



Turning the Tide: Iowa DOT's 511 County Road Integration

During the 2024 Flooding Disaster

IOWA | DOT

511
IA

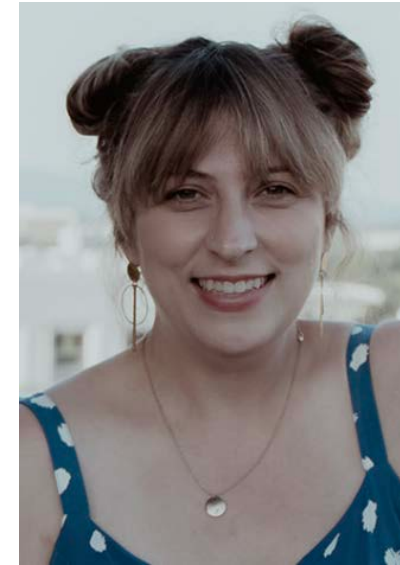
castle
rock.

Introductions



Sinclair Stolle, PE

Traffic Management Systems Engineer



Rachel Williams

Project Manager

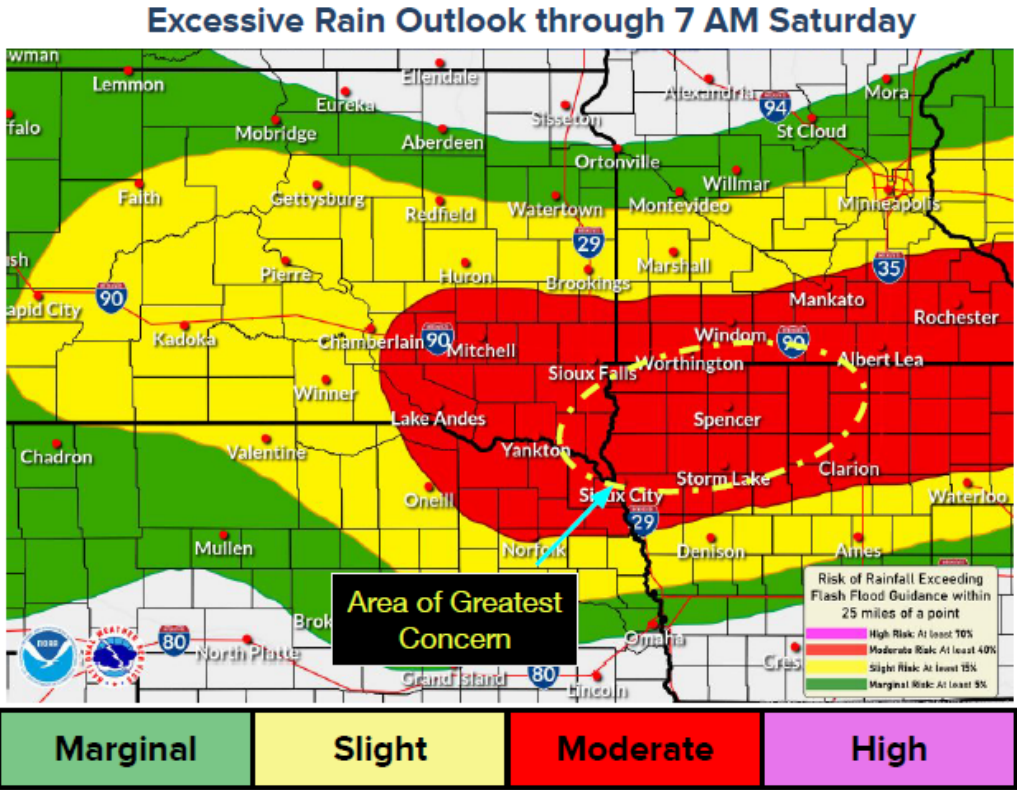


How it started

Outlook

June 21, 2024
3:48 PM

ght



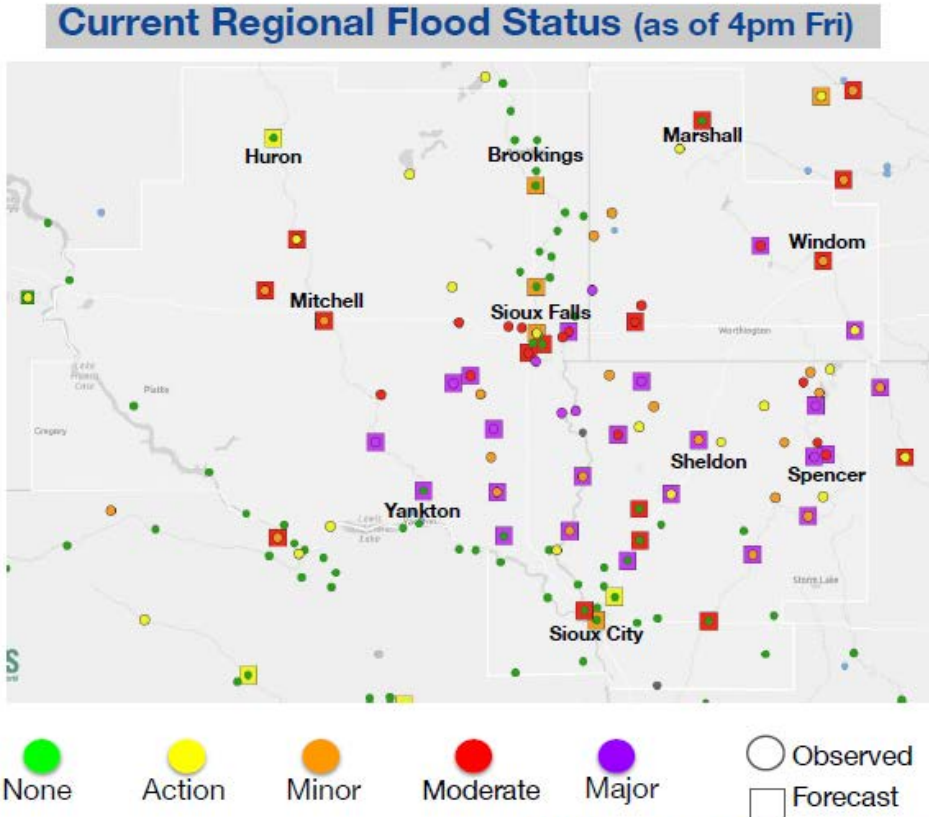
National Weather Service
Sioux Falls, SD

Record flooding observed at 25 river gauges.

