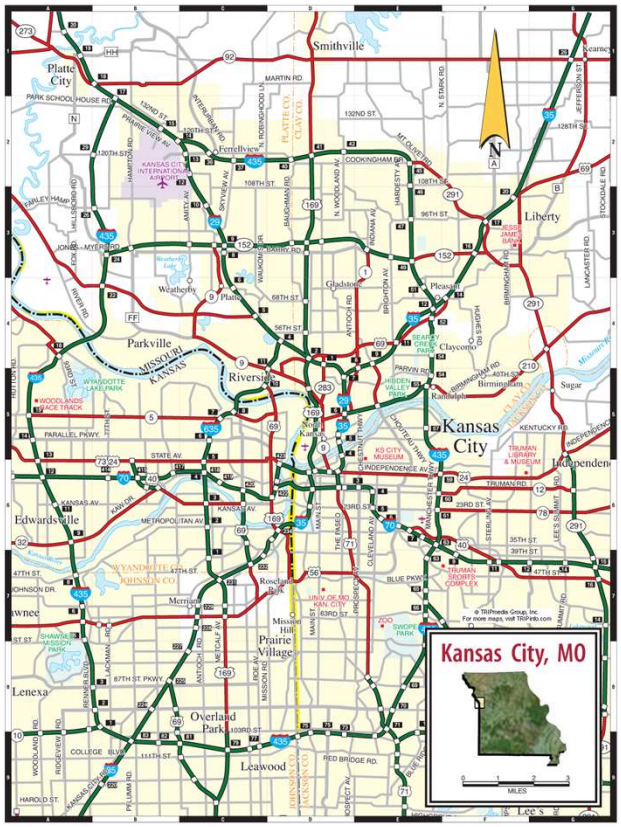
Kansas City SCOUT MoDOT + KDOT

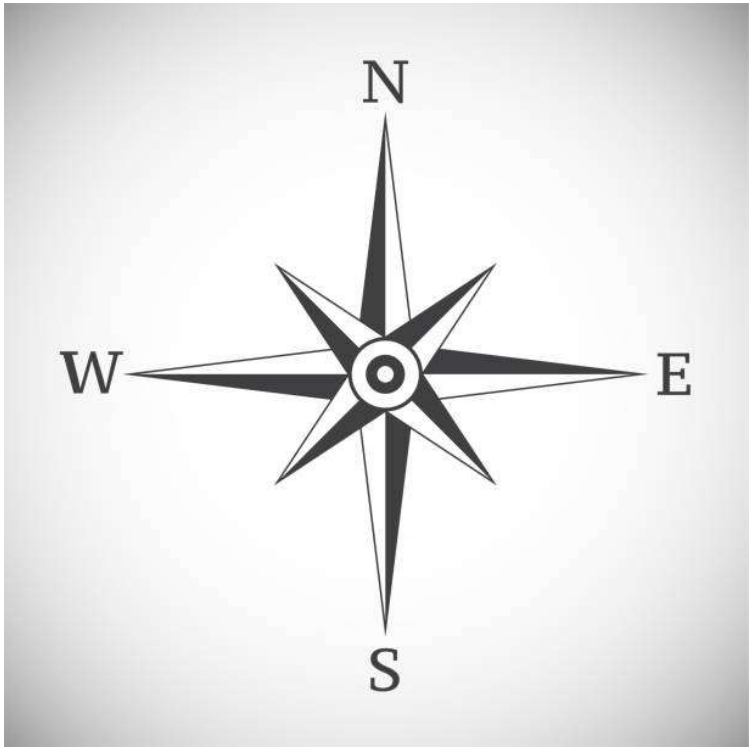
Current Methods of Contact



Kansas City SCOUT MoDOT + KDOT

Knowledge of roads and cardinal direction helps





Kansas City SCOUT MoDOT + KDOT

Otherwise…..

