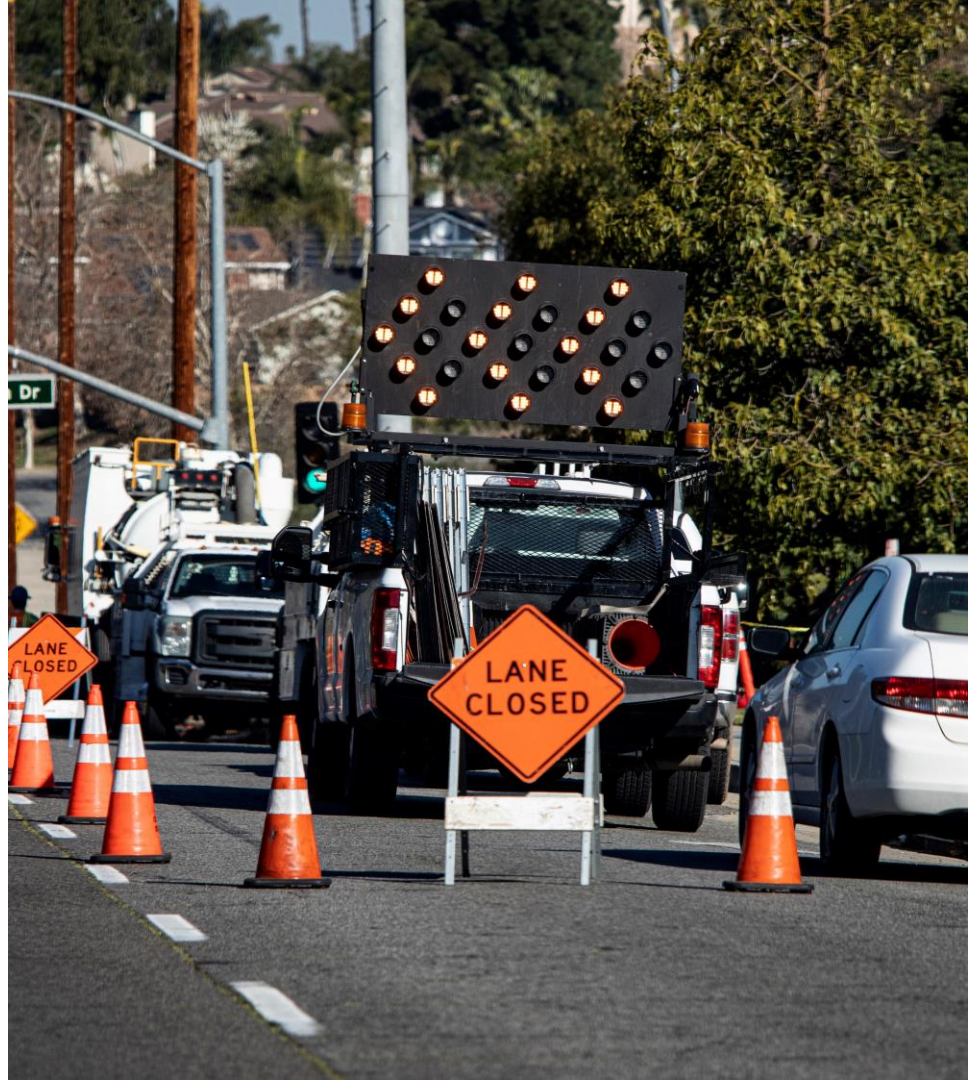




Turning the tide on work zone crashes, injuries and fatalities

Enhancing safety and efficiency by connecting all right of way disruptions to road users

TN HOSC | November 13th, 2023



Trusted by over 200 road agencies around the world

Our platform is market-proven by over 200 road agencies across the UK and US, enabling our data partners, including Google Maps, Waze, Drivewyze, Apple Maps and TomTom to auto-trust our direct integrations.



Improving safety



Influencing drivers



Increasing collaboration

Digitizing the right of way is a lynch pin for:

Design, Construction and Maintenance of our right of way

Communicating with our growing eco-system of Connected Vehicles..