On-Going

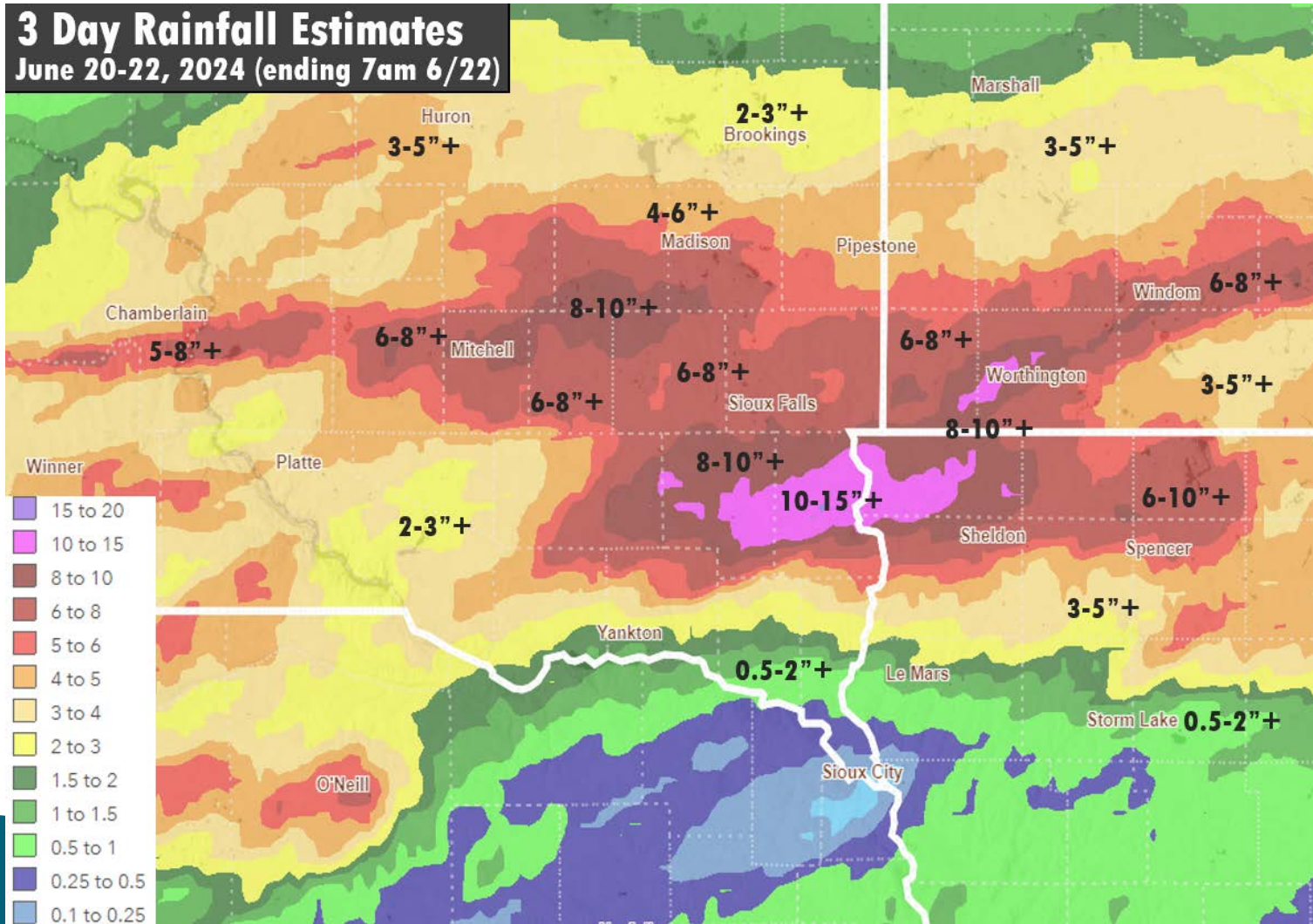
June 21, 2024
3:48 PM

Expanded Flooding Issues



National Weather Service
Sioux Falls, SD

3 Day Rainfall Estimates: June 20-22



- Multiple rounds of heavy rain fell across NW Iowa, SE South Dakota, and SW Minnesota.
- Rain totals: 5–10" widespread, with pockets of 10–20".
- Some areas experienced 500–1000-year rainfall events (0.2%–0.1% probability).
- Rapid rainfall caused severe flash flooding June 20–22, followed by record river flooding at 25 river gauges.

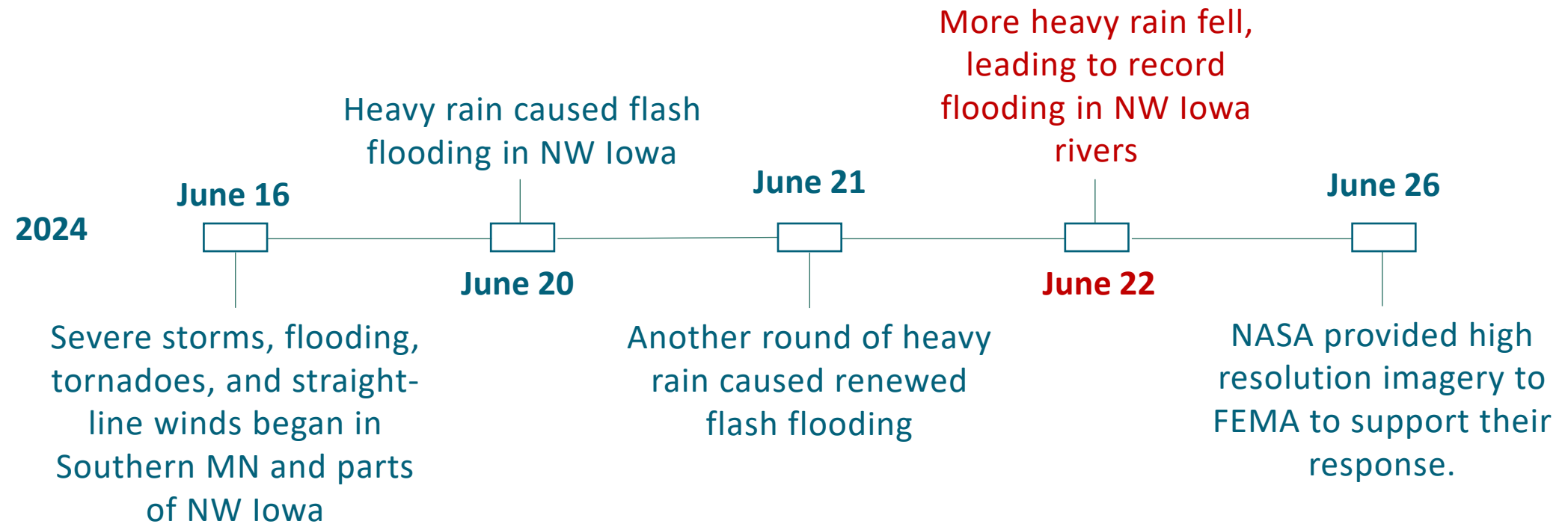
Damage to Local Communities

- Over 300 homes and businesses destroyed; thousands more damaged.
- 3 fatalities reported.
- Closures of I-29, I-90, and numerous highways and local roads.
- Widespread rescues and evacuations.
- Hardest-hit communities: Rock Rapids, Rock Valley, Hawarden, Spencer, Sioux Rapids, Cherokee (IA), Windom and Jackson (MN), and Sioux Falls, Canton, and McCook Lake (SD).