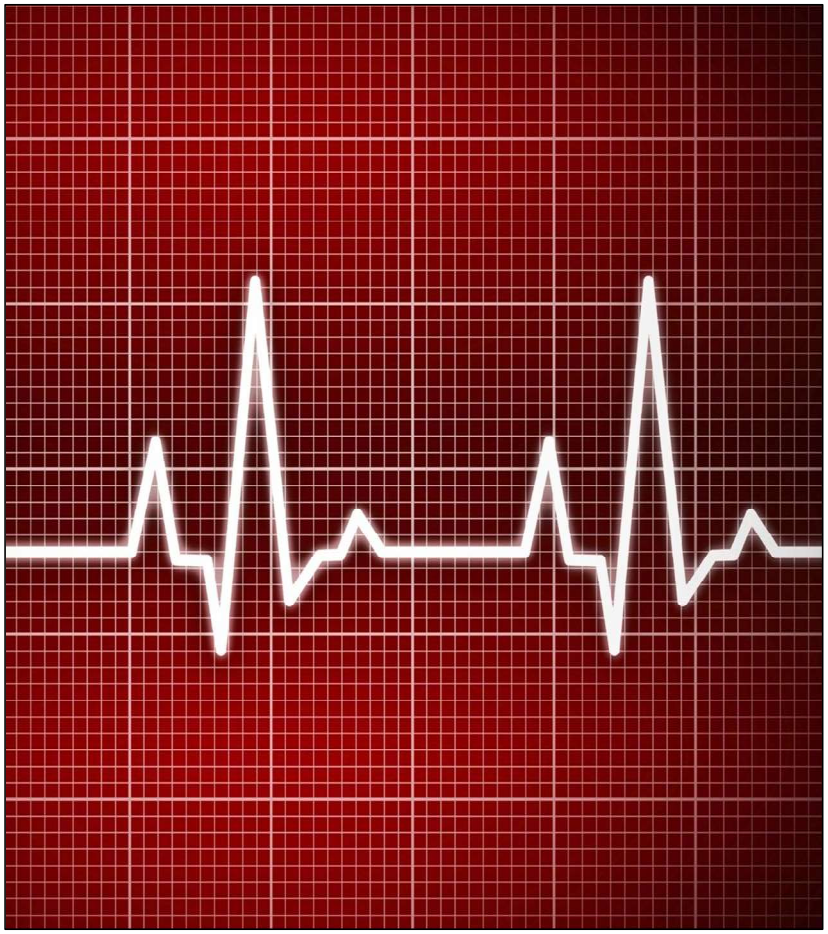
This can lead to frustration and not being able to fulfill the customer request

