



# Digital Traffic Control Diary

## Complete Training Manual

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Version 1.1.1

**PurposeBuilt Systems**

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# Getting Started

## First Launch

When you first open the app, you will see:

- **Terms of Service** — Read and accept the EULA to proceed.
- **Onboarding Tutorial** — A guided walkthrough of key features. You can skip this and return to it later from Settings.
- **Subscription** — Choose your plan or start with the free tier.

## Home Screen

The home screen is your main dashboard. It shows:

- **Active Closure Card** — If you have an active closure, it appears at the top with a countdown timer, project name, road name, and quick action buttons.
- **Project List** — All your projects with active and total closure counts. Tap a project to see its closures.
- **Toolbar Buttons** (top right):
  - **+ New Entry** — Create a new closure
  - **Road icon** — Start a mobile work session
  - **Message icon** — View messages (badge shows unread count)
  - **Shield icon** — View certifications (green = valid, orange = needs attention)
  - **Document icon** — PDF library
  - **Gear icon** — Organization settings

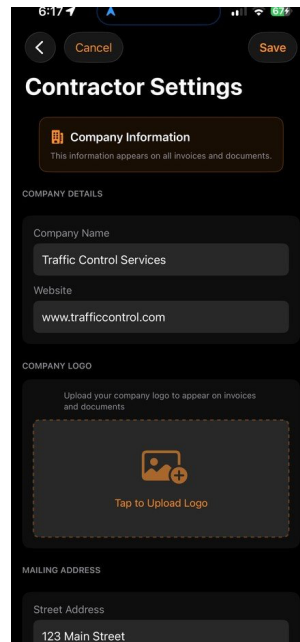


Figure 1.1 — Organization Settings

## Creating a New Project

Tap the + icon in the project list area. Enter a project name and tap Create. Projects are containers for closures — you might create one per job site, contract, or permit.

### TIP

Use a consistent naming convention for projects — for example, contract number + road name. This makes it easier to search and generate reports later.



# Creating a Closure

Tap **\*\*New Entry\*\*** from the home screen to start a new closure.

## Step 1: Required Photos

The app requires at minimum two photos:

- **Begin Sign Photo** — The first MUTCD sign at the start of your work zone (typically W20-1 "Road Work Ahead" or R11-2 "Road Closed")
- **End Sign Photo** — The sign at the end of your work zone (typically G20-2 "End Road Work")

For each photo, you have three capture options:

- **Lib** — Pick from your photo library
- **Cam** — Open the standard camera
- **Auto** — Open the auto-detect camera (recommended for drive-through capture)

## Step 2: Optional Photos

After required photos, you can capture additional documentation:

- **Taper Photo** — The taper/transition area
- **Sign Photo** — Any additional MUTCD signs
- **Additional Photos** — Equipment, setup, conditions

## Step 3: Closure Details

The app auto-fills many fields from your photos and GPS:

- **Project ID** — Select or enter your project name
- **Road Name** — Auto-detected from GPS or enter manually
- **Direction** — Northbound, Southbound, etc.
- **Work Type** — Road Work, Utility Work, Mowing, etc.
- **Closure Type** — Lane Work, Full Road Closure, Sidewalk Closure
- **Vehicle Impact** — Some Lanes Closed, All Lanes Closed, etc.
- **Reduced Speed Limit** — The posted speed through the work zone
- **End Time** — When the closure will end (default: 8 hours from now)

## Step 4: Personnel

Add flaggers and pilot cars with names and hours. These appear in your daily entries and PDF reports.



## Step 5: Save

Tap Save to create the closure. The app will:

- Save the closure locally
- Start a Live Activity on your lock screen
- Generate a PDF diary
- Publish to the public dashboard (if certified)
- Generate WZDx and V2X feeds for navigation platforms

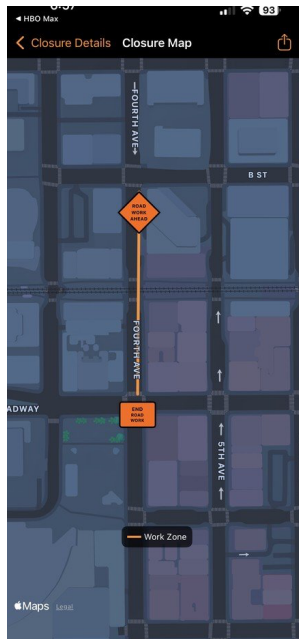


Figure 2.1 — Closure Map after saving



# Auto-Capture Sign Detection

Auto-capture is the fastest way to document a work zone. It uses your phone's camera and AI to detect MUTCD signs while you drive.



Figure 3.1 — Auto-Capture detecting a W20-3 sign at highway speed

## Starting Auto-Capture

1. From the closure creation screen, tap the green **Auto** button on any photo row.
2. The camera opens with auto-detection enabled.

## How It Works

- The camera analyzes video frames 5 times per second (3 fps at night)
- When it recognizes a MUTCD sign with high confidence, it automatically takes a photo
- The detected sign code (e.g., W20-1, G20-2) is saved with the photo
- After capture, a full-resolution analysis runs on the still image to confirm or improve the detection

## Signs It Recognizes

Code	Sign Name	Description
W20-1	Road Work Ahead	Orange diamond — begin sign



Code	Sign Name	Description
W20-3	Road Closed	Orange diamond
W20-5	Right Lane Closed	Orange diamond
W20-7a	Flagger Ahead	Orange diamond
W21-1	Workers	Orange diamond
W21-7	Utility Work Ahead	Orange diamond
G20-2	End Road Work	Green rectangle — end sign
R11-2	Road Closed	White rectangle — regulatory
R2-1	Speed Limit	White rectangle with number
M4-9	Detour	Orange rectangle
W4-1	Merge	Orange diamond
W9-1	Right Lane Ends	Yellow diamond

Plus many more from the W, R, G, and M series.

## Auto-Capture Behavior

- **Duplicate Prevention** — Won't capture the same sign type within 5 seconds
- **End Sign Auto-Stop** — When G20-2 (End Road Work) is detected, auto-capture stops automatically
- **Smart Routing** — Begin signs go to the begin slot, end signs to the end slot, others to additional
- **Priority Replacement** — If a proper begin sign is detected after the begin slot is already filled, it replaces the existing photo

## Night Mode

The camera automatically detects low-light conditions and adapts:

- Exposure boosted (+2 EV) for brighter frames
- Detection rate reduced to 3 fps (allows longer exposure per frame)
- Single consecutive detection required — reflective signs are high-contrast under headlights
- No flash/torch used — avoids windshield glare and oncoming traffic distraction

## Focus Lock

The camera locks autofocus to far distances so it won't hunt on the dashboard, windshield, or nearby objects. It still adjusts for signs at varying distances.

## Manual Override



You can toggle auto-detection off with the switch in the camera view and use the capture button manually. The flash toggle is also available for manual captures.

**BEST PRACTICE**

Drive through the work zone at normal approach speed with the Auto button active. Position your phone on the dash or windshield mount facing forward. The app will capture each sign as you pass it.



# Photo Management

## Photo Roles

Each photo has a role that determines where it appears in the closure:

- **Begin** — The first sign marking the start of the work zone
- **End** — The sign marking the end of the work zone
- **Taper** — The taper/transition area
- **Sign** — Additional MUTCD signs
- **Additional** — Any other documentation photos

## GPS Tagging

Every photo is automatically tagged with:

- GPS coordinates (latitude/longitude)
- Timestamp
- MUTCD code (if detected)
- Device orientation

## Photo Persistence

Photos are saved to persistent storage in the app group container. They survive app restarts and appear as thumbnails in the closure details view.

## Photo Upload

If your organization has photo access enabled, photos are uploaded to Firebase Storage and visible on the public dashboard.

### NOTE

Photos captured before version 1.1.1 may show as empty thumbnails due to a previous storage issue. This is fixed in the current version. Photos uploaded to the cloud will still load from Firebase.



# Closure Details and Fields

## Auto-Populated Fields

These fields are filled automatically based on your photos and GPS:

- **Road Name** — Detected from GPS reverse geocoding
- **State** — Detected from photo coordinates
- **Closure Type** — Inferred from detected signs (e.g., R11-2 = Full Road Closure, W9-6 = Sidewalk Closure)
- **Vehicle Impact** — Inferred from signs (e.g., W20-5 = Some Lanes Closed)
- **Work Type** — Inferred from signs (e.g., W21-7 = Utility Work)
- **Lane Configuration** — Inferred from lane closure signs
- **Worker Presence** — Inferred from W21-1 (Workers) signs

## Cross-App Integration Fields

If you arrived via a deep link from Digital ROW Utilities, these fields are pre-filled:

- **Permit Number** — Links to the utility permit
- **Contract Number** — Project contract reference
- **Utility Company** — The utility performing work
- **Utility Type** — Fiber, gas, water, electric, etc.

## Detour Routes

For full road closures, you can add a detour route:

3. The app suggests detour routes based on begin/end locations.
4. You can draw a custom route on the map.
5. Detour routes appear as blue dashed lines on the closure map.
6. Detour signs captured during auto-capture are tracked for route plotting.