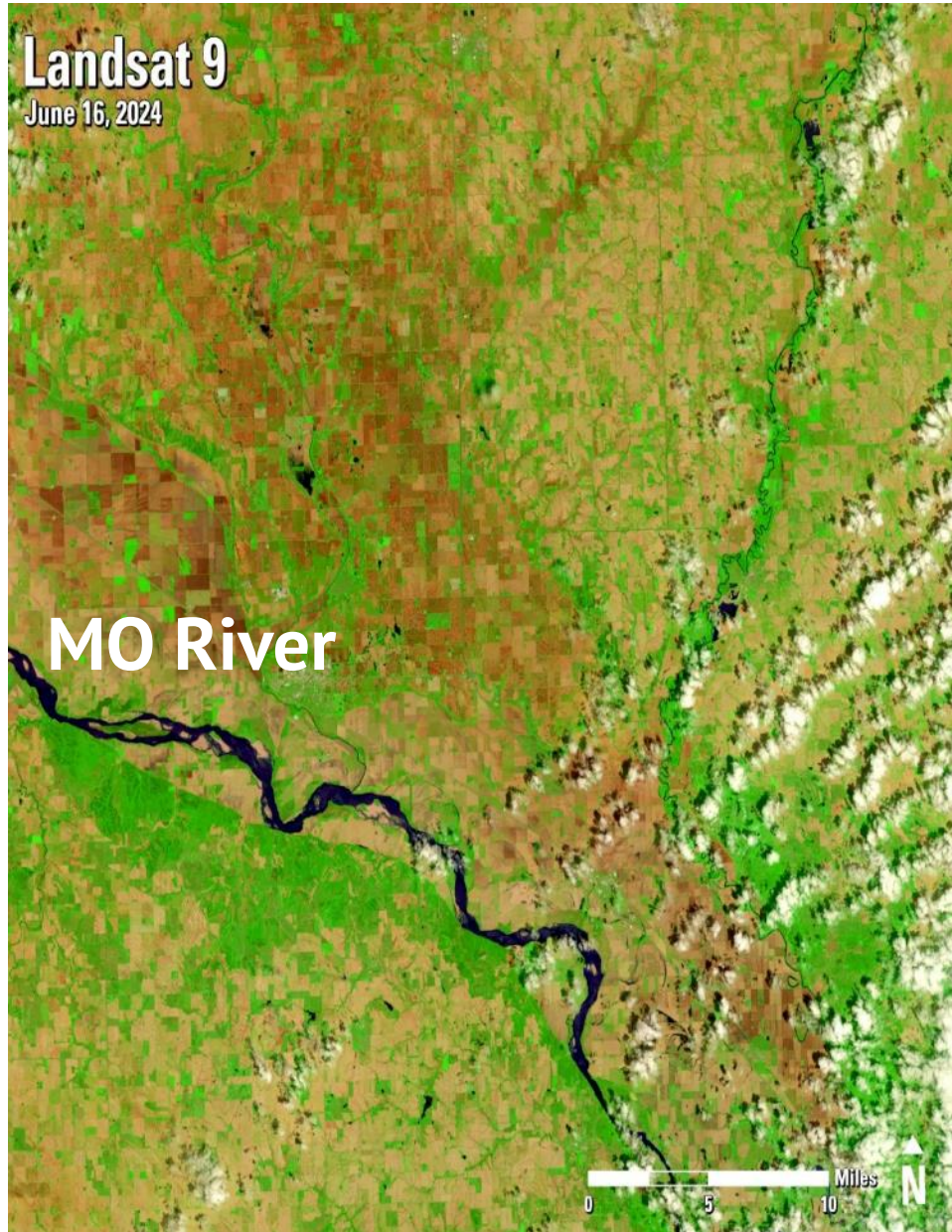


Spencer, IA

Timeline of Flooding



June 16, 2024

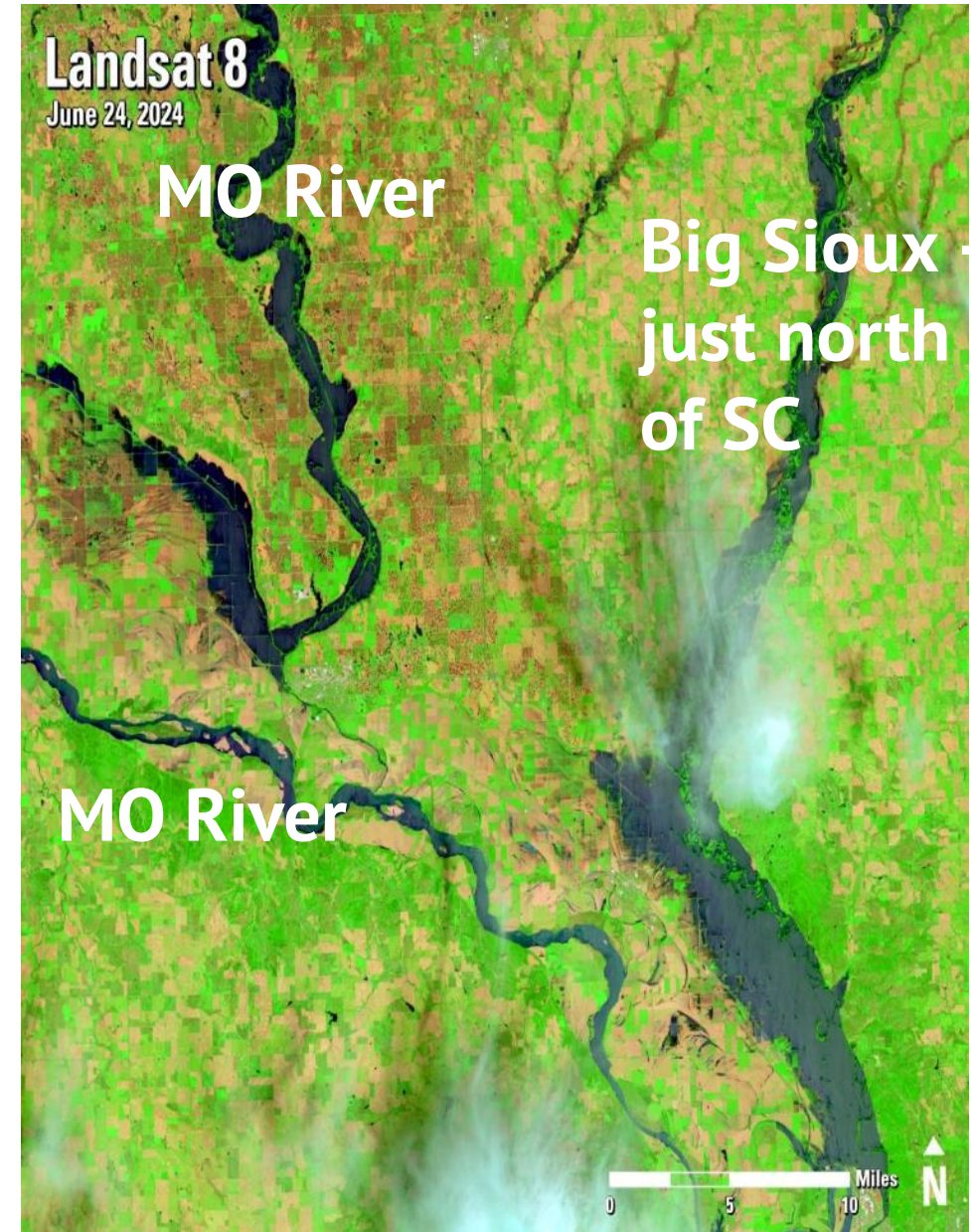


NASA provided high-resolution imagery to FEMA to support their response.

June 24, 2024

castle
rock.

IOWA | DOT



Posted Floodgate Messages to 511 – June 21-28

Travel Strongly Discouraged in Lyon, Sioux, O'Brien, Clay, Emmet, Dickinson, Cherokee, and Plymouth Counties

IOWA DOT **511** **IOWA STATE PATROL**

Search Iowa 511 website (e.g. cameras on) Your 511 List

Statewide

What Are You Looking For?

Incidents Construction Cameras Commercial Vehicles My 511

I-29 I-35 I-74 I-80 I-235 More

Critical Information

- Travel Strongly Discouraged in Lyon, Sioux, O'Brien, Clay, Emmet, Dickinson, Cherokee, and Plymouth Counties
- IA 9 in both directions: Road blocked.
Updated Today at 7:03 PM CDT by [Iowa DOT](#)
1 mile west of the Spirit Lake area

IOWA DOT **511** **IOWA STATE PATROL**

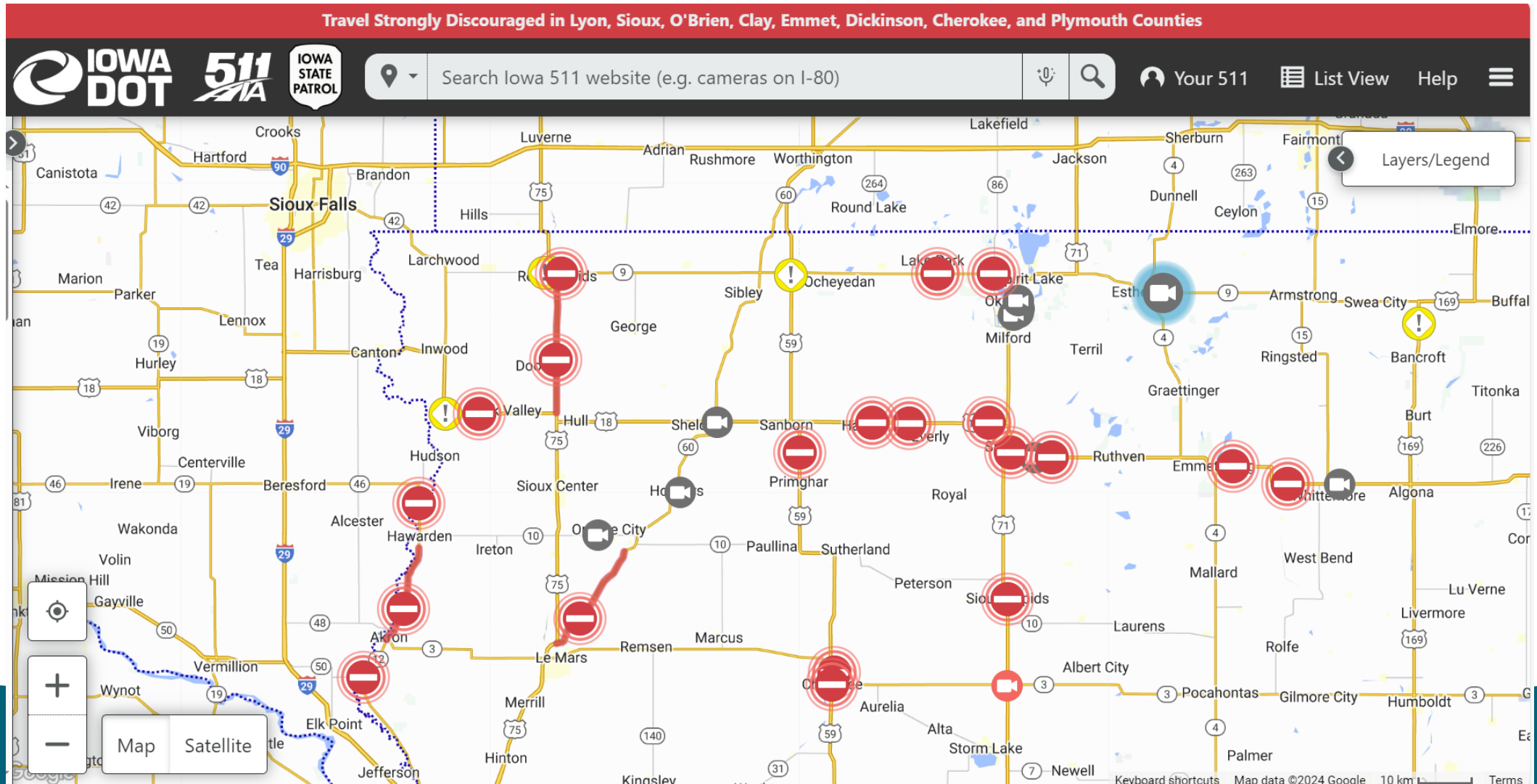
Search Iowa 511

Clear Details Statewide

Travel Strongly Discouraged in Lyon, Sioux, O'Brien, Clay, Emmet, Dickinson, Cherokee, and Plymouth Counties

Lyon, Sioux, O'Brien, Clay, Emmet, Dickinson, Cherokee, and Plymouth Counties in northwest Iowa are experiencing severe flooding. Many routes are covered with water or are quickly becoming dangerous. Travel is strongly discouraged at this time.