Kansas City SCOUT MoDOT + KDOT

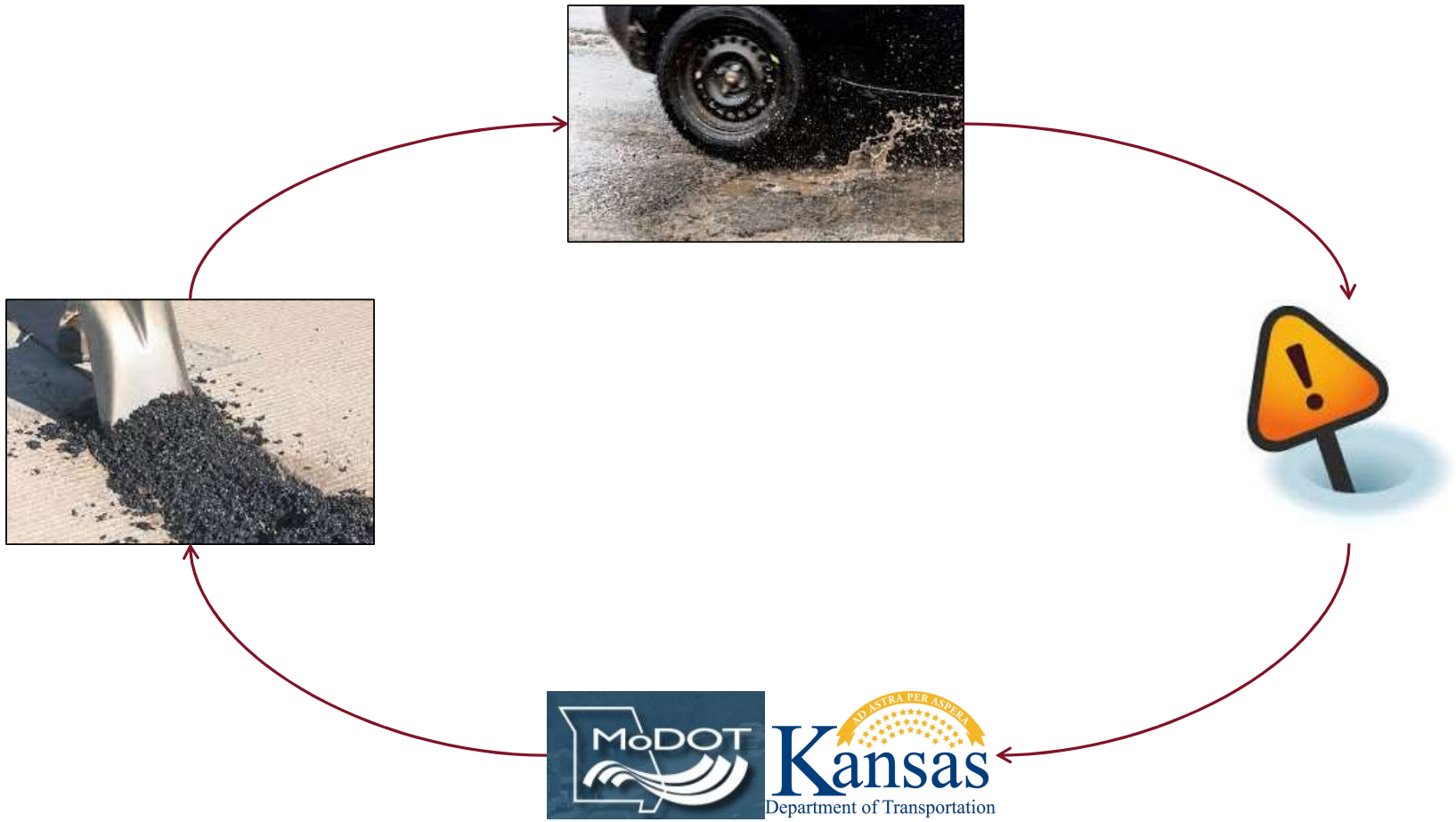
It All Starts with the NEED

1. A process for reporting potholes that is Quick & Easy for the Customer to use

2. Delivering Reliable and Accurate GPS pothole map locations to maintenance



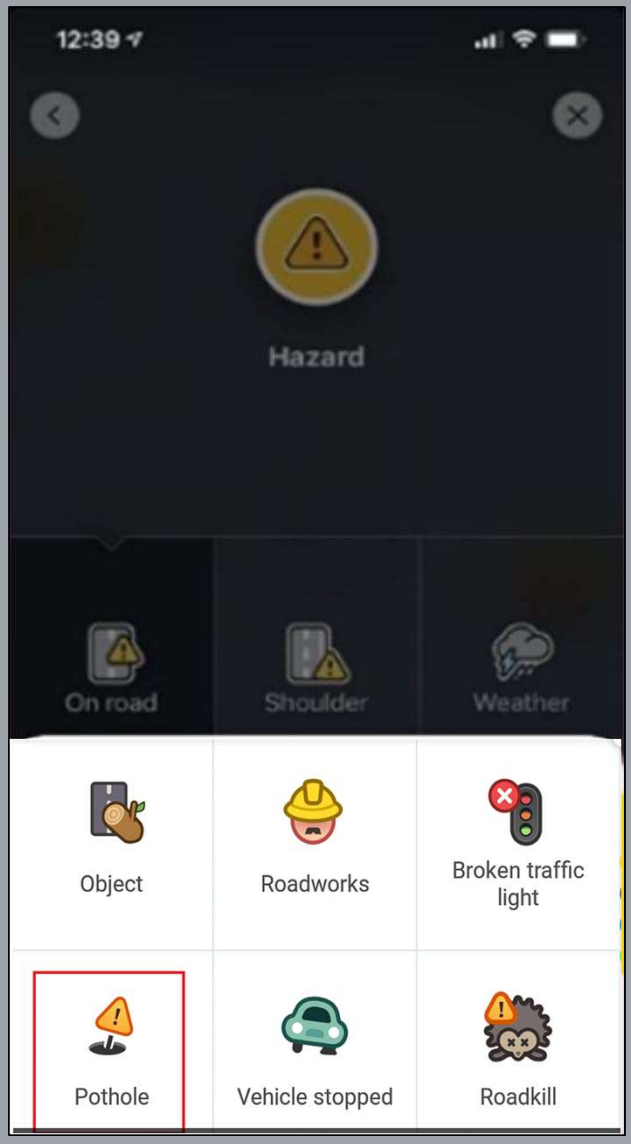
Process Overview



Two Simple Ways to WAZE

Simple Touch of a Button

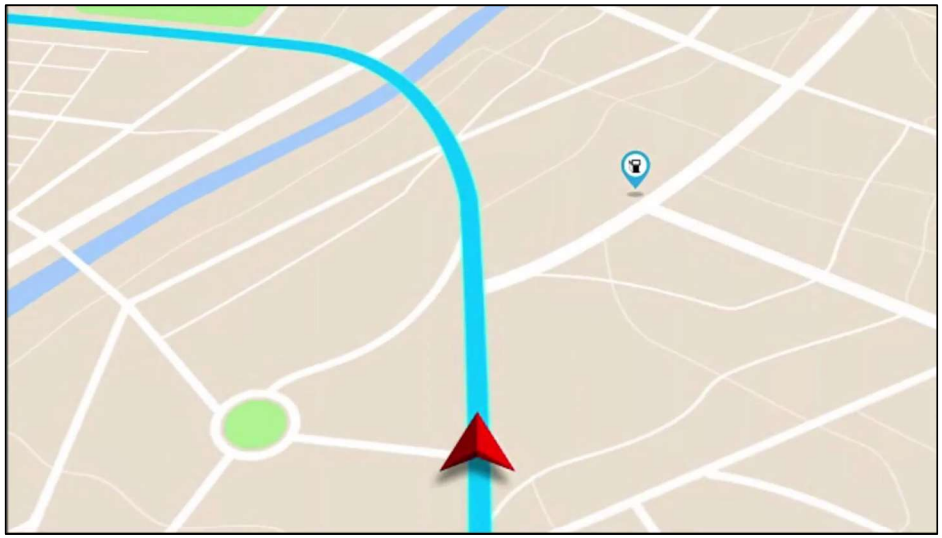
Use Voice Command



Kansas City SCOUT MoDOT + KDOT

What Happens Next?