Alerting drivers of hazards in advance means they can make better-informed decisions about speed and route

An absolute for Automated Vehicles

Digitizing data for collaboration and communication

The Challenge – Data can be separated creating roadblocks



Planned Data

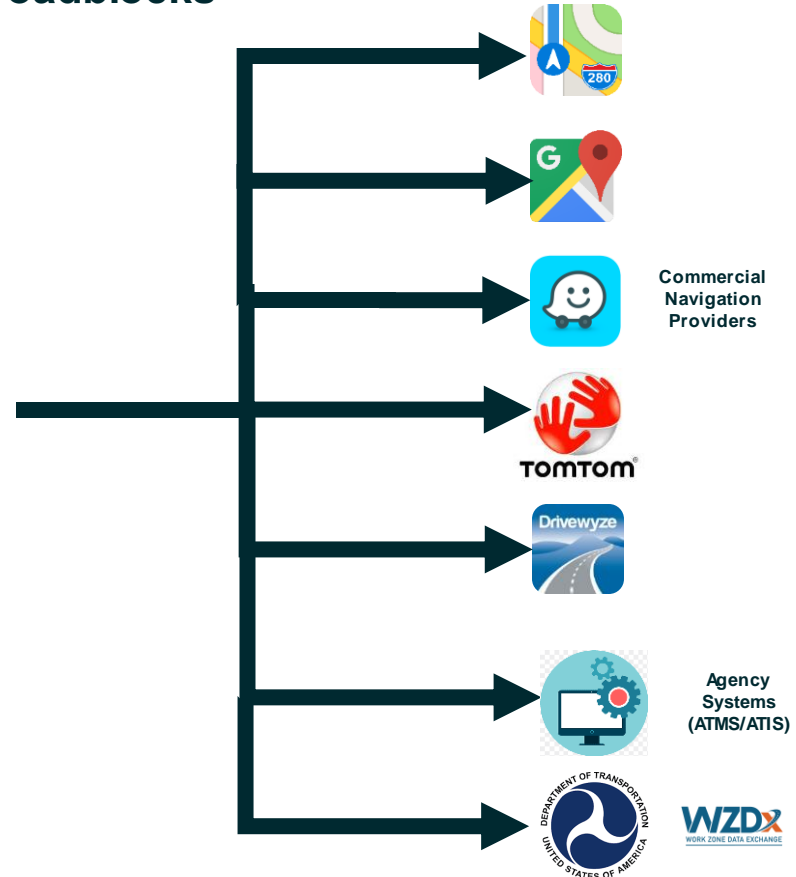
- Closure Types
 - CIP
 - Utilities Permits
 - Maintenance
 - Other Permits
- Special Event Data
 - Sporting Events
 - Civic/Cultural Events

Real Time Data (If Collected)