Roads began closing rapidly – June 22, 9pm



US 18/71 in Spencer, IA - June 22, 2024

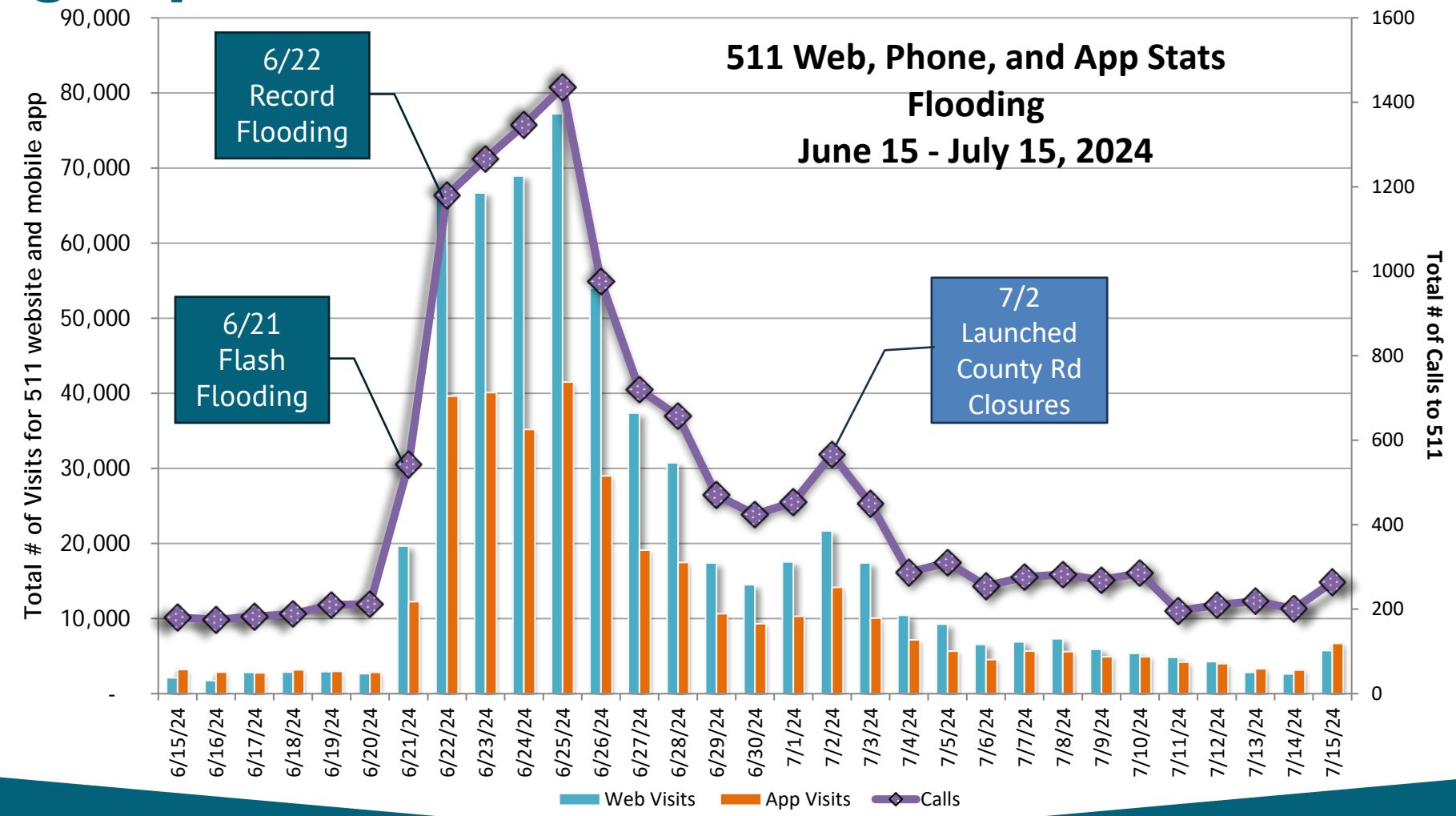


looking south

Spencer: 8' rise in 90 minutes to historic 23' crest



Usage spikes on 511



511 Feedback: We Want County Rd Information

"I know L12 is closed between onawa and rodney but it is not listed on this site Can I add it or do you have to?"

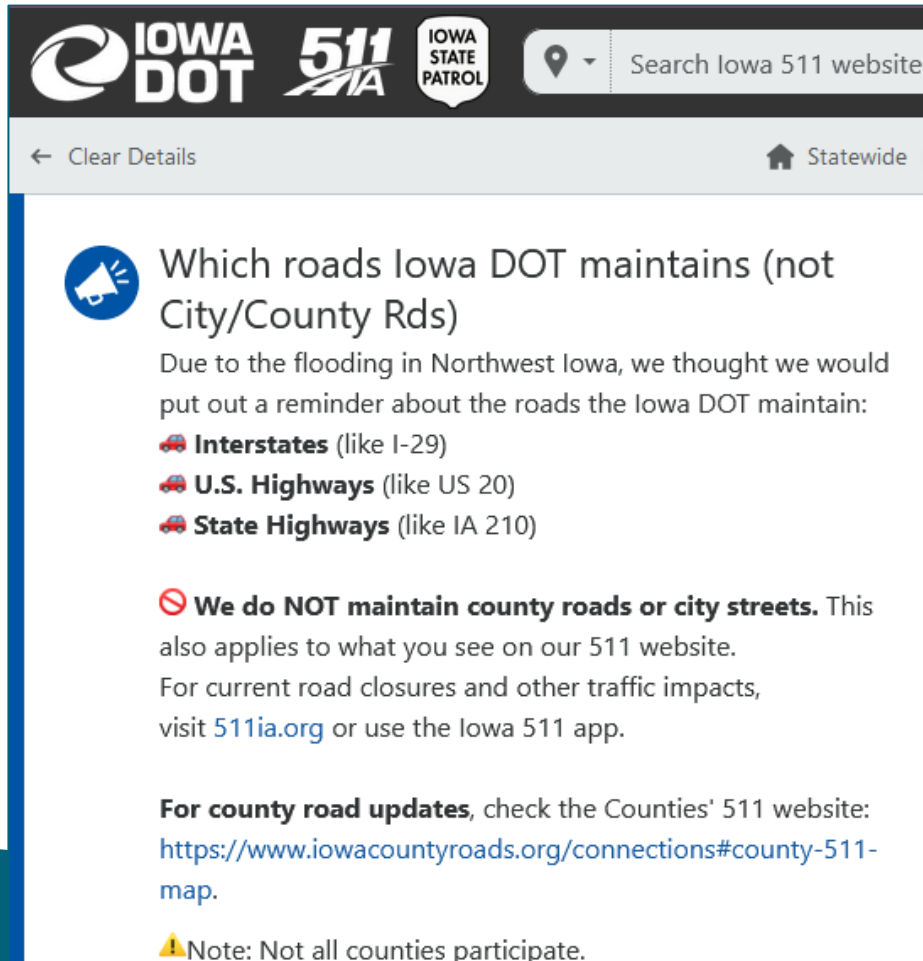
"not everything is posted on site. M12 has construction going on it. Besides gravel roads that be blocked and have constructions

"Do local authorities know how to get information into this site? We were trying to rely on accurate information after much rain in NW Iowa but this site could not be trusted. Why not? Do the counties/sheriff, etc not know how to submit closures? What is the process? Do they know? We need to do better... don't like being so harsh, but this is just not working."

Currently on your 511 map you only show state highways that are closed due the flood and it appears from the map that the county roads crossing the same river are open when they are actually flooded and are actually not open. I believe that the East Fork of the Little Sioux River is flooded over all roads between Spirit Lake and Mapleton. Why not clearly show this on your 511 map?