- WAZE recognizes the GPS location of the customer

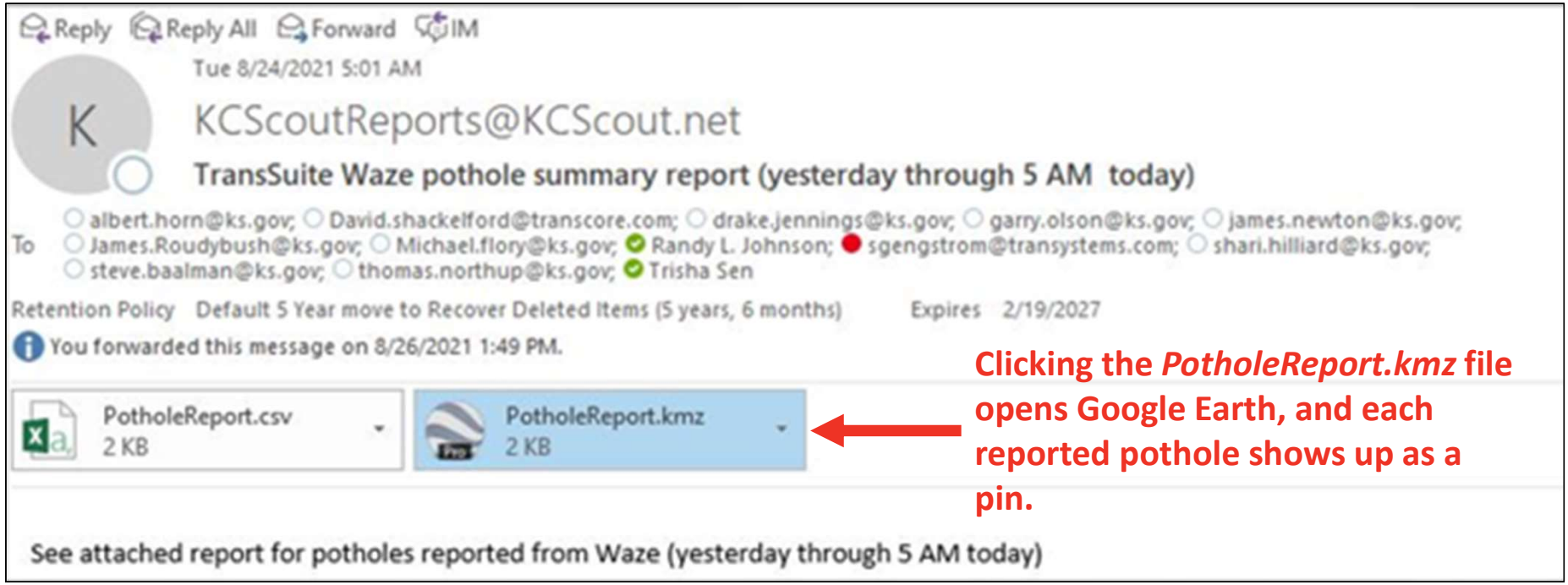


Kansas City SCOUT MoDOT + KDOT

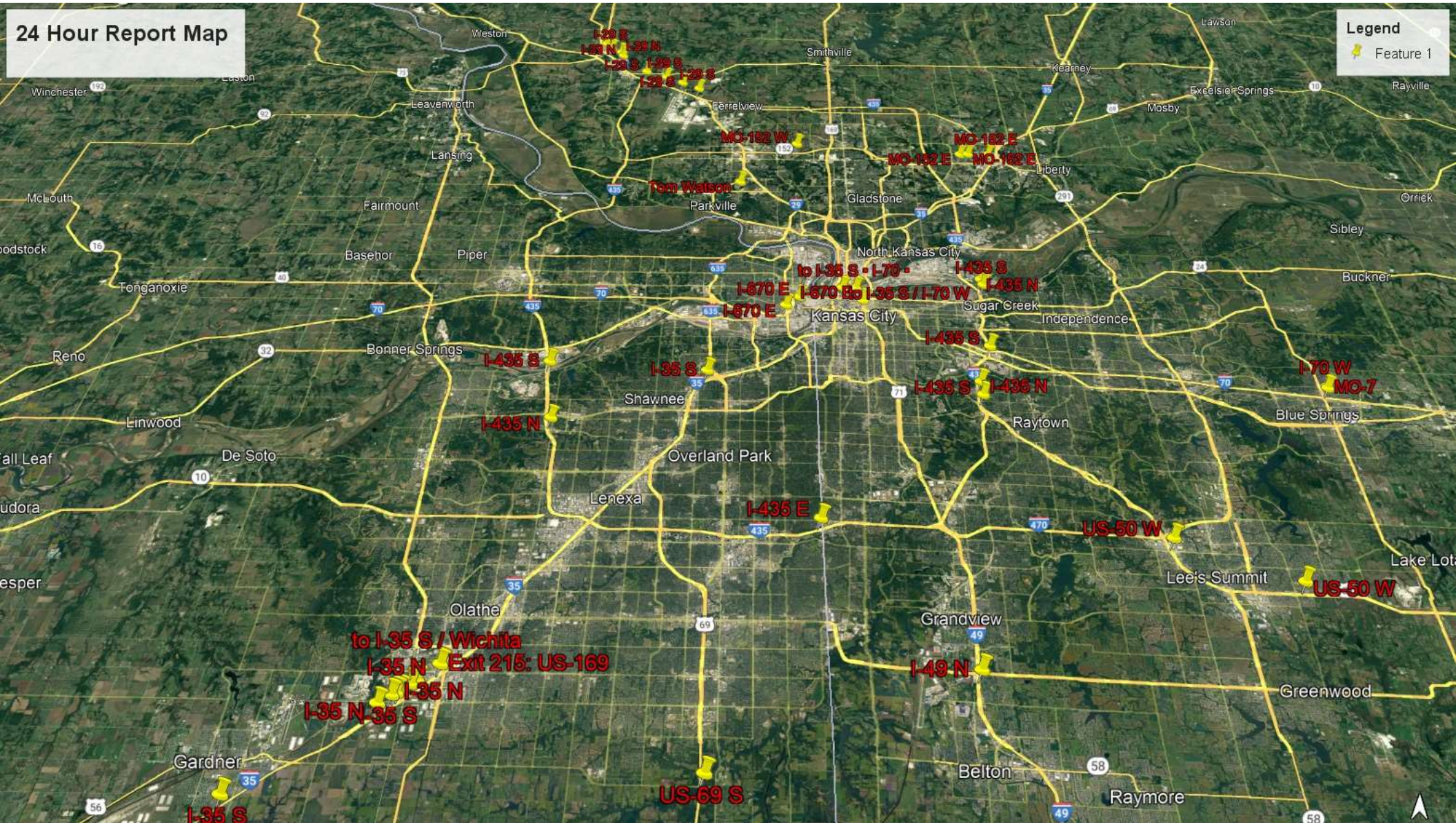
Why is this Important?