# Managing Active Closures

## Active Closure Card

Your active closure appears at the top of the home screen showing:

- Countdown timer to end time
- Unread message count
- Quick action buttons

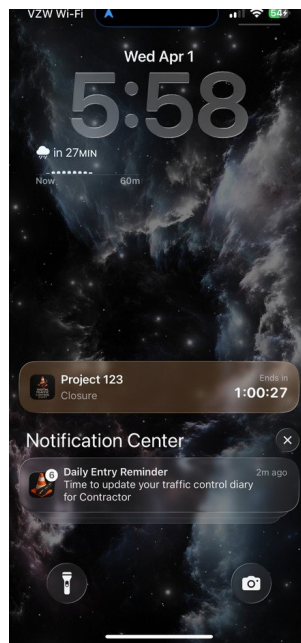


Figure 6.1 — Lock screen Live Activity with countdown timer

## Quick Actions

- **Daily** — Open the daily entry form
- **Map** — View the closure on a map with route polyline
- **PDF** — Preview the generated PDF diary
- **End** — End the closure early

## Extending a Closure

To extend the end time, tap the closure to edit it and change the end date/time.

## Ending a Closure

You can end a closure in three ways:



7. **Manual** — Tap the End button on the active closure card
8. **Auto-End** — The closure ends automatically when the end time passes
9. **Notification** — When the 30-minute warning fires, tap "End Now" or "Extend 30 Min"

When a closure ends:

- Status changes to "completed"
- Live Activity stops
- Final PDF is generated
- Public dashboard updates
- WZDx feed marks the zone as completed



# Daily Entries

Daily entries track personnel and conditions for each day of a multi-day closure.

## Creating a Daily Entry

10. Tap **Daily** on the active closure card, or open from the project detail view.
11. Today's date is shown at the top.

## Same as Previous Day

Toggle **\*\*Same as Previous Day\*\*** to copy yesterday's personnel (flaggers and pilot cars) to today. This saves time on multi-day projects where the crew doesn't change.

## Adding Personnel

### Flaggers

Tap **\*\*Add Flagger\*\*** and enter:

- Name
- Hours worked today
- Certification type (ATSSA, optional)
- Certification expiration date

### Pilot Cars

Tap **\*\*Add Pilot Car\*\*** and enter:

- Driver name
- Hours worked today
- Certification type and expiration (optional)

## Saving

Tap **Save** to record the daily entry. It becomes part of the closure record and appears in PDF reports.

### TIP

For multi-week projects, use the "Same as Previous Day" toggle each morning to quickly confirm the same crew is on site, then only edit if someone is different.



# Mobile Work Sessions

Mobile work sessions track moving operations like striping, sweeping, and mowing using real-time GPS.

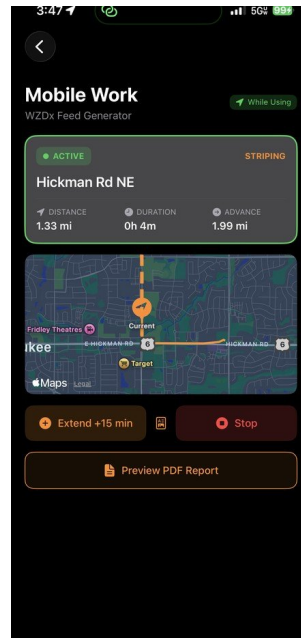


Figure 8.1 — Active mobile work session with live GPS tracking

## Starting a Session

12. Tap the **Road** icon from the home screen.
13. Tap **Start Mobile Operation**.
14. Configure:
  - **Operation Type** — Striping, Sweeping, Mowing, or Farm Tractor
  - **Advance Distance** — How far ahead the work zone extends (0.25 to 2 miles)
  - **Session Duration** — Expected length (0.5 to 8 hours)
  - **Project ID** — Which project this belongs to
  - **Reduced Speed Limit** — Speed through the work zone
  - **Vehicle Impact** — Lane configuration
15. Tap **Start Operation**.

## During a Session

- GPS tracks your position continuously
- A Live Activity shows on your lock screen with duration and distance
- The map shows your historical path (solid orange) and projected route ahead (dashed orange)



- WZDx feed updates in real time as you move

## Extending or Ending

- Tap **Extend** to add more time
- Tap **Stop Operation** to end the session
- A confirmation shows total distance, duration, and advance distance

## WZDx Feed

Mobile work sessions generate a real-time WZDx feed showing:

- Your current position as the work zone start
- Projected position (advance distance ahead) as the work zone end
- Operation type, speed limit, and lane impact

### NOTE

The advance distance setting controls how far ahead of your vehicle drivers are warned. For striping crews on rural highways, 1–2 miles is recommended. For urban sweeping, 0.25–0.5 miles is typically sufficient.



# Safety Alerts and Incident Reporting

## AI Safety Alerts

When photos are uploaded from the field, the system analyzes them for potential safety issues — missing signage, improper configurations, non-compliant setups. Alerts are generated automatically.

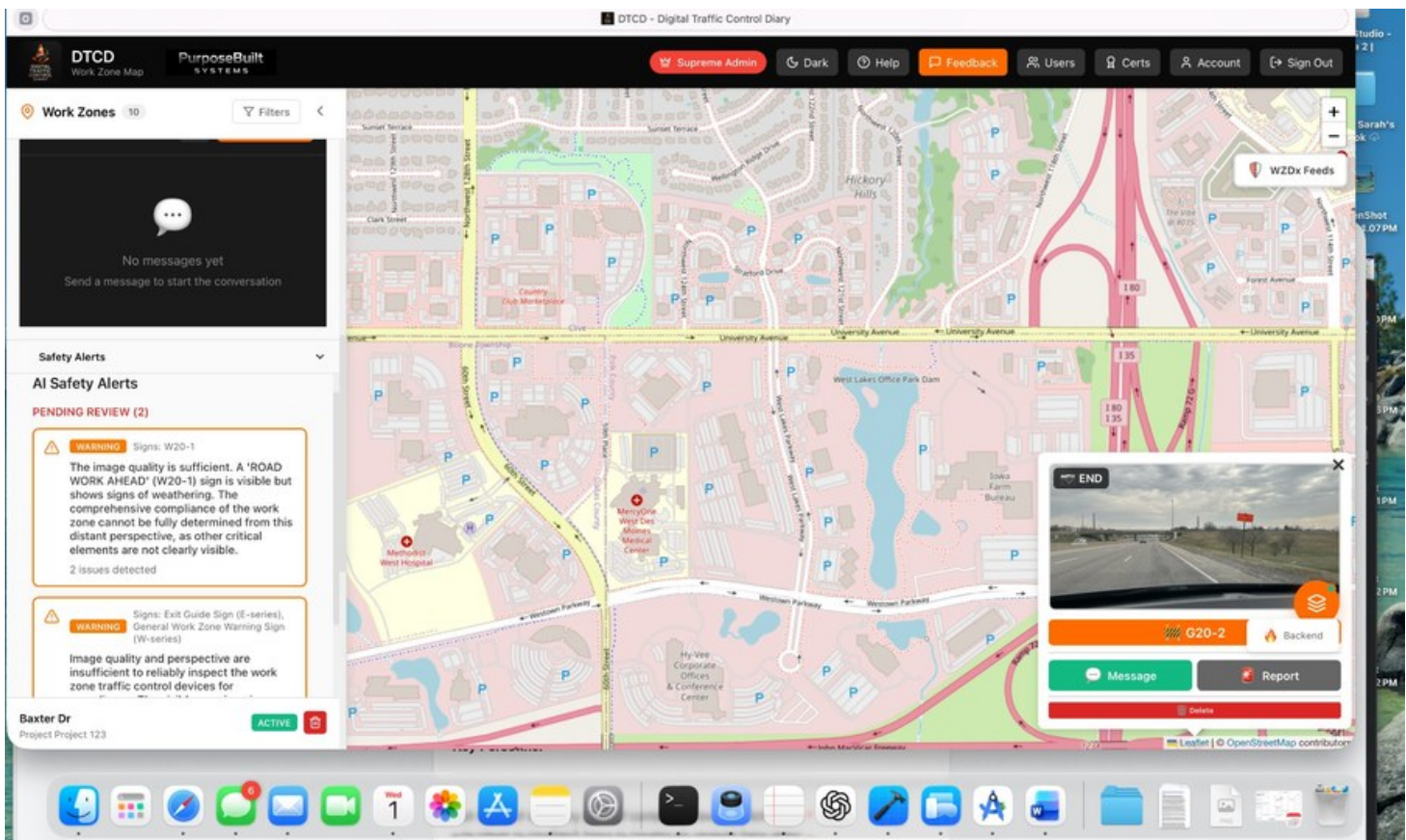


Figure 9.1 — Safety Alerts panel showing AI-detected issues awaiting review

### Viewing Safety Alerts (Dashboard)

16. Open a closure on the dashboard.
17. If safety issues were detected, a warning badge appears on the closure marker.
18. Click the closure and open the **Safety Alerts** panel.