Issue: Public thinks DOT maintains County Roads




6/22 Published Announcement on 511 website and social media explaining this.




The screenshot shows the top of the Iowa DOT 511 website. It includes the Iowa DOT logo, the 511 logo, and the Iowa State Patrol logo. Below the logos is a search bar and a "Clear Details" button. The main content area has a blue megaphone icon and the title "Which roads Iowa DOT maintains (not City/County Rds)". The text explains that due to flooding in Northwest Iowa, a reminder was issued about the roads maintained by Iowa DOT. It lists the types of roads: Interstates (like I-29), U.S. Highways (like US 20), and State Highways (like IA 210). It also states that they do NOT maintain county roads or city streets. A link is provided for county road updates: <https://www.iowacountyroads.org/connections#county-511-map>. A note at the bottom says "Note: Not all counties participate."


Which roads Iowa DOT maintains (not City/County Rds)

Due to the flooding in Northwest Iowa, we thought we would put out a reminder about the roads the Iowa DOT maintain:

-  **Interstates** (like I-29)
-  **U.S. Highways** (like US 20)
-  **State Highways** (like IA 210)

 **We do NOT maintain county roads or city streets.** This also applies to what you see on our 511 website. For current road closures and other traffic impacts, visit [511ia.org](https://www.iowacountyroads.org/connections#county-511-map) or use the Iowa 511 app.

For county road updates, check the Counties' 511 website: <https://www.iowacountyroads.org/connections#county-511-map>.

 **Note:** Not all counties participate.

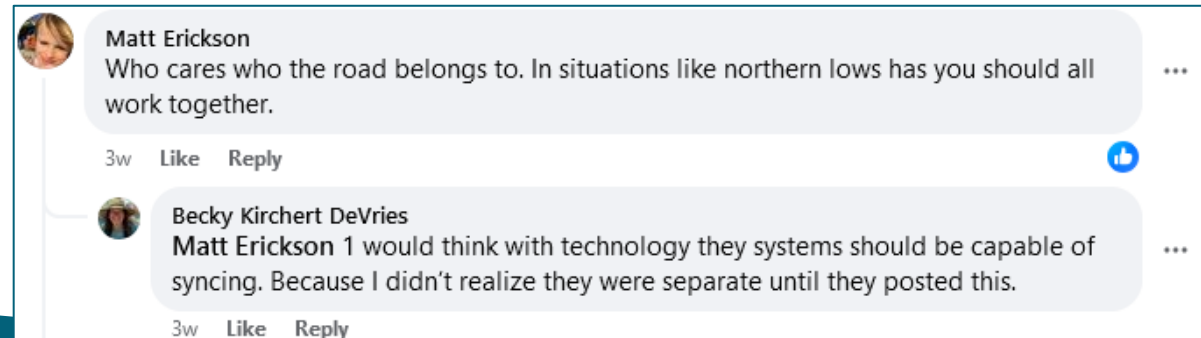


The graphic is titled "We Take Care Of". It is divided into two columns by a vertical line. The left column has a green checkmark icon and the word "THESE" in green. It lists three road types: Interstates (with a blue and red shield icon), US Highways (with a white shield icon), and State Highways (with a black and white shield icon). The right column has a red X icon and the words "NOT THESE" in red. It lists two road types: County Roads (with a blue and yellow shield icon) and City Streets (with no icon). The Iowa DOT logo is at the bottom right.

We Take Care Of

THESE	NOT THESE
 Interstates	 County Roads
 US Highways	City Streets
 State Highways	

IOWA | DOT



The screenshot shows a social media comment thread. The first comment is from Matt Erickson, who says "Who cares who the road belongs to. In situations like northern Iowa you should all work together." The second comment is from Becky Kirchert DeVries, who replies to Matt Erickson saying "1 would think with technology they systems should be capable of syncing. Because I didn't realize they were separate until they posted this."

Matt Erickson
Who cares who the road belongs to. In situations like northern Iowa you should all work together.

3w Like Reply

Becky Kirchert DeVries
Matt Erickson 1 would think with technology they systems should be capable of syncing. Because I didn't realize they were separate until they posted this.

3w Like Reply

REQUEST: Add County Rd Closures to DOT 511

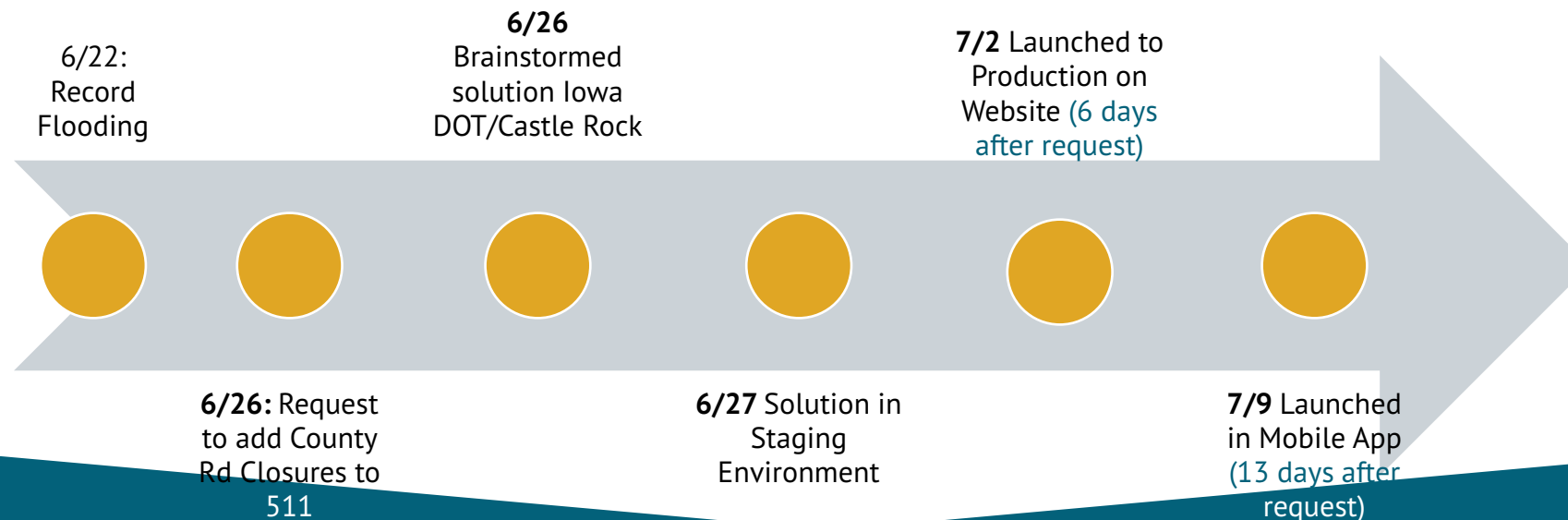
- 6/26 (Weds) Received a **request from the Governor** via DOT Exec Director to find a way to display county road closures on the DOT 511 website.
- This would also **help State and Federal agencies with recovery operations** to have closures on DOT and County roads in 1 place.
- Due to a perceived increase in workload with public questions about county road closures, this was **only going to be a temporary** addition for the disaster.
- **Brainstormed some ideas** with the flood-impacted Cherokee County Engineer (former DOT employee and knowledgeable about our 511 system) and then with Castle Rock for a solution

Challenges: County Rd data source and quality

- The counties already had a [511 website](#), but not all counties were entering closures and the data hadn't been used like this before - with so many eyes on it.
- Inconsistencies with how the data is entered, which made filtering the data difficult.
 - Example: some were entering restrictions (e.g. weight, width) as an "other" type of event, and not an "embargo". We were keeping "other" but filtering "embargo". This results in DOT 511 showing it as a closure, but it's not.
- Added a disclaimer to every event detail to reduce the number of emails I would get asking about county road projects or closures.
 - **Disclaimer:** This county road traffic event information is provided by the [ICEASB County 511 website](#) and Iowa DOT cannot guarantee the accuracy of this data. Please call the county contact listed below for questions about this closure.
- Included the County Contact phone number and a direct link to that event on the county website with more information.

REQUEST: Add County Rd Closures to DOT 511

- After talking with Iowa DOT about the previously mentioned challenges, the Castle Rock team got to work.....
- Built an importer that would easily tie into the existing Iowa County Engineers Service Bureau data feed. This couldn't have happened so quickly without that already in place.
- **First iteration in staging environment in less than 24 hours! Launch to website in 6 days!**
- After coordinating with the County Engineers Service Bureau, minor tweaks were needed.