- Live work zone data
- Live Incident/Emergency Data
- Live Special Event Data

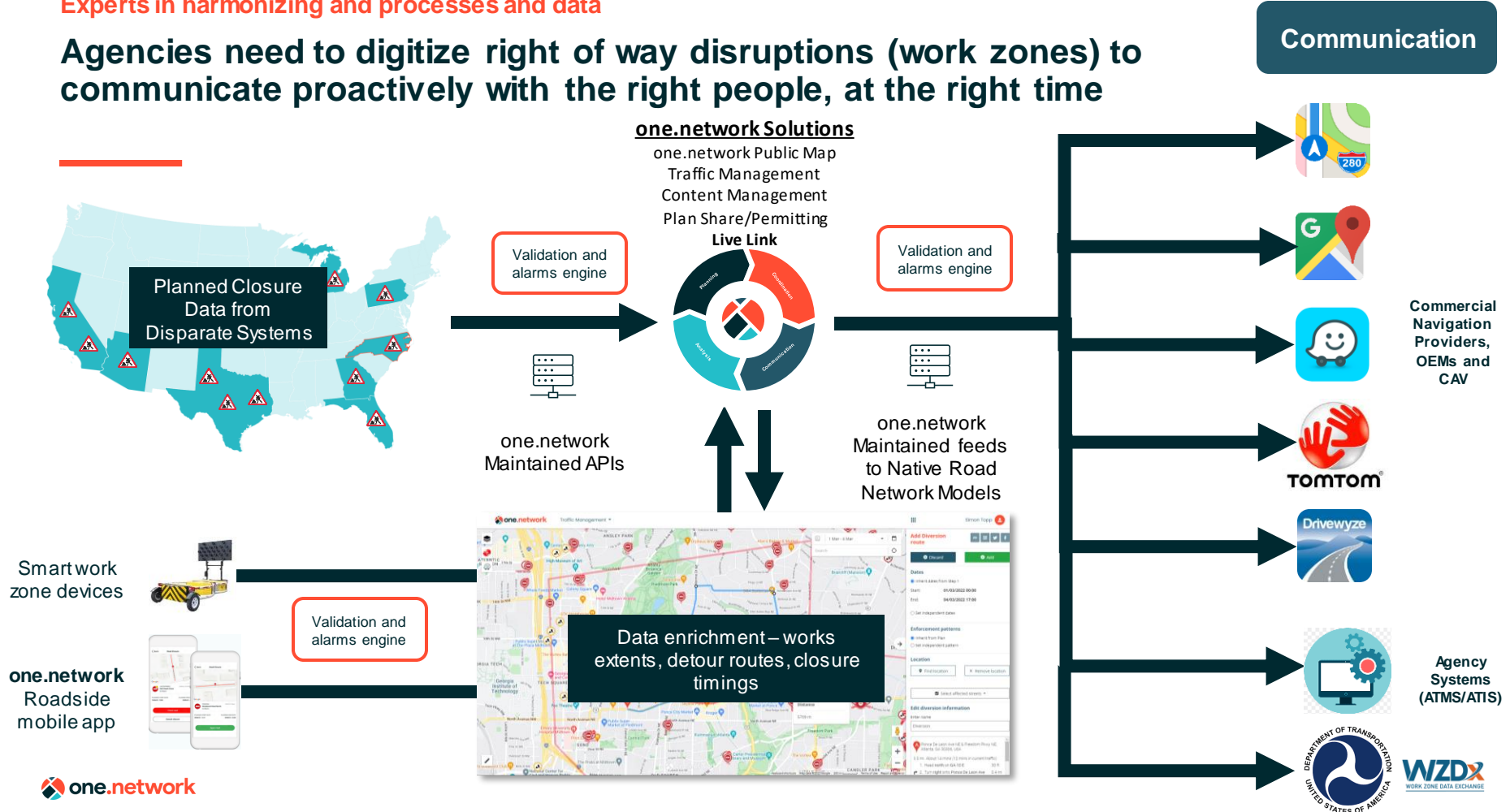


Communication



Experts in harmonizing and processes and data

Agencies need to digitize right of way disruptions (work zones) to communicate proactively with the right people, at the right time



Trailer danger

Tractor Trailers are involved in as many as 30% of all fatal crashes in work zones.

- Nationally Commercial Vehicles are 3 times more likely as passenger vehicles to be involved in a fatal work zone crash.
- The state has approved a multi-decade infrastructure plan which includes work zone safety.
- These plans embrace the use of targeted technology solutions.
- one.network and Drivewyze announced a partnership to bring dynamic work zone alerts into Commercial Vehicles in Real-Time from the one.network platform.



Partnering to make a difference

How do we work with Drivewyze?

Smart Work Zones Alerts

Work Zone Alerts help to protect highway construction crews and onsite enforcement by providing timely in-cab alerts to approaching truck drivers.

Increasing truck driver's situational awareness through real-time alerts can reduce the risk of collision by up to 90%.



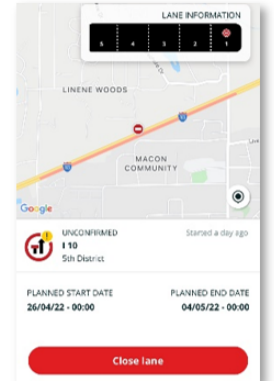
Smart Roadways Hub

Provides the ability to manage alert locations in real time. Provides platform access to create new safety zones, manage alerts, and view the impact of existing safety alerts.



one.network Live Link

Expand comprehensiveness of work zone data by sending real-time updates through the iPhone or Android Live Link mobile app or desktop, browser software. With the inclusion of Live Link, are provided a real-time feed with direct integration into navigation systems, including Drivewyze Smart Roadways.



Improving Safety with the Florida Department of Transportation (FDOT)

Like many agencies, FDOT has grappled with unacceptably high work zone crashes, fatalities and injuries over the past five years

53,000

work zone-related
crashes

356

fatalities

1,904

severe injuries

2017-2021 data



WORK ZONE SAFETY
It's Everyone's Job

21% of fatal work zone crashes
involved rear-end collisions.