Each alert shows:

- **Severity** — Critical (red), Warning (yellow), Info (blue)
- **Issues** — Specific problems identified (e.g., "Missing taper signage")
- **Recommendations** — What to fix
- **Photo** — The photo that triggered the alert

- **Detected Signs** — MUTCD signs found in the image

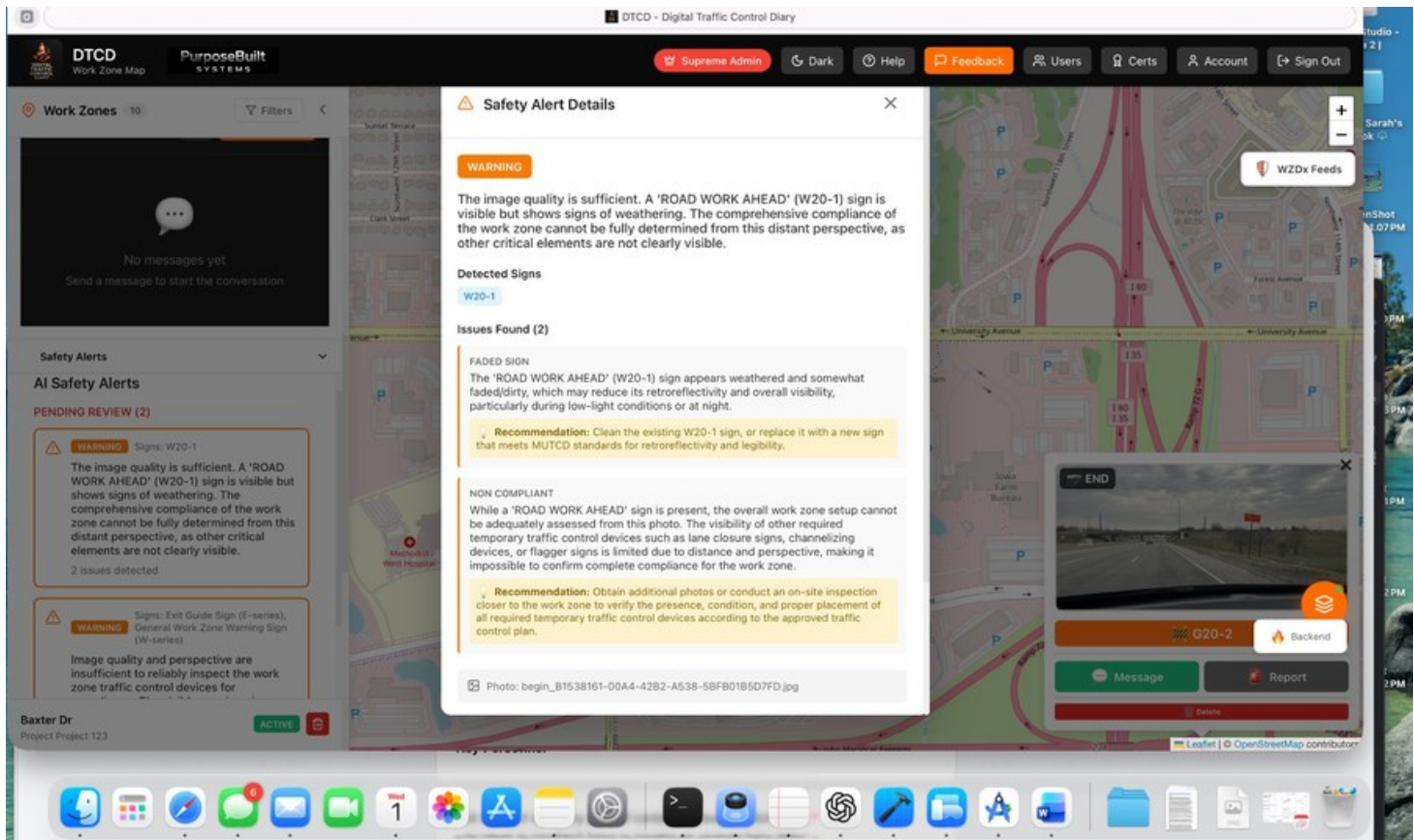


Figure 9.2 — Safety Alert detail showing detected issues and remediation recommendations

## Reviewing Alerts (Agency Workflow)

19. View the alert details and photo.
20. Add **Resolution Notes** explaining what action was taken.
21. Mark the alert as **Reviewed**.
22. Optionally, send a message to the field crew directly from the alert panel.

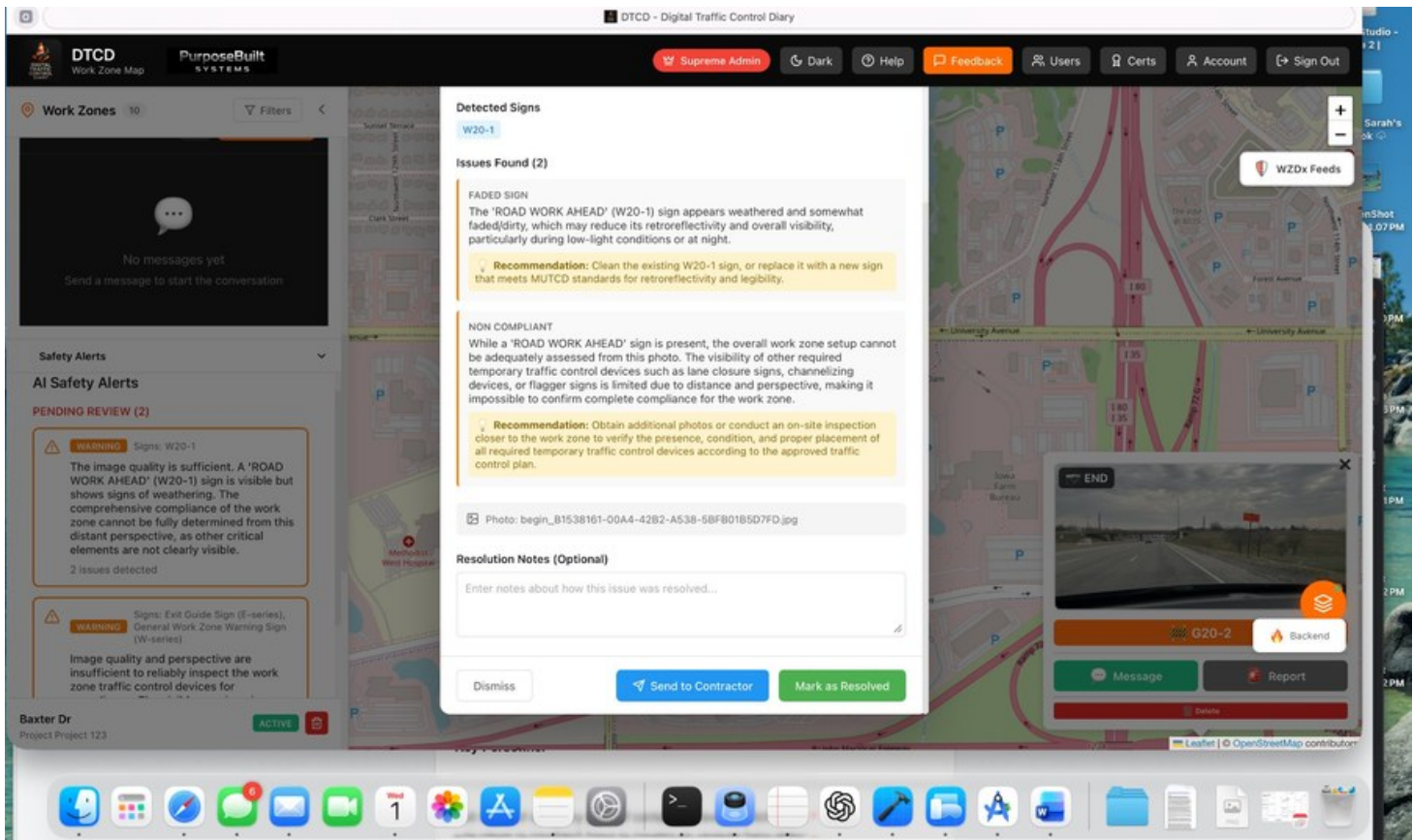


Figure 9.3 — Agency resolution workflow with Send to Contractor and Mark as Resolved options

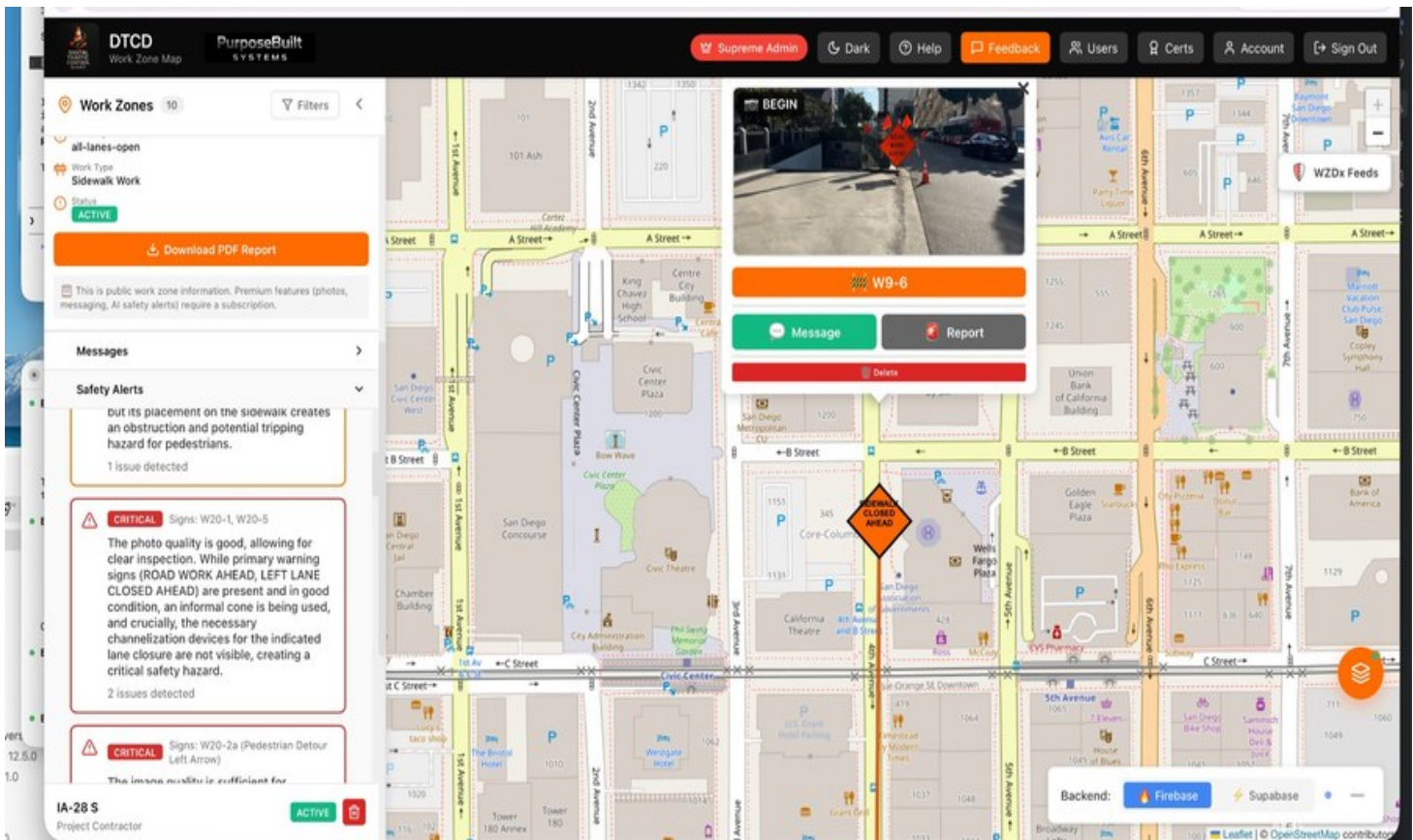


Figure 9.4 — CRITICAL severity safety alert showing missing channelization devices — the highest priority alert level requiring immediate action