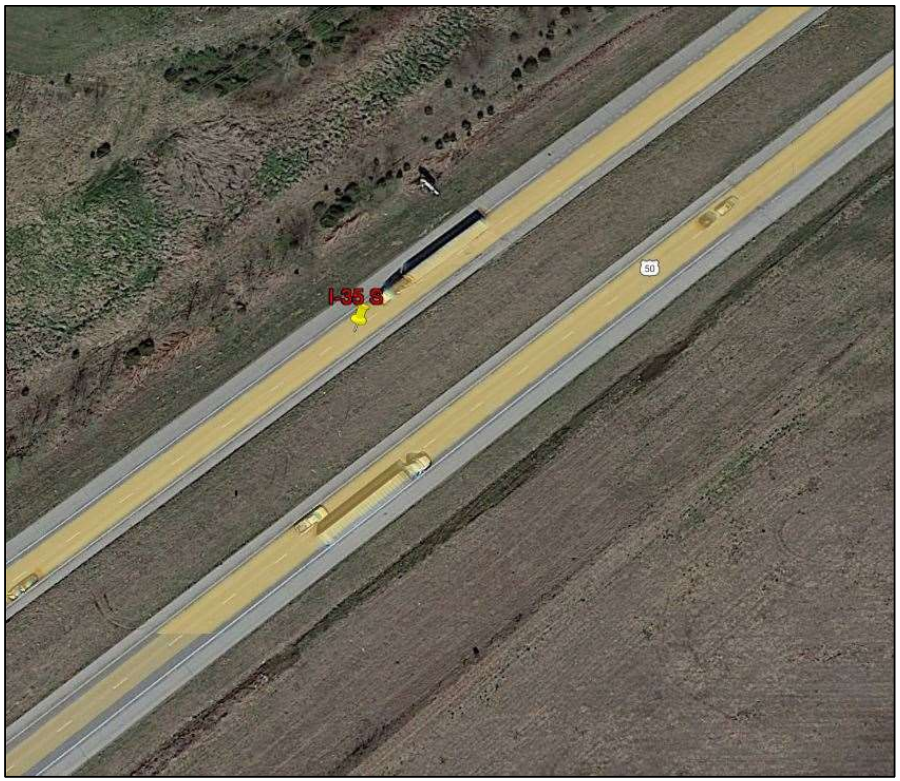
- Eliminates any location confusion on the part of the reporting customer
- Creates a data record that is easily translated to Google Earth Map
- Compiles a record of reported potholes in one place

Daily Reports of Reported Potholes via Email for Past 24 Hours



Clicking the *PotholeReport.kmz* file opens Google Earth, and each reported pothole shows up as a pin.