LEAVE EXTRA SPACE
BETWEEN VEHICLES

†2018 NHTSA Data - ops.fhwa.dot.gov/wz/outreach/nwzaw_factsheet_2020/index.htm

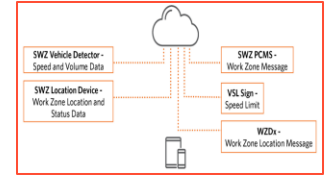
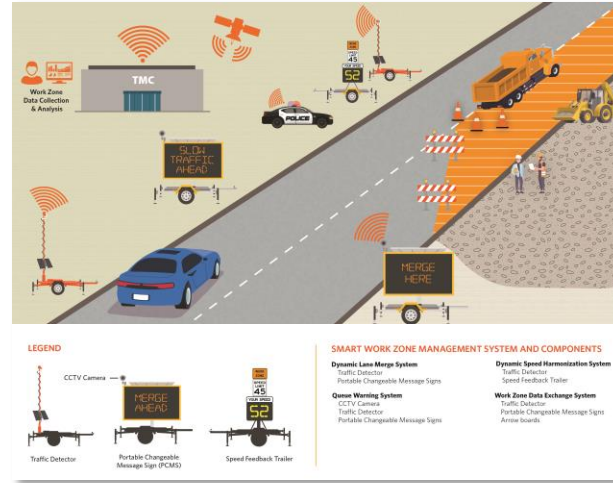
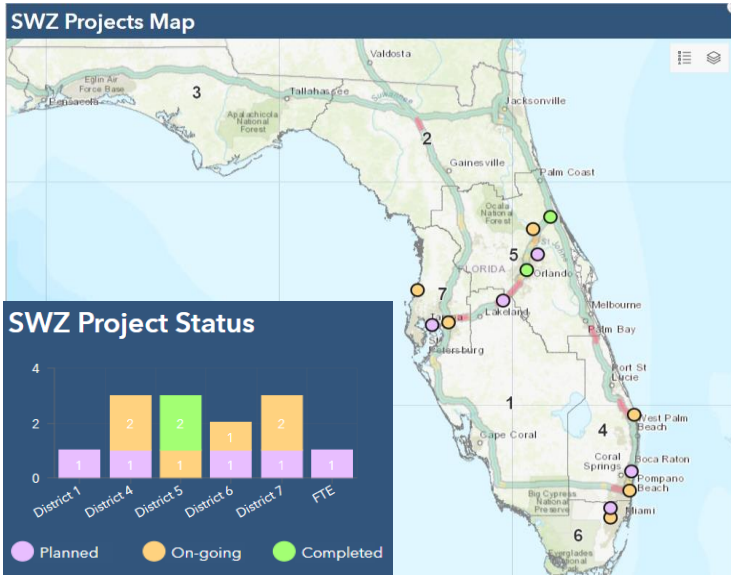
FDOT
SAFER
ZERO
ROADWAY DEATHS & INJURIES

The graphic features a yellow banner at the top with the title 'WORK ZONE SAFETY It's Everyone's Job'. Below this, a statistic states '21% of fatal work zone crashes involved rear-end collisions.' An illustration shows a white semi-truck and a red sedan on a road with a 'ROAD WORK AHEAD' sign and a traffic cone. A red double-headed arrow between the vehicles emphasizes the need for extra space. The text 'LEAVE EXTRA SPACE BETWEEN VEHICLES' is written in red and black below the vehicles. At the bottom right is the FDOT logo with the slogan 'SAFER ZERO ROADWAY DEATHS & INJURIES'. A small footnote at the bottom left provides the source of the data.

Improving Safety at Your Doorstep – 50 Miles from here with FDOT statewide

Smart Work Zone Projects: responding to safety challenges

- FDOT is mainstreaming SWZ processes
- Leveraging TSM&O including traveler information messaging



Portable VSL Sign with Electronic Speed Feedback Sign (ESFS)



SWZ Arrow Board



SWZ Vehicle Detector



SWZ Location Devices

Improving Safety with FDOT statewide

Lane Closure Notification System

Purpose: Provide lane closure information to motorists via navigation applications



Improved Safety



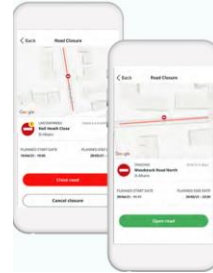
Reduced Congestion



Improved Journey Time Reliability



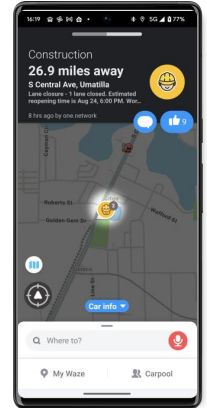
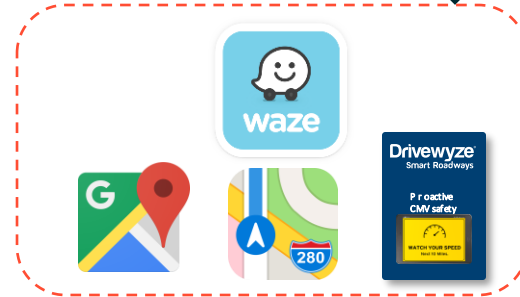
Improved Reputation