Added County Road Closures to 511

IOWA DOT 511 IOWA STATE PATROL

Search Iowa 511 website (e.g. cameras on I-80)

What Are You Looking For?

Incidents Construction Cameras **Incidents & County Closures** My 511

I-29 I-35 I-74 I-80 I-235 More

Critical Information

US 61 Business in both directions: Road blocked.
Updated Today at 8:44 AM CDT by [Iowa DOT](#)
in Davenport

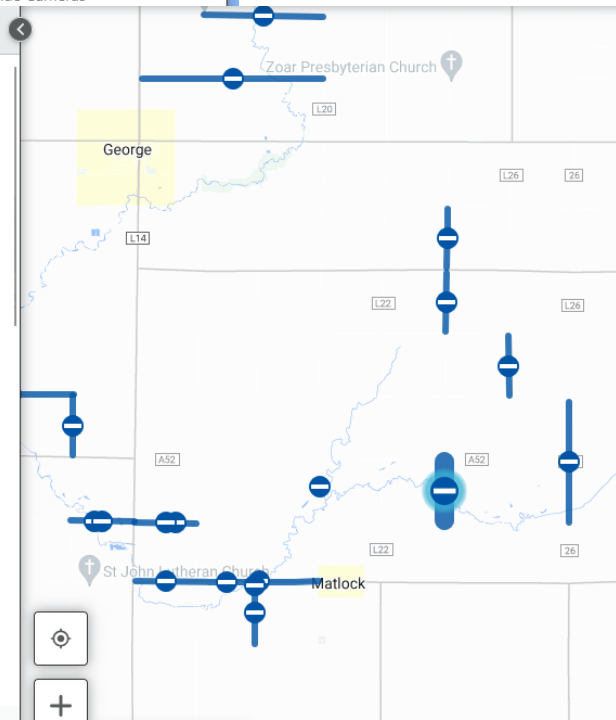
Log Ave: Road Closed

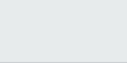

Road closed due to flood

Disclaimer: This county road traffic event information is provided by the [ICEASB County 511 website](#) and Iowa DOT cannot guarantee the accuracy of this data. Please call the county contact listed below for questions about this closure. See the [ICEASB website](#) for participating counties.

Event Type:	Weather - Closed
Start Date:	6/21/2024, 12:00:00 AM
County:	Lyon County
County Contact:	712-472-8230
Event Details:	https://www.iceasb.org/roads/county/lyon/66579

Added County Closures to web July 2 and app July 9, 2024



 Your 511
 List View
 Help

Statewide

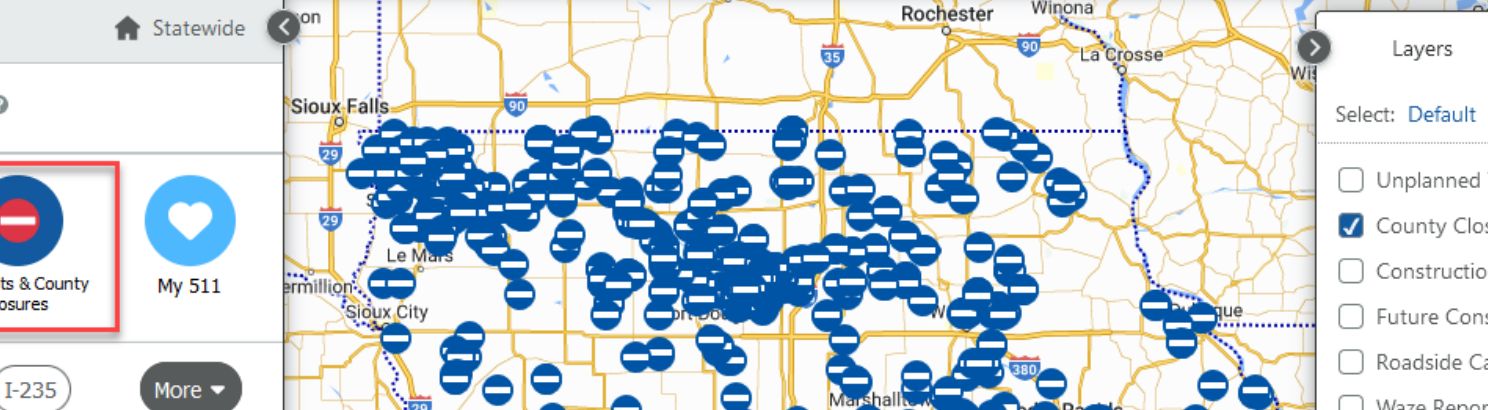
What Are You Looking For?

Incidents
 Construction
 Cameras
 Incidents & County Closures
 My 511

I-29
I-35
I-74
I-80
I-235
More

Critical Information

- US 61 Business in both directions: Road blocked.
Updated Today at 8:44 AM CDT by Iowa DOT
 in Davenport
- Big Sioux River Rd: Road blocked.
Updated Today at 8:46 AM CDT by Iowa DOT
 at South Dakota State Line in Akron
- US 67 in both directions: Road blocked.
Updated Today at 8:44 AM CDT by Iowa DOT
 in Davenport



Layers

Select: Default / None

- ☐ Unplanned Traffic Events
- ☒ County Closures
- ☐ Construction
- ☐ Future Construction
- ☐ Roadside Cameras
- ☐ Waze Reports
- ☐ Traffic Speeds
- ☐ Message Signs
- ☐ Post-Access...
- ☐ Commercial Vehicles

[Set Default Map View](#)

Map Satellite

← Clear Details

Statewide

Log Ave: Road Closed

Road closed due to flood

Disclaimer: This county road traffic event information is provided by the [ICEASB County 511 website](#) and Iowa DOT cannot guarantee the accuracy of this data. Please call the county contact listed below for questions about this closure.

Event Type:

Weather - Closed

Start Date:

6/21/2024, 12:00:00 AM

County:

Lyon County

County Contact:

712-472-8230

Event Details:

<https://www.iceasb.org/roads/county/lyon/66579>

George

Matlock

St John Lutheran Church

Zoar Presbyterian Church

L14

L20

L22

L26

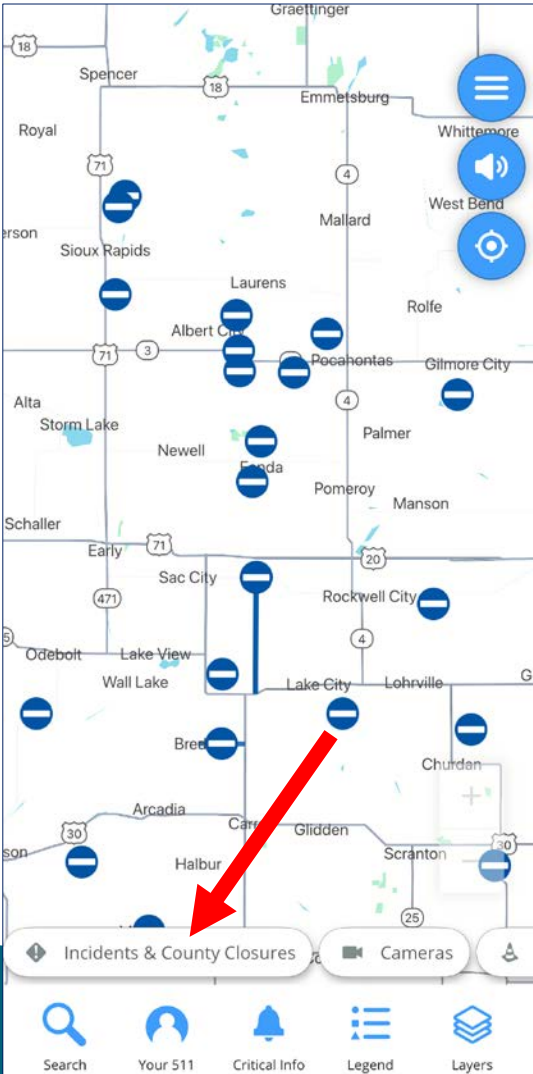
A52

26

Turning the Tide: Iowa DOT's 511 County Road Integration During the 2024 Flooding Disaster

20

Mobile App



260th St: Closed Due to Bridge Damage

Google

L1038 (NBIS 145031) Bridge in 1300 Block of County Highway A43 (260th St)

Disclaimer: This county road traffic event information is provided by the [ICEASB County 511 website](#) and Iowa DOT cannot guarantee the accuracy of this data. Please call the county contact listed below for questions about this closure.