## Crash and Incident Reporting

If a crash or safety incident occurs in or near a work zone, a report can be filed from the dashboard.

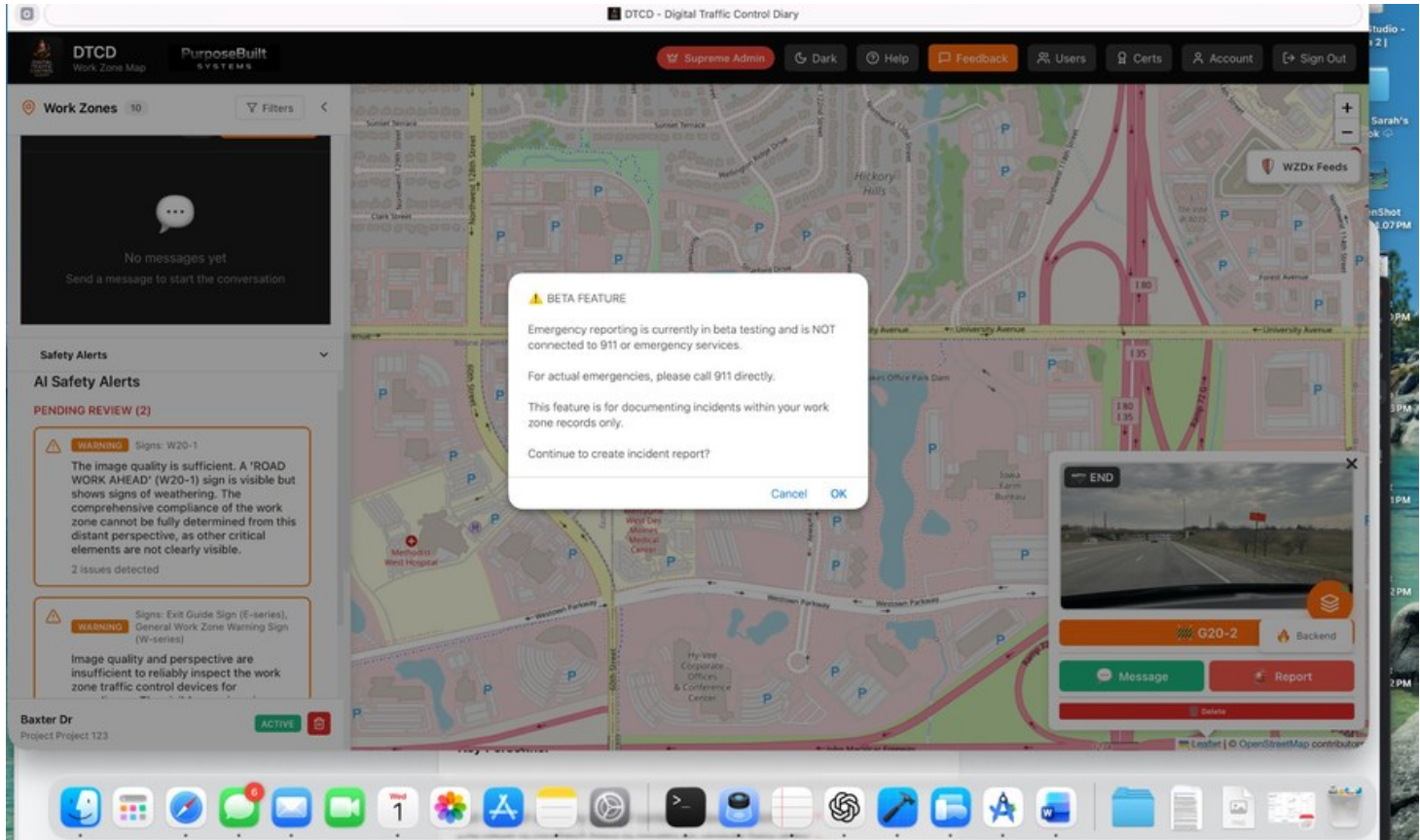


Figure 9.5 — Beta feature disclaimer shown before accessing crash reporting

### Filing a Crash Report

23. Click a closure or mobile work session on the dashboard map.
24. Click the **Report** button (red flag icon).
25. Fill in the crash report form:
  - **Crash Type** — Vehicle collision, pedestrian incident, equipment damage, near-miss, other
  - **Severity** — Minor, Moderate, Severe, Fatal
  - **Description** — Detailed account of what happened
26. Submit the report.

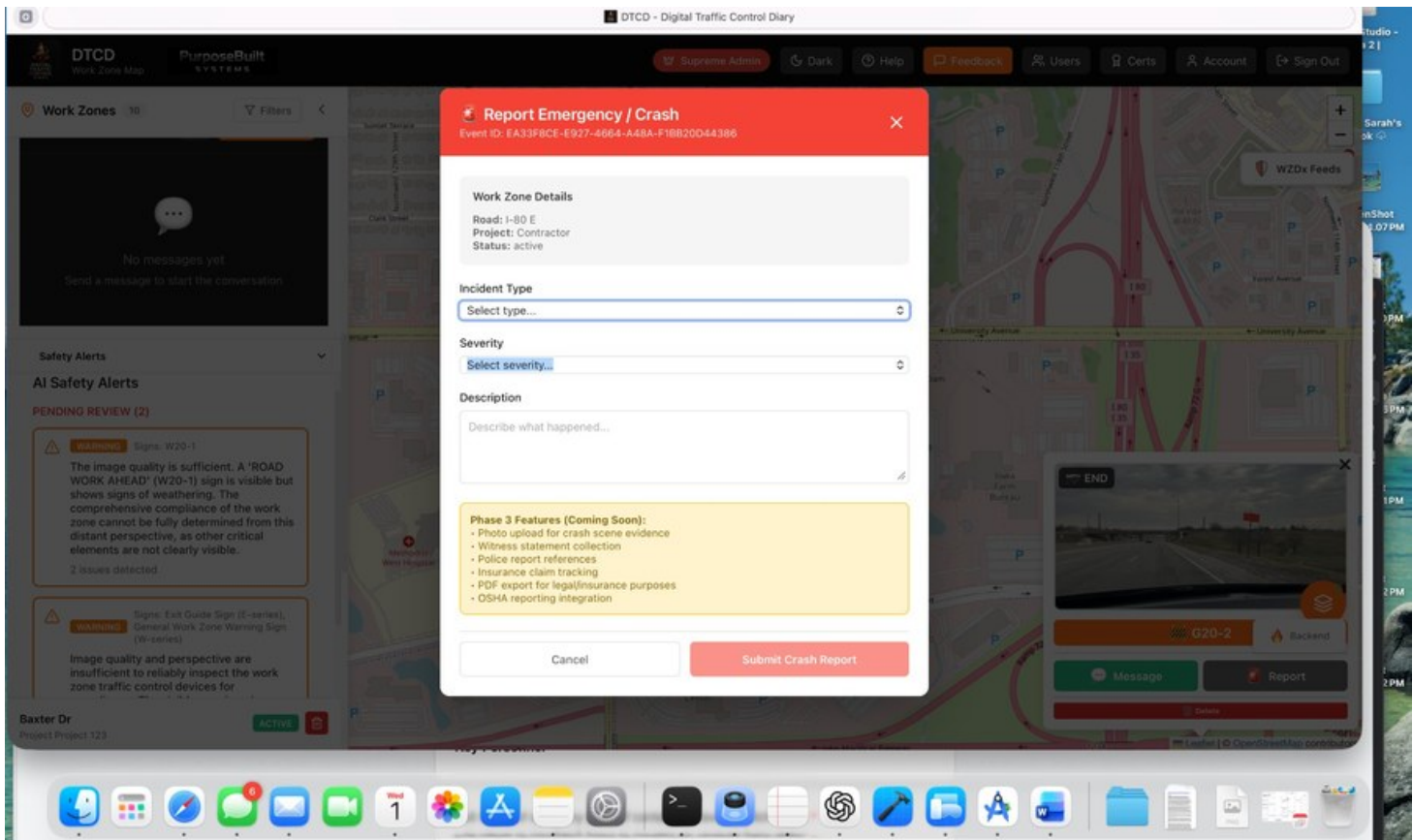


Figure 9.6 — Crash report form with incident type and severity fields

### What Happens After Filing

- The report is linked to the specific closure or mobile work session
- A warning badge (yellow triangle) appears on the closure's map marker
- The incident is visible to all dashboard users viewing that closure
- The report ID is stored for reference in safety audits

#### **IMPORTANT**

Incident flags persist on the map even after a closure ends. Agencies can filter and review all incidents across their jurisdiction at any time.