Roadside mobile app



Smart work zone device



Statewide roll-out

Building the approach in partnership with FDOT & FTBA

Construction info
collected via mobile app
directly



Information transmitted to
GPS services, trucking
applications, and OEMs

*“With great power comes
great responsibility”*

*Data partners trust and push out the
information in near real-time*

Digitizing the work zone is the foundation



Who



What - Essential



When - Essential



Where - Essential



Why

The image displays the one.network mobile application interface, which is used for digitizing work zones. The central element is a map of Tallahassee, Florida, with a red line indicating a work zone on I10. The interface is divided into several sections:

- Submit New Plan:** A form for creating a new plan. It includes fields for Plan ID (1977845), Name (I10 Lane Closure, Tallahassee), and Status (Unpublished). It has buttons for Home, Save, and Confirm. Below the form are sections for Documents (763: Maintenance of Tra...), Email Alerts (Public Transit Stakeholders, Operators - Stop Suspension), Publish to one.network (Immediately, Custom, 10 days before start date), Plan Submission (763: Maintenance of Tra..., TBARTA), and Comments.
- Plan Approval:** A screen showing the approval status of the plan. It includes buttons for Home, Accept, and Reject. It shows the plan name, ID, and status (Published). It has sections for Documents (763: Maintenance of Tra...), Email Alerts (Operators - Stop Suspension), Publish to one.network (This plan is published), User Assignment (This plan is not assigned to a specific user in this organization), and Plan Submission (763: Maintenance of Tra...).
- one.network Chat:** A chat window showing a conversation between a user and the system. The messages are: "Is it possible to agree on an early start on these works?" (Today 09:05 | Submitting Team), "No sorry, we have resurfacing works planned on the detour" (Today 09:07 | Approval Team), and "Is it possible for us to sign a different detour?" (Today 09:12 | Submitting Team). There is a "Send" button and a "Type message..." input field.

Introducing one.network

Our Live Link technology perfectly serves FDOT's desire for an intuitive solution that actually works

- Allows roadside workers to easily communicate information about closures directly out to drivers
- No new app download required for drivers → the alerts are transmitted through their favorite navigation app services
- Alerting drivers of hazards in advance means they can make better-informed decisions about speed and route



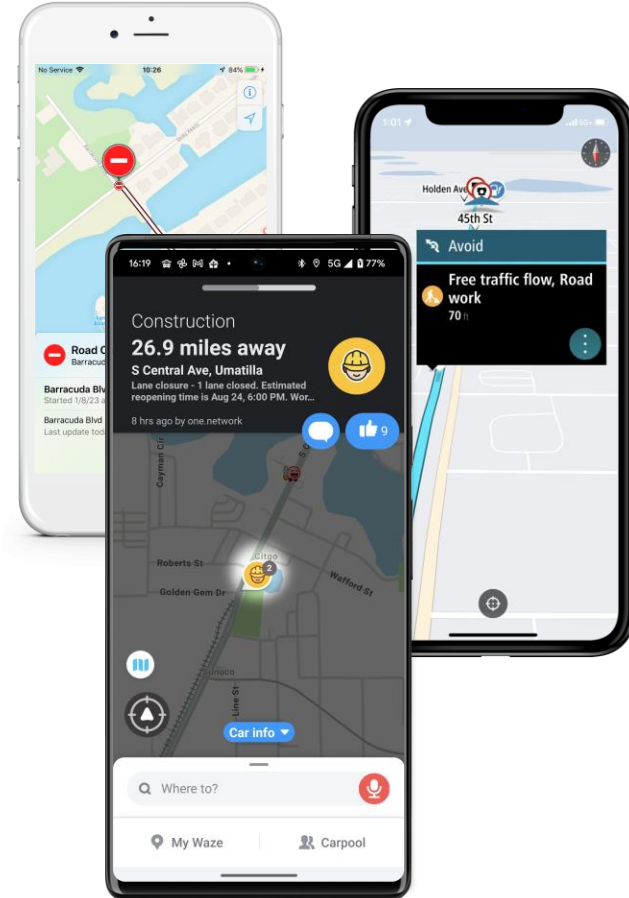
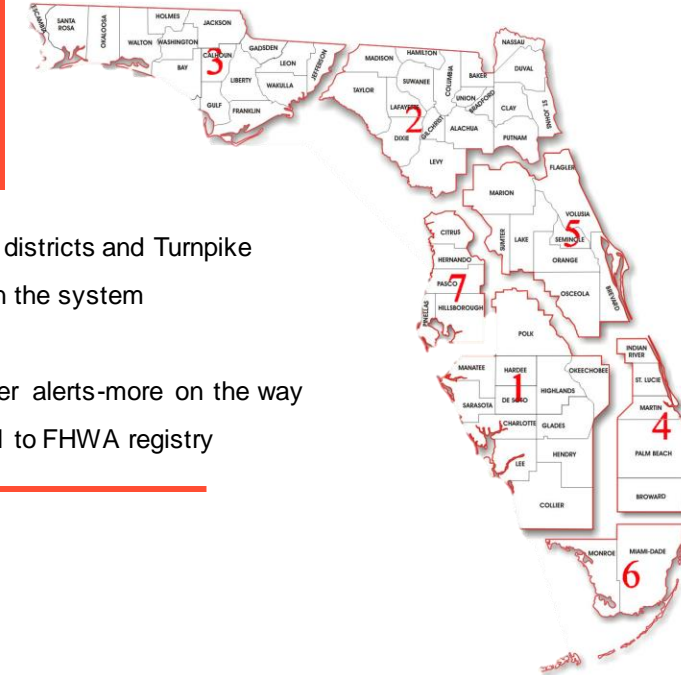
Successes