Event Type	Weather - Closure Point
Start Date	6/21/2024, 12:00:00 AM
County	Dickinson County
County Contact	712-336-2944
Event Details	https://www.iceasb.org/roads/co...

Lake Park

Layers

Layer select

Default / None

Commercial Vehicles

Traffic Alerts

☐

Unplanned Traffic Events

☐

Waze Reports

☐

Traffic Speeds

☐

Unverified Google Closures

Construction & Planned Closures

☐

Construction

☐

Future Construction

☒

County Closures

Cameras & Signs

☐

Roadside Cameras

☐

Message Signs (in use)

☐

Message Signs (blank)

Winter Driving

Alta

Inciden

Search

New County Layer Usage – Number of Clicks

July 2-15

Web Layer

4,052

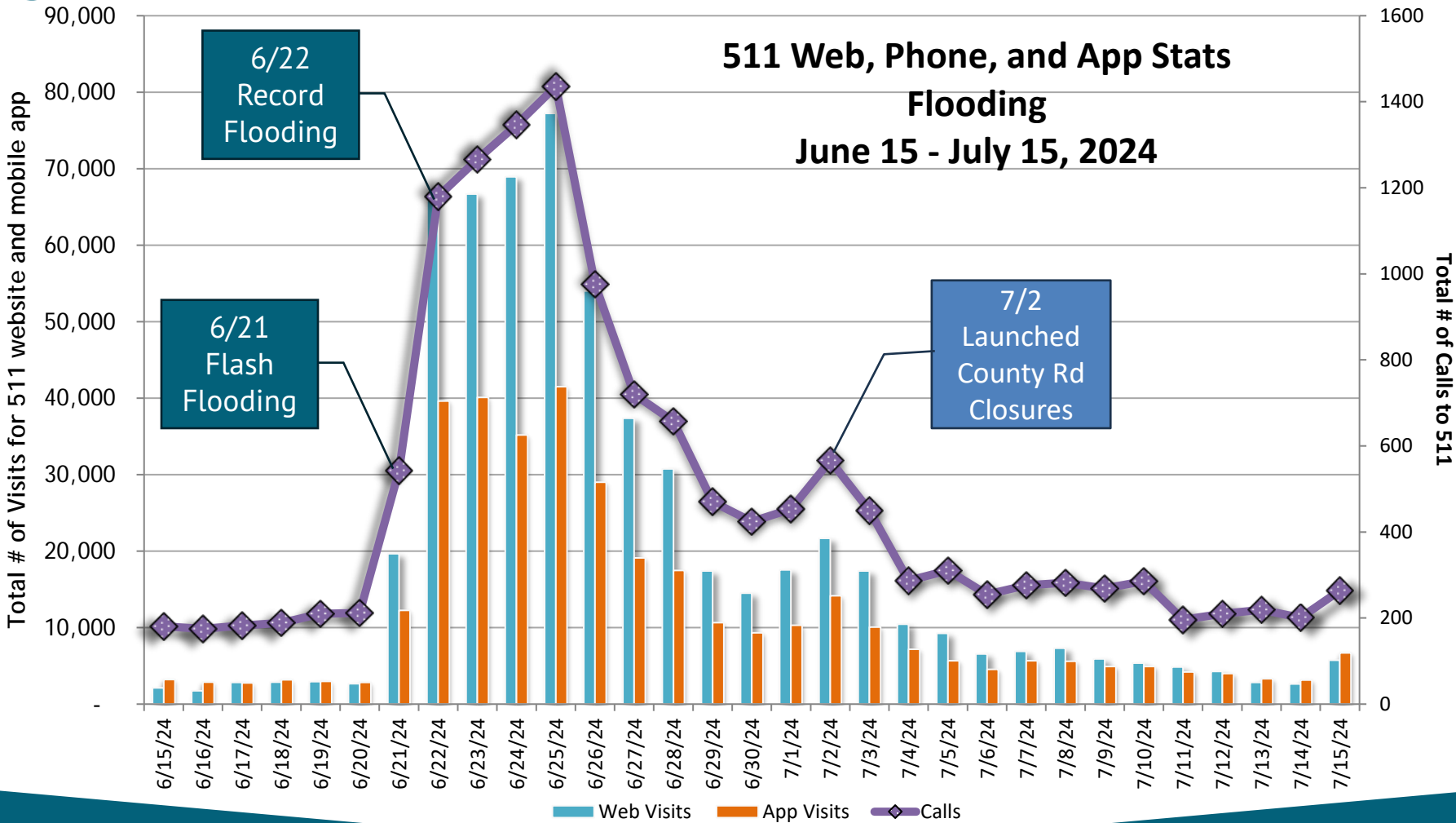
Quick Button

6,326

County Closure
Map Icons

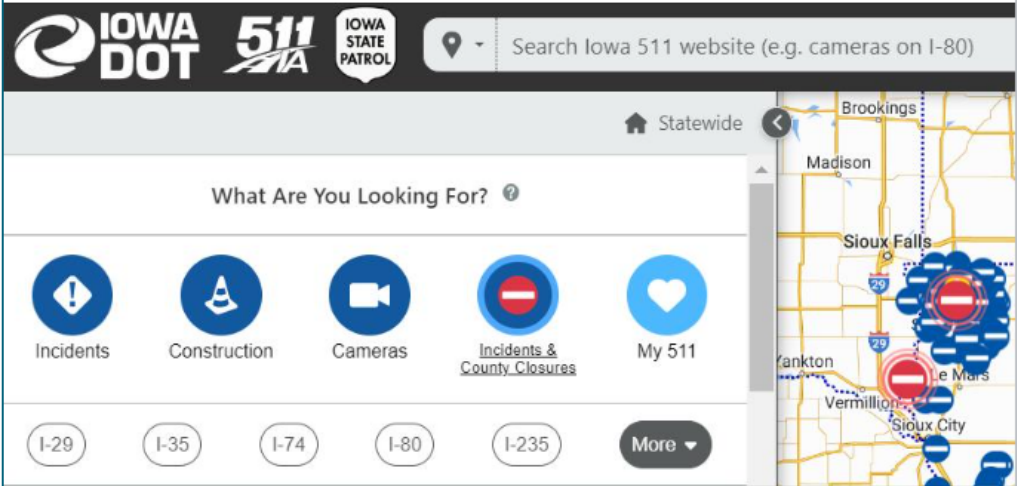
11,880

Usage spikes on 511



Social Media Posts

We heard you and we did it. During large-scale disasters you can view county road closures on 511ia.org. Turn the county closures layer on or click the quick button for incidents & county closures. The 511 app will update sometime next week. <https://shorturl.at/JQm6p>



Boost this post to reach up to 2257 more people if you spend \$21.

Boost post

134

2 comments 30 shares

Love

Comment

Share

Most relevant



Becky Kirchert DeVries

So Iowa proud of this accomplishment! Kudos to those making it happen for large scale disasters.

4d Like Reply



Molly Buettner Petersen

Thanks you!