24 Hour Report Map
Legend
Feature 1
Weston
Smithville
Lawson
Kearney
Excelsior Springs
Rayville
Winchester
Easton
Leavenworth
Ferrelview
Mosby
Lansing
Liberty
McLouth
Fairmount
Parkville
Gladstone
Orrick
Sibley
Basehor
Piper
North Kansas City
Tonganoxie
Buckner
Sugar Creek
Independence
Kansas City
Reno
Bonner Springs
Shawnee
Linwood
Raytown
Blue Springs
De Soto
Overland Park
Lenexa
Lee's Summit
Olathe
Grandview
Greenwood
Gardner
Belton
Raymore
Tom Watson
MO-152 W
MO-152 E
MO-152 E
MO-152 E
I-29 E
I-29 N
I-29 N
I-29 S
I-29 S
I-29 S
I-29 S
to I-35 S • I-70 •
I-435 S
I-435 N
I-670 E
I-670 E to I-35 S / I-70 W
I-670 E
I-435 S
I-435 S
I-35 S
I-435 S
I-435 N
I-435 N
I-70 W
MO-7
I-435 E
US-50 W
US-50 W
to I-35 S / Wichita
I-35 N
Exit 215: US-169
I-35 N
I-35 N
I-35 S
I-49 N
US-69 S
I-35 S