# Personnel Tracking

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## Flaggers

Flaggers are traffic control personnel directing traffic at the work zone. Track their:

- Name and hours per day
- ATSSA or state certification type
- Certification expiration date (alerts before expiry)

## Pilot Cars

Pilot cars guide traffic through the work zone. Track their:

- Driver name and hours per day
- Certification type and expiration

## Hours Calculation

When you set a closure's start and end times, the app calculates hours worked and applies them to all personnel. You can override individual hours in the daily entry.

## Billing Integration

Personnel hours feed into invoice generation:

- Flagger hourly rate × hours = line item
- Pilot car hourly rate × hours = line item
- Rates are configured in Invoice Pricing settings



# Connected Devices

## Supported Device Types

- **Arrow Boards** — LED arrow displays on trailers
- **Portable Message Signs** — Dynamic message signs
- **Smart Devices** — V2I (Vehicle to Infrastructure) devices
- **IoT Sensors** — Work zone monitoring sensors

## Discovering Devices

27. Go to Settings > Connected Devices.
28. Tap **Scan Network** — the app scans your WiFi for compatible devices.
29. Discovered devices show name, IP, type, and status.

## Manual Entry

Tap **Add Manually** to enter a device by IP address or hostname.

## Deploying to a Closure

30. Edit an active closure.
31. Tap **Add Device**.
32. Select devices from the list (filter by type or proximity).
33. Devices are linked to the closure and appear in documentation.

## Using Device Locations

If devices have GPS, tap **Use Device Locations for Map** to set the closure's begin/end points from the first and last device positions.

### TIP

When multiple devices are deployed at a single work zone, the app uses the first and last device's GPS coordinates to automatically calculate the closure extent for accurate map plotting.

# Messaging

Two-way messaging connects field crews with oversight agencies through the public dashboard.

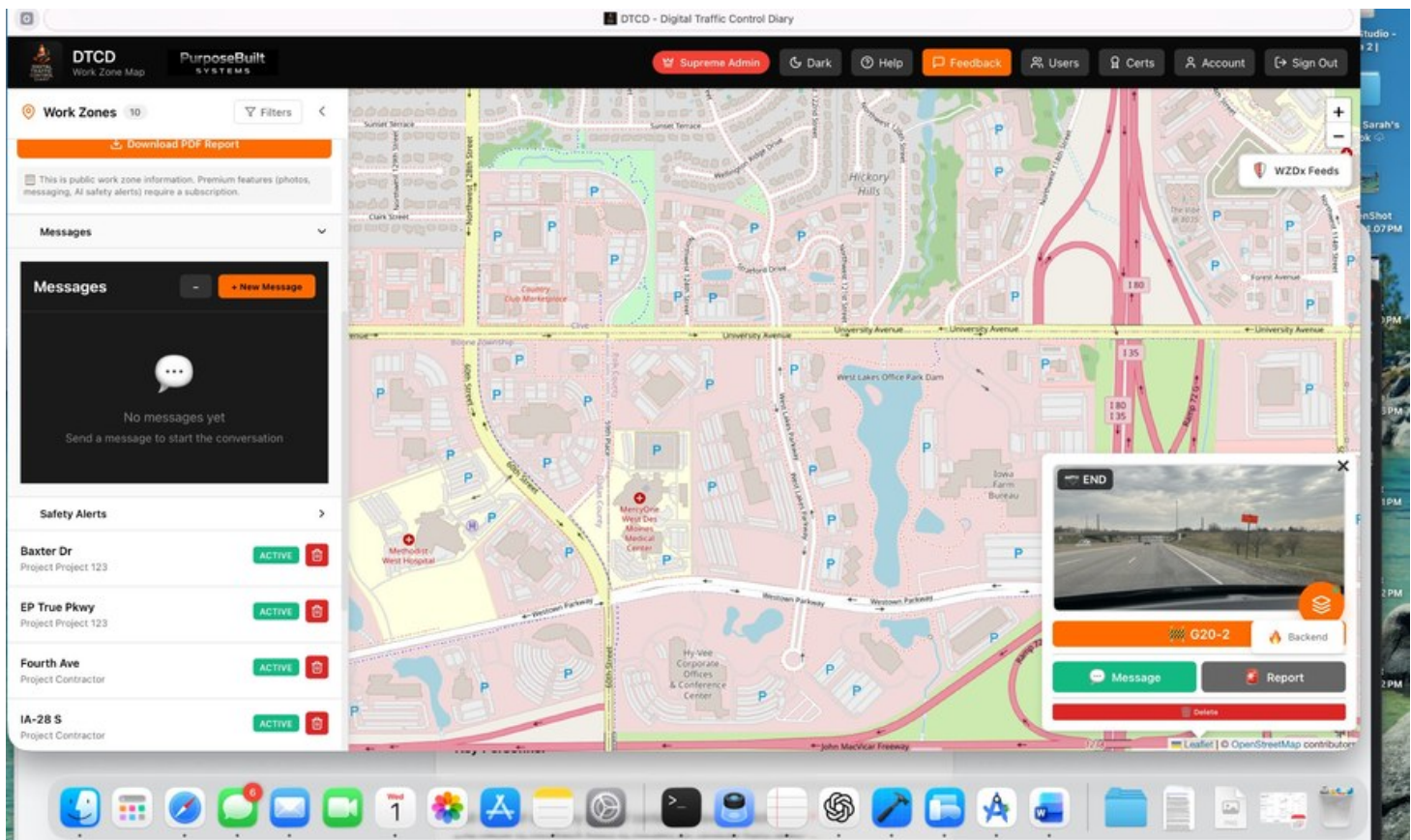


Figure 12.1 — Messaging panel on the public dashboard

## Sending a Message

34. Tap the **Message** icon from the home screen, or from a closure detail.
35. Tap **Compose**.
36. Enter:
  - **Subject** — Brief description
  - **Body** — Full message
  - **Priority** — Low, Normal, High, or Urgent
  - **Category** — Safety, Compliance, Schedule, Equipment, Traffic, Weather, General
  - **Requires Response** — Toggle if you need a reply
37. Tap **Send**.



## Receiving Messages

- New messages show a badge on the home screen
- Per-closure unread counts appear on active closure cards
- Messages are marked as read when you tap them