Partnering to make change happen

24,000

Closures Entered

- Statewide participation with all districts and Turnpike
- Over 2,000 registered users on the system
- 300-400 active users per week
- 7 Data partners publishing driver alerts-more on the way
- WZDx feed successfully added to FHWA registry



Lessons learned – 2 Core Challenges

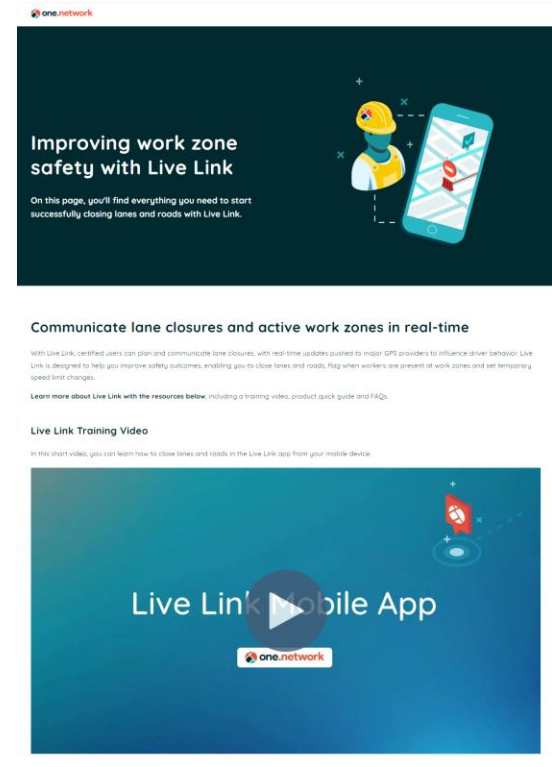
1. Initial adoption and compliance by contractors and inspection staff

Likely due to:

- Unfamiliarity
- Misunderstanding roles and responsibility

Resolution:

- Briefly required CEI staff to independently log closures
- Efforts to empower work zone personnel to take an active role in efforts to improve worker safety



The image shows a screenshot of a webpage for the Live Link mobile app. At the top left is the 'one.network' logo. The main heading is 'Improving work zone safety with Live Link'. Below this is a sub-heading: 'On this page, you'll find everything you need to start successfully closing lanes and roads with Live Link.' To the right of the text is an illustration of a construction worker in a yellow hard hat and safety vest next to a smartphone displaying a map with a red location pin. Below the main heading is a section titled 'Communicate lane closures and active work zones in real-time'. This section contains a paragraph of text: 'With Live Link, certified users can plan and communicate lane closures, with real-time updates pushed to major GPS providers to influence driver behavior. Live Link is designed to help you improve safety outcomes, enabling you to close lanes and roads, flag when workers are present at work zones and set temporary speed limit changes.' Below this paragraph is a link: 'Learn more about Live Link with the resources below, including a training video, product quick guide and FAQ.' Underneath is a section titled 'Live Link Training Video' with a sub-heading: 'In this short video, you can learn how to close lanes and roads in the Live Link app from your mobile device.' At the bottom of the page is a large blue banner with the text 'Live Link Mobile App' and a play button icon. The 'one.network' logo is also present in the bottom right corner of the banner.