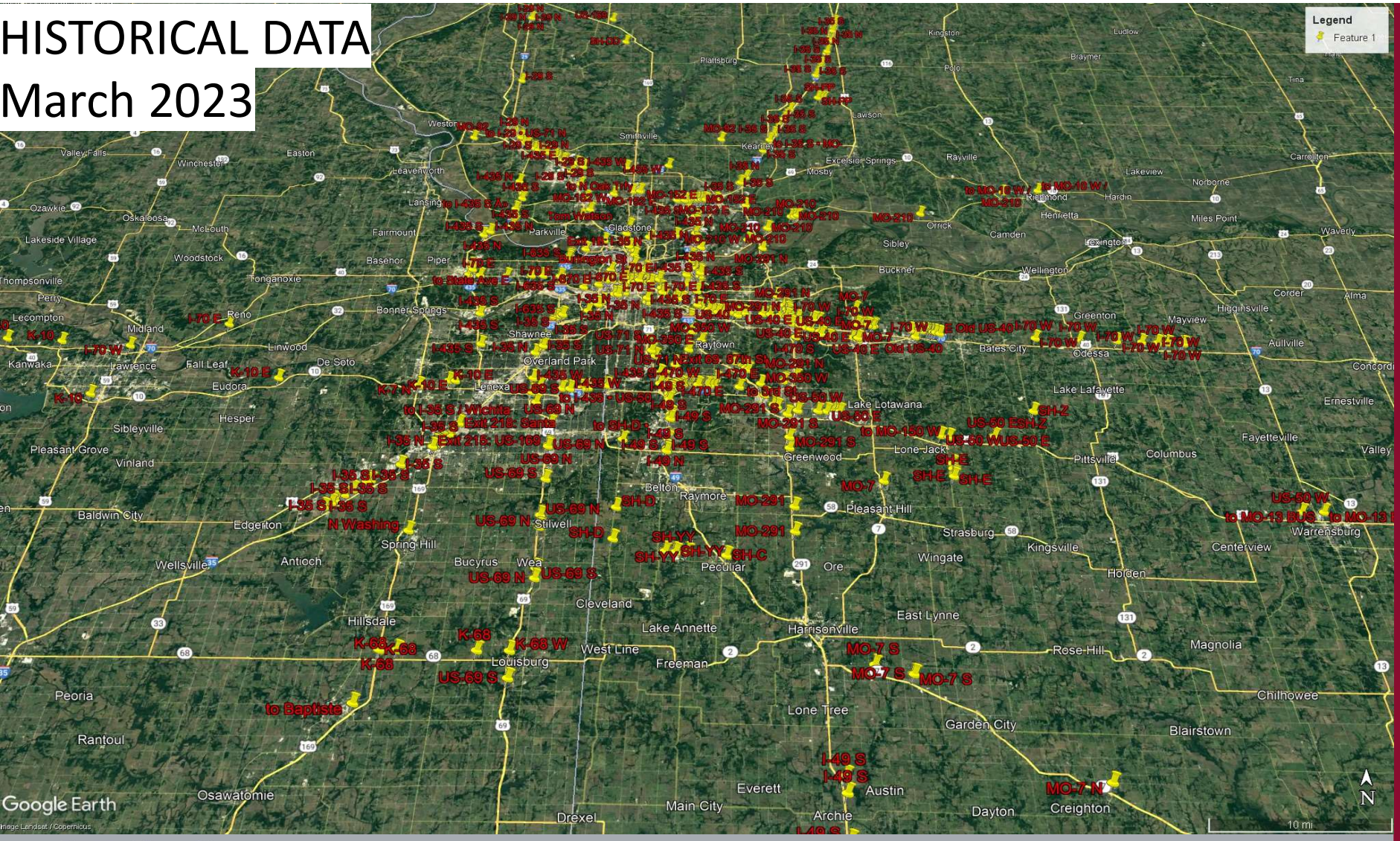


Zoomed-in view of a specific pin

Clicking on the pin will provide additional details

Kansas City SCOUT MoDOT + KDOT

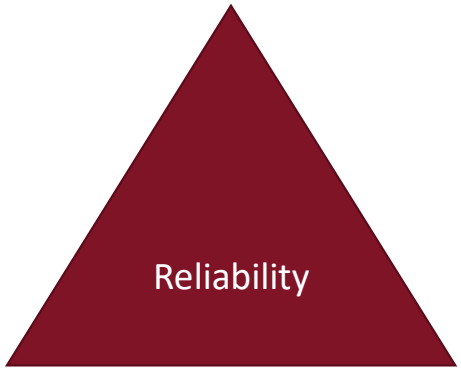
HISTORICAL DATA
March 2023



Kansas City SCOUT MoDOT + KDOT

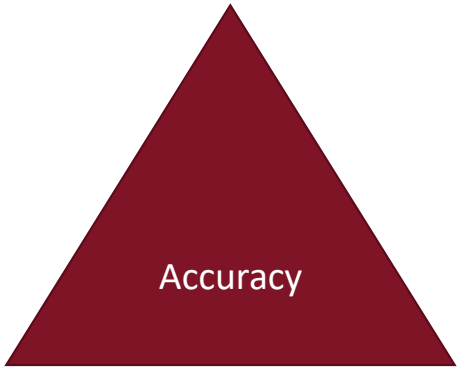
How do we know it works?

An initial Early Deployment (Pilot Study) occurred within the bi-state KC metro in July 2021 to **VERIFY** the two major features of the Innovations' potential



Goal – Above 80 %

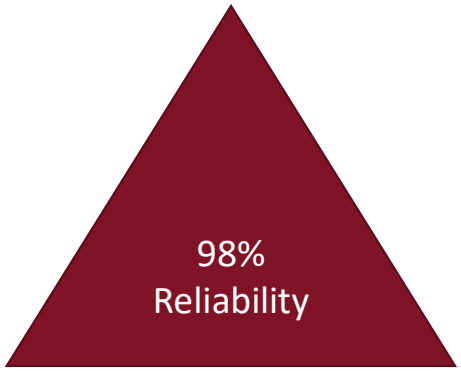
AND



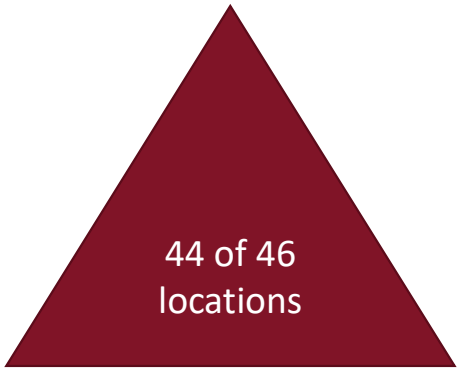
Goal - 300' or Less

The Study and Results

- Study Dates – July 10 through August 5, 2021
- 5 Maintenance crews from 2 states (MO/KS)
- Reviewed 46 locations for RELIABILITY AND ACCURACY of the reported data



Goal – Above 80 %



Goal – 300’ or less

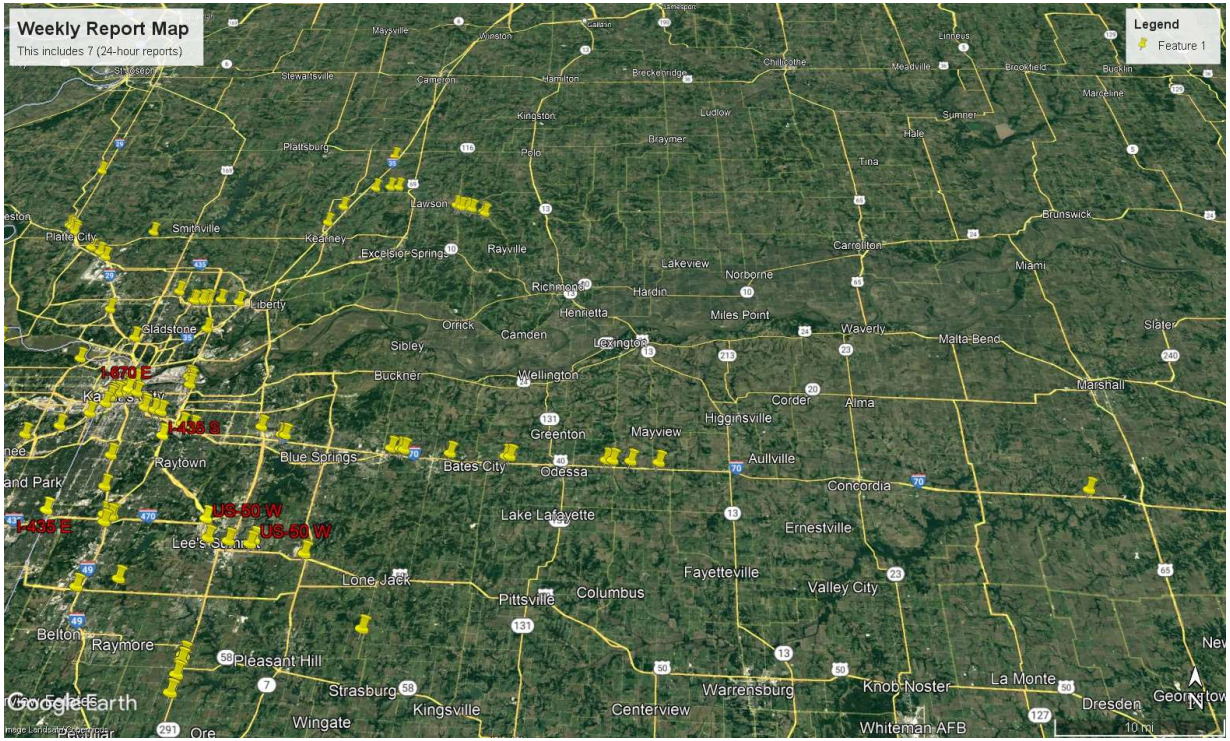
FAQ – Pros and Cons?