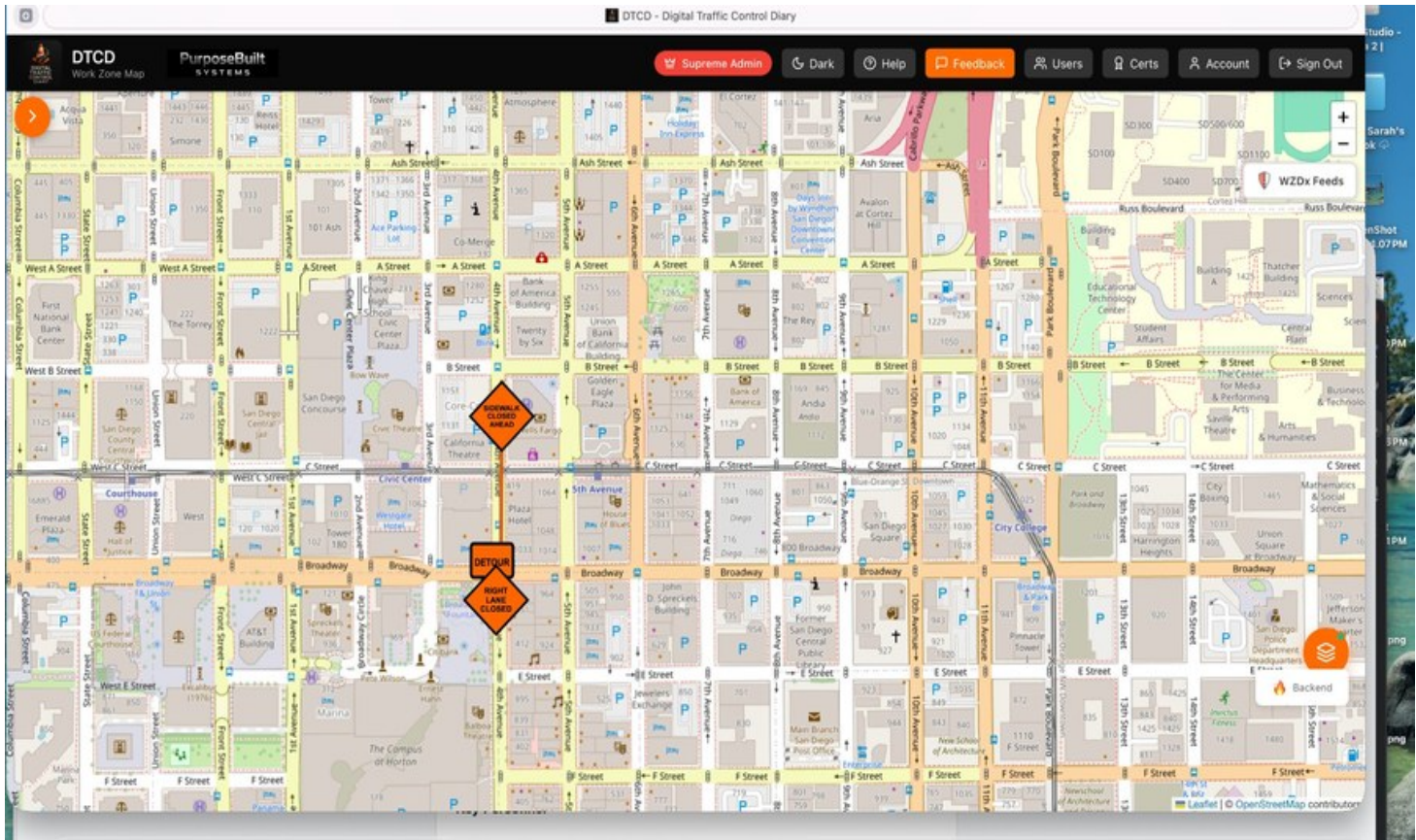
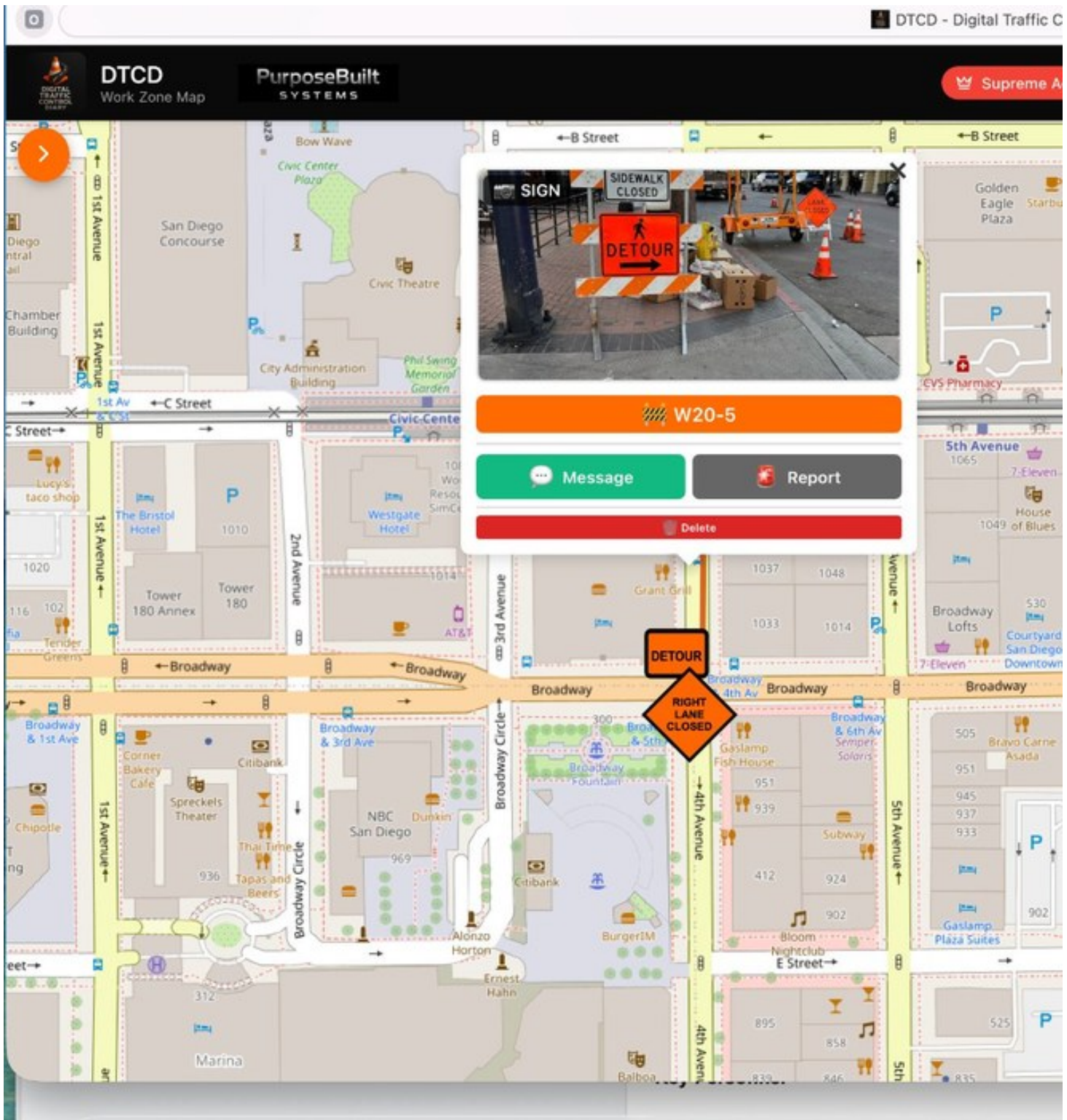


Figure 21.4 — Multiple active work zones visible simultaneously — each MUTCD sign icon is clickable to view closure details



The screenshot displays the DTCD - Digital Traffic Control Diary interface. At the top, the header includes the DTCD logo, the text "PurposeBuilt SYSTEMS", and a "Supreme Admin" button. The main area is a map showing a road network with a highlighted work zone in red. A pop-up window is open over the map, showing a "BEGIN" button, a video feed of a road with a "ROAD WORK AHEAD" sign, and three action buttons: "W20-1" (orange), "Message" (green), and "Report" (grey). A "Delete" button is also visible at the bottom of the pop-up. The map shows various roads including University Avenue, Southeast University Avenue, CR R22, CR F64, and E.P. True Parkway. A speed limit sign for 25 is also visible on the map.

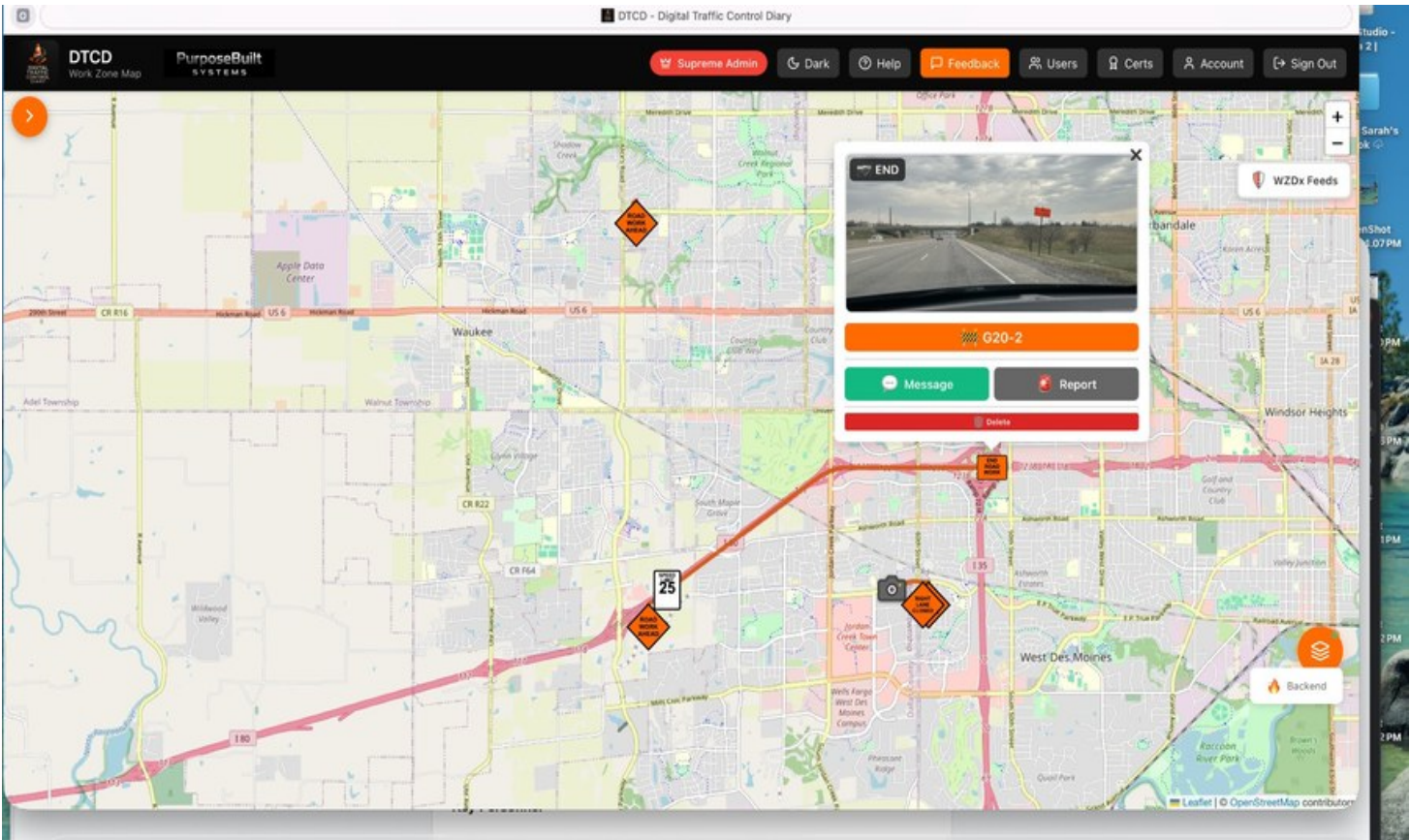


Figure 21.7 — End sign popup showing G20-2 field photo with orange work zone route polyline extending across the map