Lessons learned – 2 Core Challenges

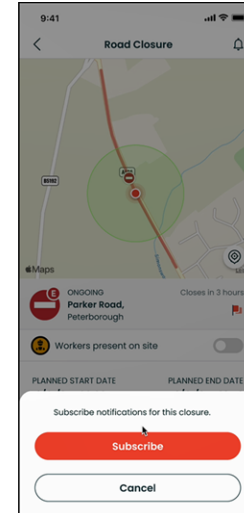
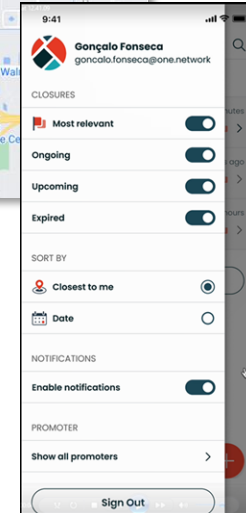
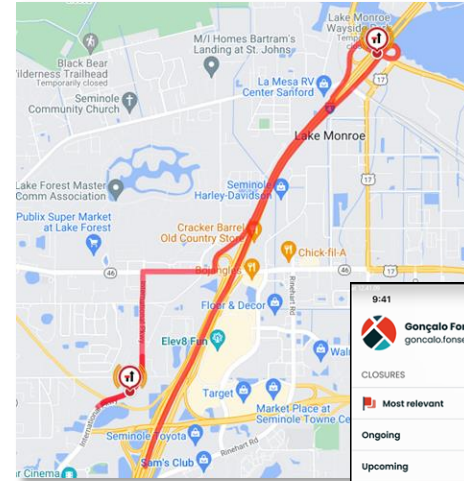
2. Geospatial data quality of closures

Quality features:

- Lane closure geometry
- Time of closure and unconfirmed reopening
- Closed/open lane status

Resolution:

- Provide push notifications for closure start/end
 - Feature to 'subscribe' to closures
- Added mechanism to validate closure geometries
- Pilot 'Plan Share' feature
 - Allows pre-entry and approval of closures
 - Provide project specific reporting



Looking Ahead

Launching new tools to enhance planning & coordination

1 Digitize closures in advance allowing reminders and reporting



2 Improve closure accuracy



3 Influence driver behavior via data partners to increase safety

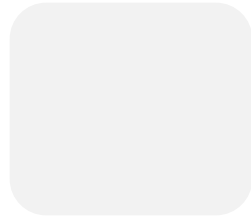


Improving data quality

Overview of current vs new processes being implemented

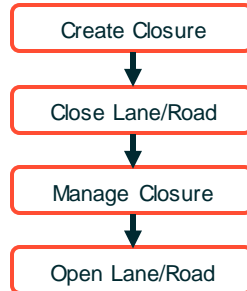
June 2022 - Present

Closures created at the roadside, providing safety notifications to drivers in real-time