- PROS:
  - It really helps us with catching the potholes before they get so big that they cause vehicle damage.
  - More accurate than website or phone call in due to GPS location
  - Helps verify issues and justifies future project for that location with an easy recorded report map
- CONS:
  - There may be multiple pin locations for the same pothole
  - Not every reported “pothole” is a pothole, but another type of unhealthy pavement
  - There are a lot more reported potholes and once reported, need to review location and fix. This is challenging due to low resources

Kansas City SCOUT MoDOT + KDOT

FAQ – Any changes being worked on?

- Any Changes?
  - KDOT: None at this time
  - MoDOT:
    - Use a weekly report map (7 days) in lieu of a daily report map



Kansas City SCOUT MoDOT + KDOT

EDCNews
Biweekly Newsletter

Keeping you informed about **Every Day Counts**

November 10, 2022

Innovation of the Month: Crowdsourcing for Advancing Operations

Potholes pose a safety risk for all road users and, in 2021, cost Americans over $26.5 Billion in vehicle damage. They are a frequent basis for motorist complaints, and their timely repair are central to cost-effective pavement preservation.
However, detecting potholes is an ongoing, costly effort for every agency charged with maintaining roadways. One Missouri Department of Transportation (DOT) official notes that when customers call to report a pothole, the location information is frequently imprecise, causing the crew to spend significant time and fuel searching for the pothole. Often, customer service operators must reconnect with the customer by phone for additional location-clarifying information to help crews find the pothole, resulting in days of delay.

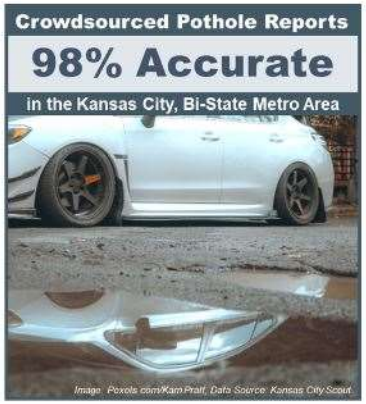


Image: Pexels.com/Kam Pratt, Data Source: Kansas City Scout

Kansas City (KC) Scout, a bi-state traffic management system spanning Missouri and Kansas, began exploring WazeÂ® pothole reports in the summer of 2021 as a means for more timely and accurate pothole identification. KC Scout worked with three Missouri DOT and two Kansas DOT maintenance crews to evaluate the Waze-reported pothole data over a two-month period. The crews confirmed a pothole or other issue was present on the road within 90 feet for 45 of the 46 reports made by Waze users, a 98 percent accuracy rate. Given this success rate, KC Scout deployed the Pothole Customer Proactive Reporting (CPR) tool to all maintenance teams within the KC region, sending daily summaries (spreadsheet and map) which integrates Waze reports with those reported by phone.

By using the more location-precise crowdsourced pothole data, Missouri and Kansas DOTs are now able to repair potholes more quickly and efficiently, making pavements safer for all road users in the KC region. KC Scout is also exploring further enhancements to the Pothole CPR tool to spatially aggregate reports and support analytics that can inform long-term maintenance strategies.

To learn more about how State and local agencies are using crowdsourcing to maintain roadways, contact James Colyar, Greg Jones, or Ralph Volpe, EDC-6 team co-leads, or visit the innovation's EDC website.

Stay Connected

Sign up to receive EDC News, Innovator newsletters and other information.

Enter your e-mail

Submit

Events

View Events

Contact

Jeffrey A. Zaharewicz
Senior Advisor
(202) 366-1325
Jeffrey.Zaharewicz@dot.gov

FAQ – Do others know about it?

FAQ – Are we promoting driving and phone use?

Are we promoting driving and phone use -

Kansas Department of Transportation

MoDOT

Kansas City SCOUT MoDOT + KDOT

VALUE TO BOTH CUSTOMERS AND MAINTENANCE

Improved maintenance efficiency

- Accurate pothole location ID
- Less pothole 'hunting' with GPS

Improved customer relations

- Proactive response to customer
- Identified pavement problems

Smoother and safer roadways

POTHOLE CPR

Kansas City SCOUT MoDOT + KDOT

CONTACTS

Michael Flory – Michael.Flory@ks.gov

Randy Johnson – Randy.Johnson@modot.mo.gov