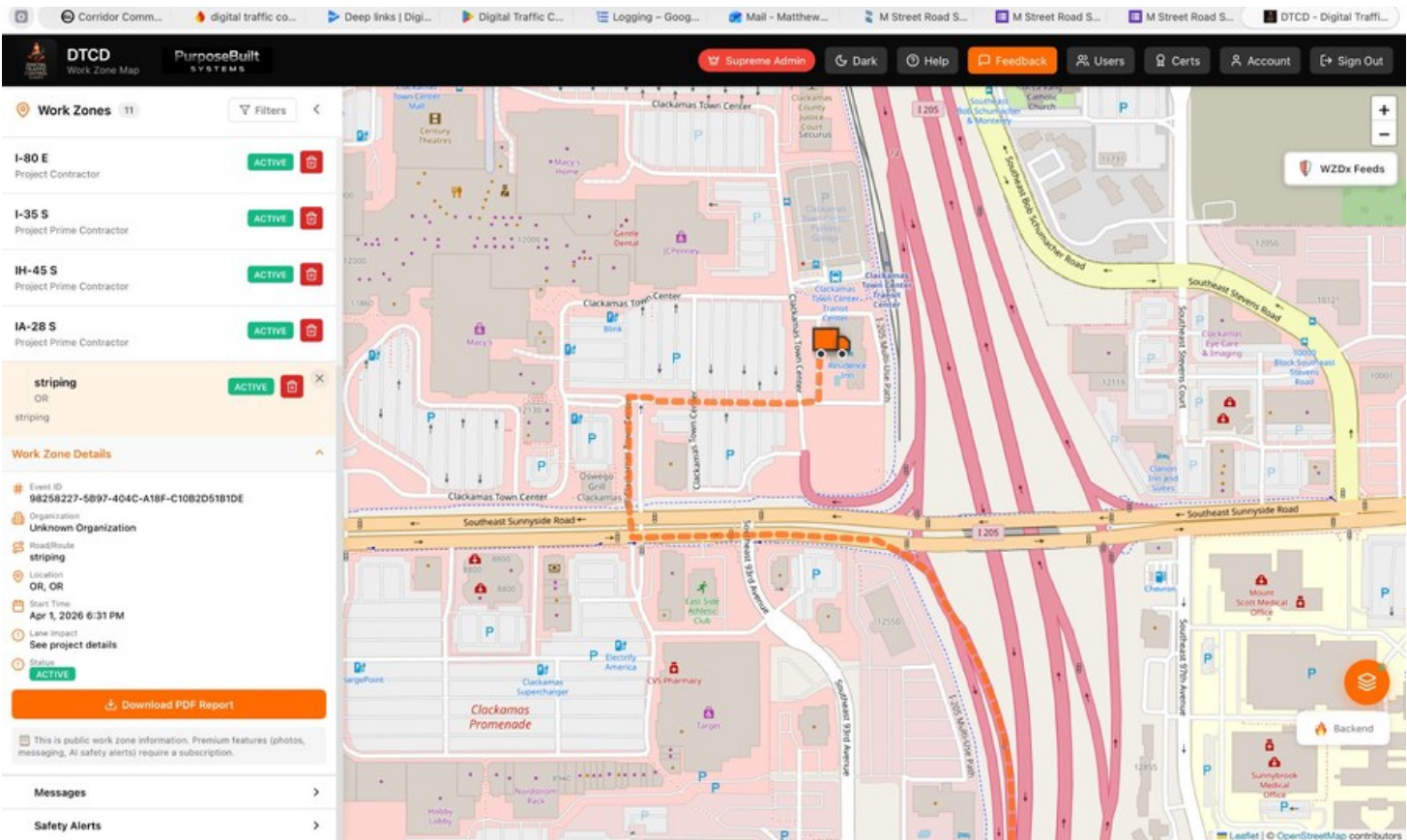




Figure 21.8 — Mobile work zone (striping) visible on dashboard with live GPS route trace

## Filtering

Filter messages by:

- All / Unread / Sent / Urgent / Needs Response

## Responding to Agency Messages

When a DOT inspector sends a message from the dashboard:

38. A notification appears on your device.
39. Tap to open the message thread.
40. Tap **Reply** to respond.
41. Your response is immediately visible to the agency on the dashboard.

### URGENT MESSAGES

Messages marked Urgent appear with a red indicator. If a message is flagged "Requires Response," it will remain highlighted until you reply.



# Certifications

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## Why Certifications Matter

A valid traffic control certification is required to publish WZDx feeds to navigation platforms. Without certification, your closures are saved locally and to Firebase but excluded from public feeds.

## Uploading a Certification

42. Tap the **Shield** icon from the home screen.
43. Tap **+** to upload.
44. Select certification type:
  - DOT certification
  - MUTCD compliance certificate
  - ATSSA certification
  - IMSA certification
  - State traffic control license
  - Safety certification
45. Take a photo or upload a document.
46. Enter the certification number and expiration date.
47. Submit for verification.

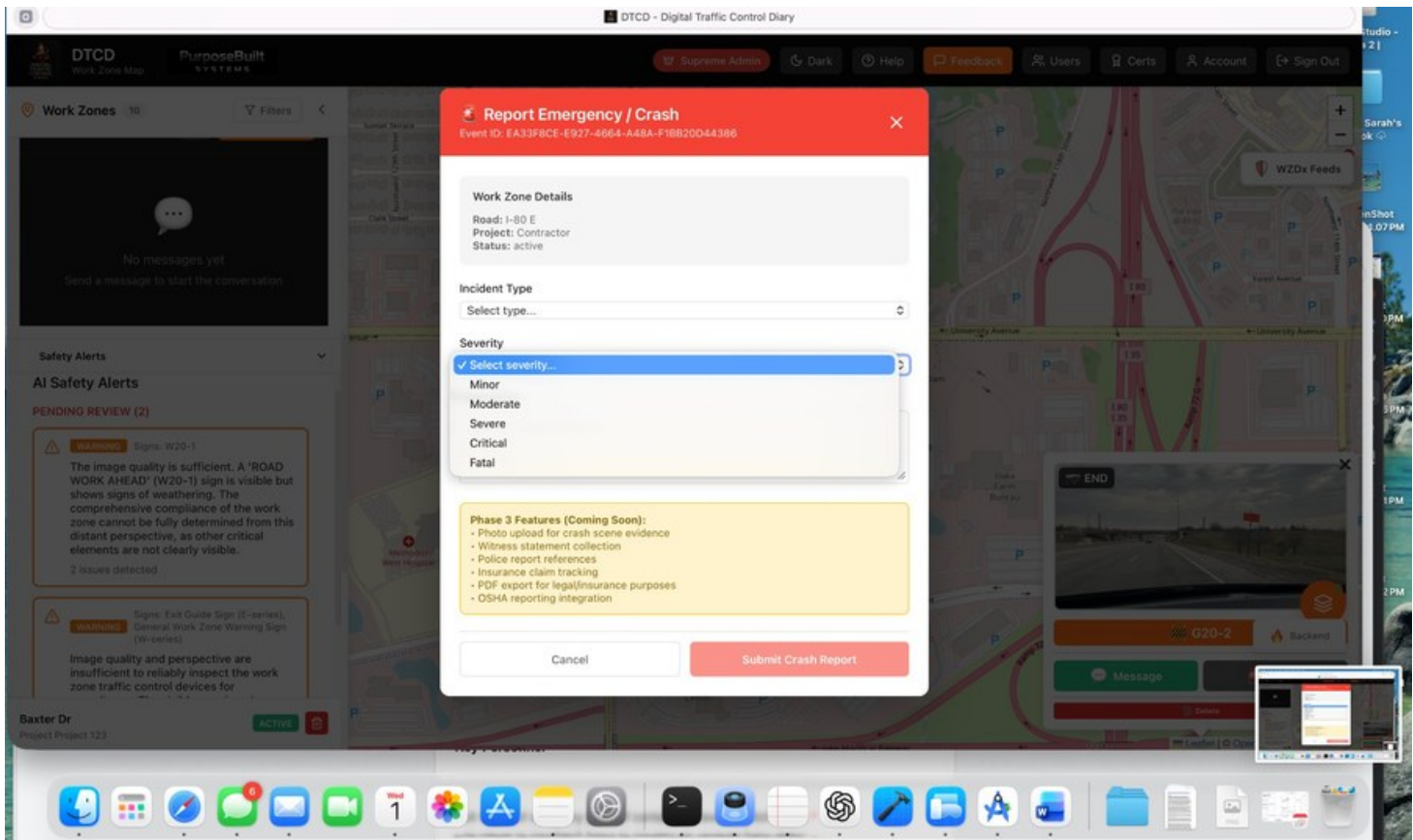


Figure 13.1 — Certification Review page showing OCR-auto-detected cert details

## Certification Status

Status	Indicator	Meaning
Valid	Green checkmark	WZDx publishing is enabled — closures appear on public feeds
No Certification	Orange warning	Closures save locally and to Firebase but do not publish to public feeds
Expiring Soon	Orange warning	Certification valid but nearing expiration — renew promptly

## Expiration Alerts

The app monitors your certification expiration date and sends you warnings before it expires. Renew your certification in the app before expiry to avoid any interruption to your WZDx feed.



# PDF Reports

## Automatic Generation

A professional PDF diary is generated automatically when you save a closure. It includes:

- **Cover page** with project information
- **Closure summary** — Project, road, direction, work type, vehicle impact, speed limit, dates
- **Map** — Road-snapped route polyline, detour route (if applicable), begin/end markers
- **Photos** — All captured photos with GPS coordinates, timestamps, and MUTCD codes
- **Daily Entries** — Personnel logs with names, hours, and certification status
- **Company Information** — Logo, name, address, contact (from Company Settings)



Figure 14.1 — Auto-generated Work Zone Closure Report PDF with closure details, map, and photos

## PDF Library

Access all generated PDFs from the **\*\*Document\*\*** icon on the home screen.