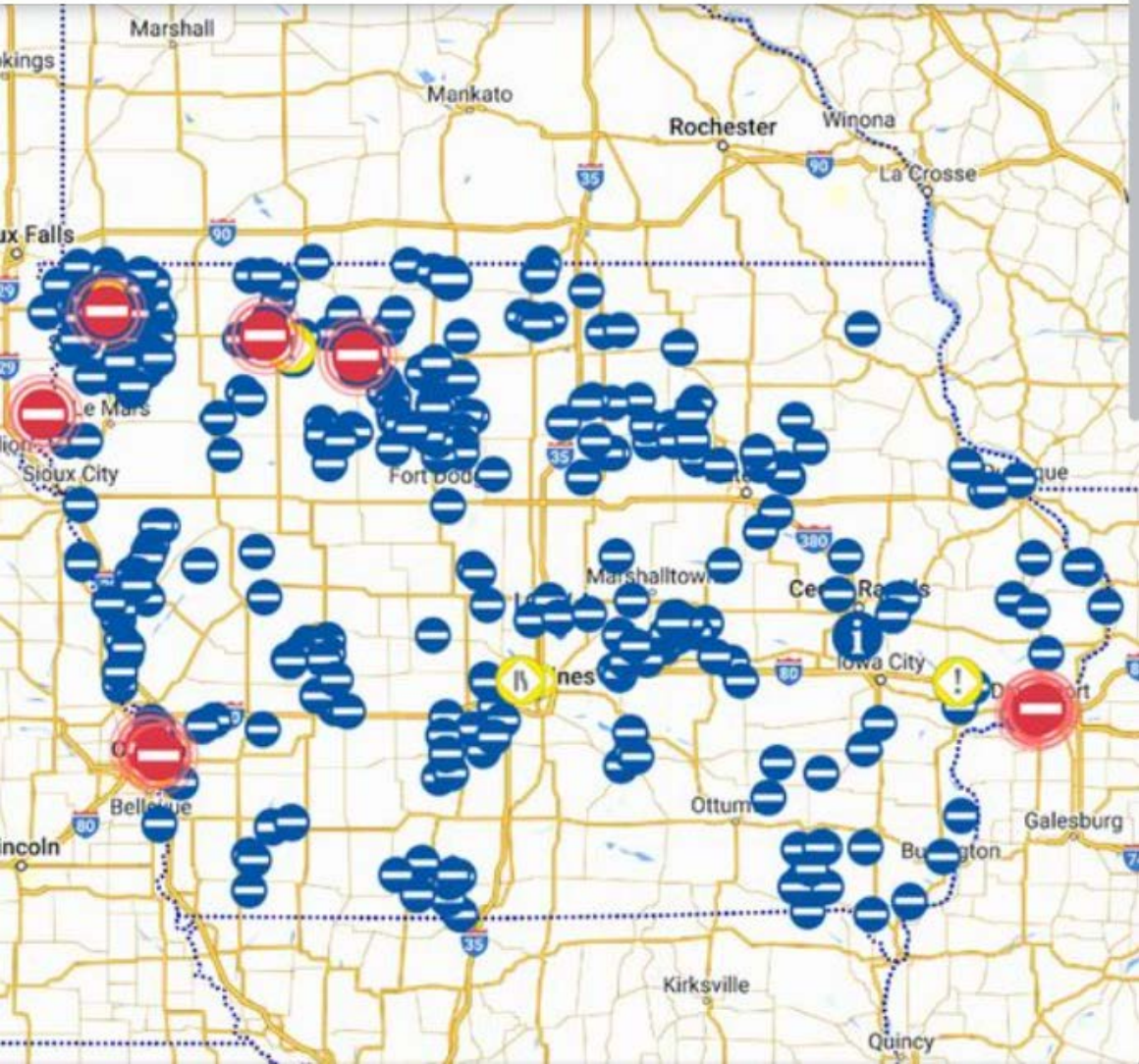
5d Like Reply



Iowa Department of Transportation

5 days ago

Thank you for your patience, we're happy to say county road closures during large-scale disasters are on 511ia.org. There is a county closures layer, or click the quick button to view incidents & county closures. The mobile app will update sometime next week.



Feedback about County Closures



Becky Kirchert DeVries
So Iowa proud of this accomplishment! Kudos to those making it happen for large scale disasters.

4d Like Reply



Molly Buettner Petersen
Thanks you! ...

5d Like Reply



Tim Modlin
That was fast!! Great work! ...

6d Like Reply 5 



Carolyn Johnson
Great update! ...


6d Like Reply 



Grant Parman
This is an excellent feature. Please make it permanent. In my humble opinion, since your reason for including this is due to large-scale disasters across the state, this feature should just stay indefinitely because these natural disasters will keep happening more and more frequently with climate change in full swing.

6d Like Reply 5  



Shirley Andre  ...
Nicely done!!

6d Like Reply 



Janet Nisbet Sibenaller
Thank you for adding this layer. It will be very helpful! ...

6d Like Reply 2  



Jan Skouby
Great job keeping this updated! Unfortunately we routed around IA because of flooding.

6d Like Reply 



Eric Van Zee
What needs to happen is someone needs to update this list more then one time every 3-4 hours that's why not many people use it cause the information changes way to fast

6d Like Reply 



Justin Pritts
Excellent work! Thank you for doing it so incredibly fast! ...



Bob Van Zee
Thanks ...

6d Like Reply

Governor's Press Conference 7-11-24



Recently Added Detours

- Got feedback that people wanted to see detours for the closures
- Added March 2025
- Unintended benefit: helps DOT with plans during other disasters and construction to know the detour routes.

[Your 511](#)
[List View](#)
[Help](#)

[← Clear Details](#)

[Statewide](#)

Co Hwy N47: Bridge Closure

Bridge Closed for Replacement between 380th Street and 390th Street on Langley Avenue. Detour will be County Road N41 (Jennings Ave) to Hwy 175 (360th St)

Disclaimer: This county road traffic event information is provided by the [ICEASB County 511 website](#) and Iowa DOT cannot guarantee the accuracy of this data. Please call the county contact listed below for questions about this closure.

Event Type:	Construction - Closed
Start Date:	4/7/2025, 12:00:00 PM
End Date:	8/1/2025, 5:30:00 PM

Layers

Select: [Default](#) / [None](#)

Traffic Alerts

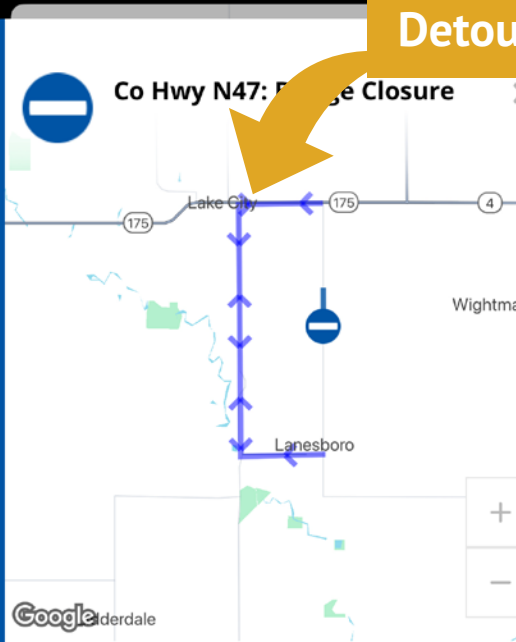
- ☐ Unplanned Traffic Events
- ☐ Waze Reports
- ☐ Traffic Speeds
- ☐ Unverified Google Closures

Construction & Planned Closures

- ☐ Construction
- ☐ Future Construction
- ☒ County Closures

☐ Commercial Vehicles

[Set Default Map View](#)



Detour

Co Hwy N47: Bridge Closure

Lake City

175

4

Wightman

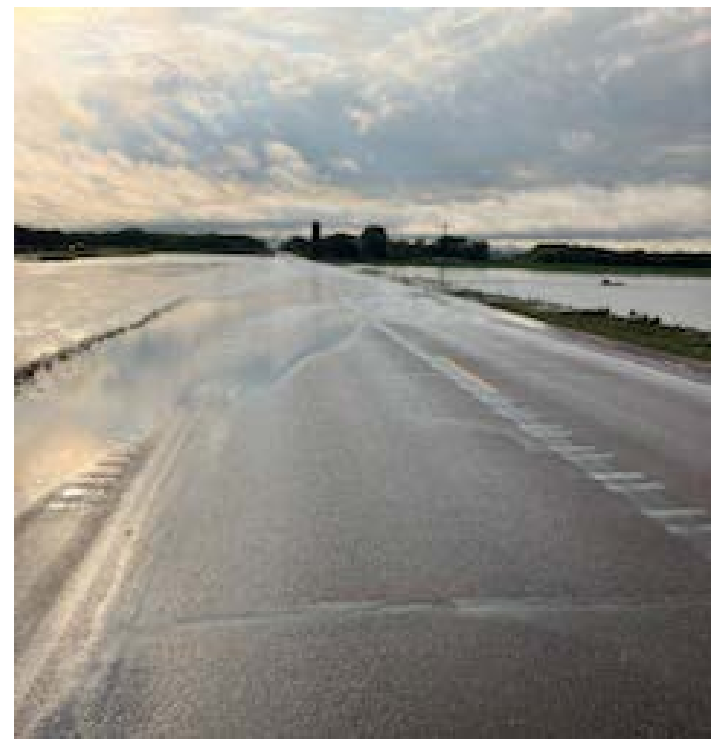
Lanesboro

Google

Bridge Closed for Replacement between 380th Street and 390th Street on Langley Avenue. Detour will be County Road N41 (Jennings Ave) to Hwy 175 (360th St)

Disclaimer: This county road traffic event information is provided by the [ICEASB County 511 website](#) and Iowa DOT cannot guarantee the accuracy of this data. Please call the county contact listed below for questions about this closure.

Mobile App





Summary

- Flood recovery is still underway in Northwest Iowa. Just let final plans for permanent revetment.
- 20+ roads on the Primary Highway System were closed due to the flooding.
- \$550 million spent on disaster recovery in Iowa as of August 2024.

S. Sinclair Stolle, PE

515-239-1933

Sinclair.Stolle@iowadot.gov

vCard



Rachel Williams

619-518-2958

rachel.williams@castlerockits.com