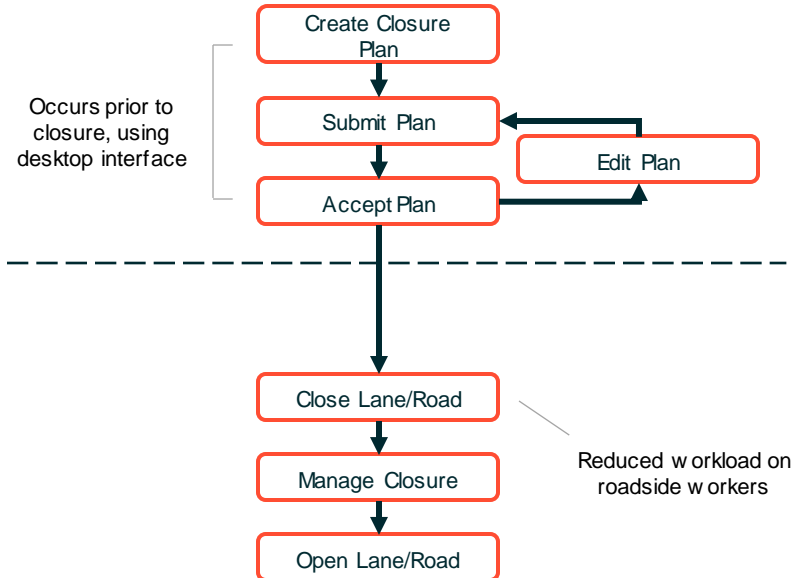
Office

Roadside



Launching November 2023

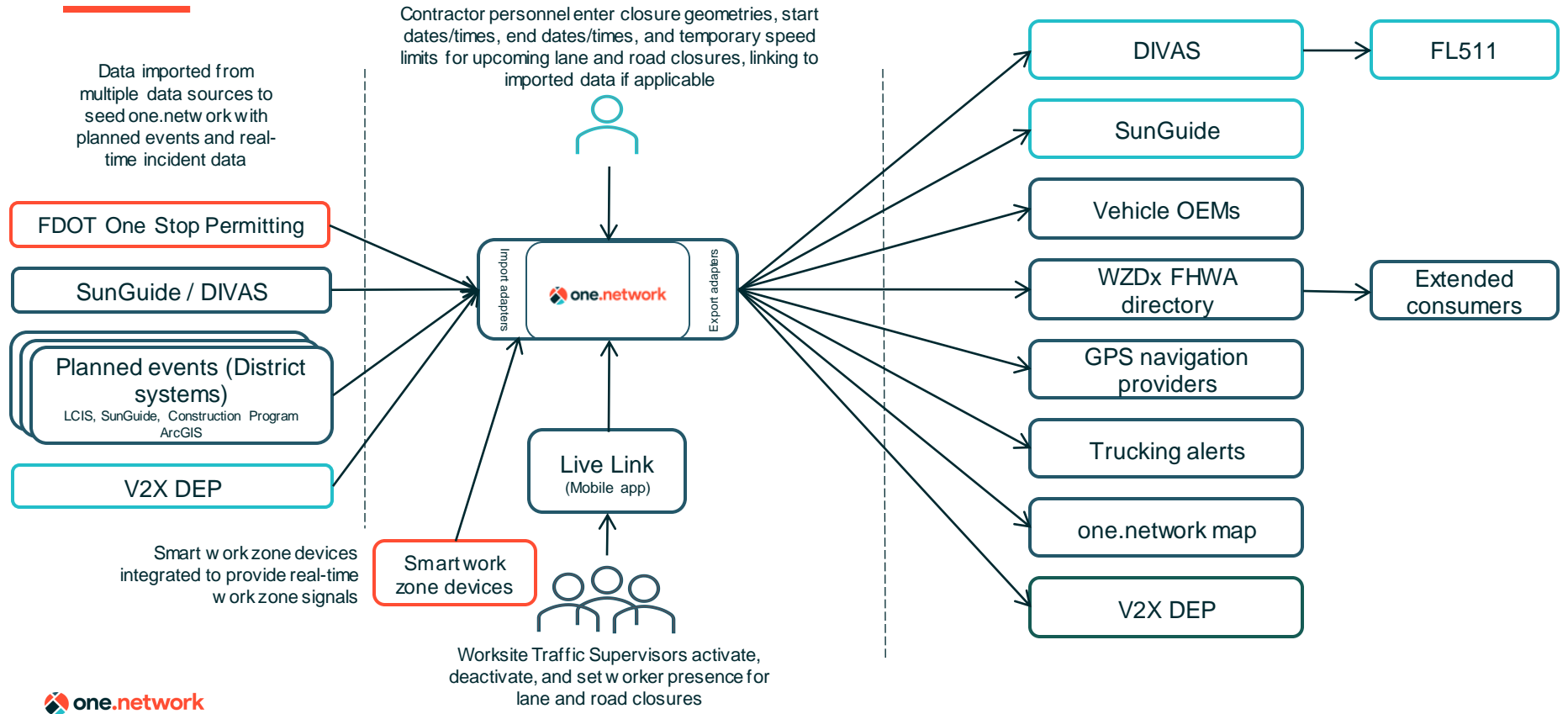
Proactive approach to entering, reviewing and accepting road / lane closures improving data accuracy and safety



FDOT <-> one.network Dataflow Diagram

one.network hosts data feeds which consumers (right) pull data from. WZDx format provided by default, and bespoke formats for key navigation partners as required

- Live
- In Progress
- Future



Prepared for Regional Collaboration



CENTRAL
FLORIDA
EXPRESSWAY
AUTHORITY



TAMPA HILLSBOROUGH
EXPRESSWAY
AUTHORITY

- Tampa Hillsborough Expressway Authority & Central Florida Expressway launching now using the same tools and similar processes
- Agencies will see each other's planned and live closures optimizing planning and coordination
- Easy for contractors working with these agencies – just one process to learn and follow
- Additional agencies in the Tampa region planning for deployment

Digitizing the right of way

- Overcome siloed systems and data
- Streamline workflows and processes
- Put your data to work, with WZDx feeds and direct navigation app integrations
- Increase work zone awareness for drivers and promote safety for workers and drivers.
- Enable smarter journeys

1

Solve your work zone and road event data challenges



2

Simplify your workflows to boost efficiency



3

Influence driver behaviour via direct integrations with Waze, Google, TomTom & Drivyze





Thank you!

Questions?

Ken Selvig

ken.selvig@one.network

London, UK | Delaware, US | Lisbon, Portugal