- View, share, or print any PDF
- Filter to show/hide superseded versions
- Delete individual PDFs or bulk-delete old versions



- Storage usage stats shown at top

## Regenerating

If you edit a closure (change end time, add daily entries, etc.), you can regenerate the PDF. The old version is marked as superseded.

## Sharing

Tap the share button on any PDF to send via email, AirDrop, or save to Files.

### TIP

For DOT submission, share the PDF directly from the app via email. The PDF is formatted to match standard DOT documentation requirements and includes your company logo and contact information.



# Exporting Data

## WZDx v4.2 Feed

The standard format for work zone data exchange. Automatically generated for certified users.

- Published to Waze, Google Maps, HERE, and TomTom
- Viewable via the WZDx Preview screen
- Exportable as JSON

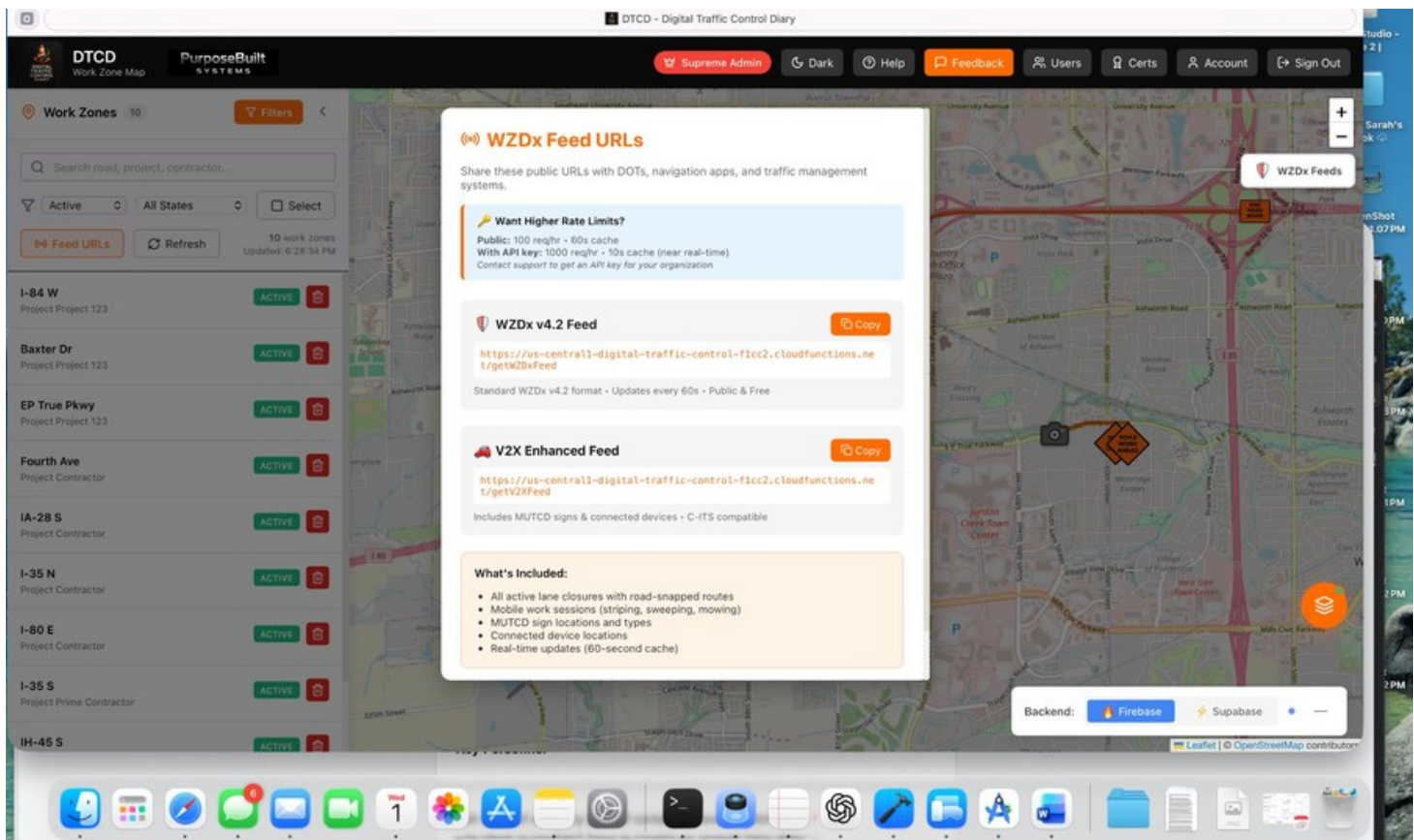


Figure 15.1 — WZDx Feed URLs panel showing public endpoints for DOT and navigation platform integration

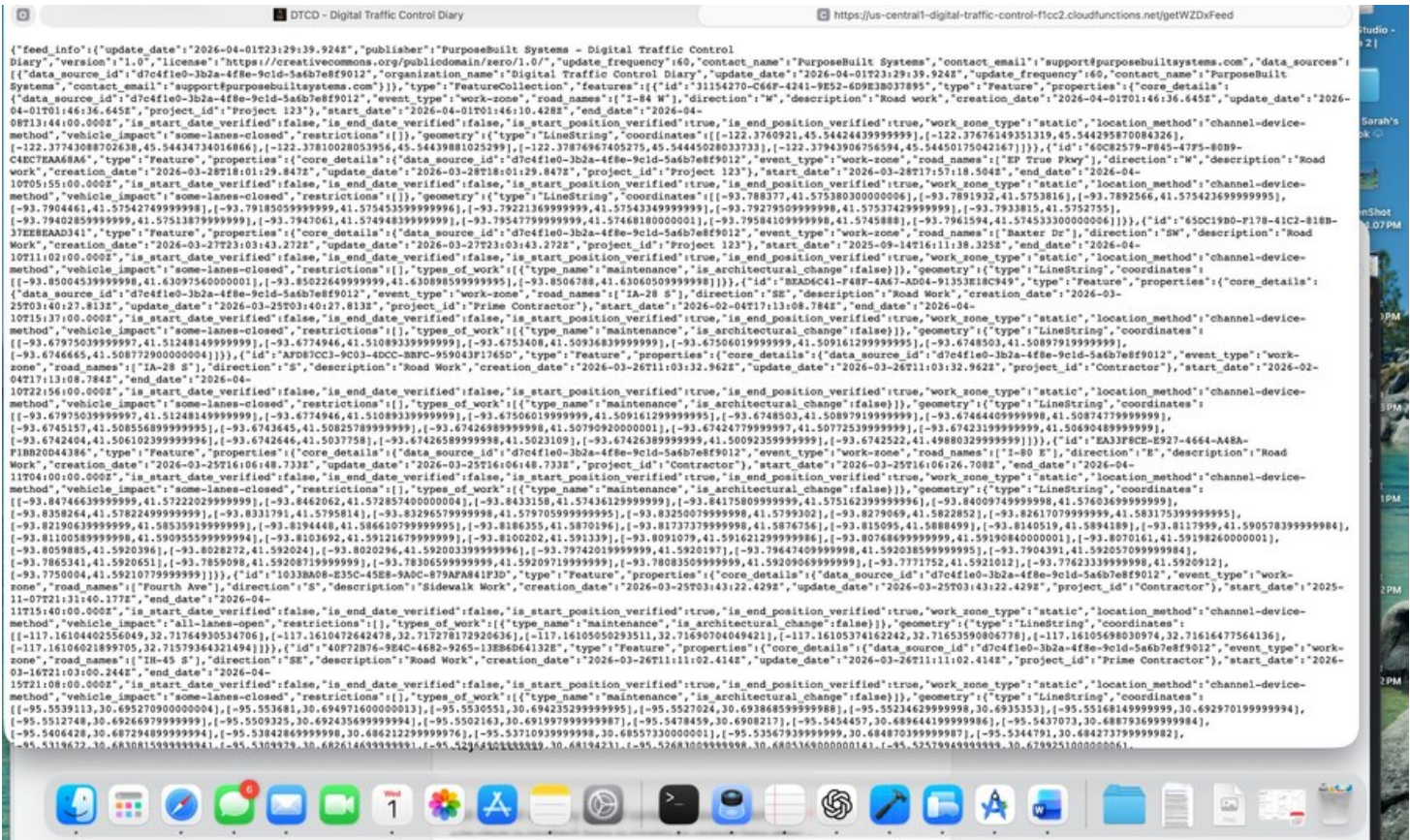


Figure 15.2 — Live WZDX v4.2 JSON feed — shareable directly with DOTs and navigation platforms

## KML Export

Google Earth compatible geographic data:

- Route polyline
- Detour route
- Photo location markers
- Begin/end points

Export from the PDF preview screen or project detail view.

## CSV Export

Spreadsheet-friendly format for billing and analysis:

- Closure details (project, organization, road, direction, impact)
- Daily entries with personnel hours
- Photo metadata
- Notes

## Invoice Export



PDF invoices generated from closure data using your configured rates:

- Personnel line items (hours × rate)
- Equipment and setup fees
- Travel and mileage
- Company branding



# Live Activities and Widgets

## Lock Screen Live Activity

When a closure is active, a Live Activity appears on your lock screen showing:

- **App logo** and project name
- **Live countdown timer** — Counts down to the closure end time in real time
- Work type label

Tap the Live Activity to open the app.

## Dynamic Island

On iPhone 14 Pro and later, the Dynamic Island shows:

- **Compact view** — Cone icon + countdown timer
- **Expanded view** — Project name, work type, full countdown, "Tap to end early"

## Home Screen Widget

Add the DTCD widget to your home screen for at-a-glance closure information:

- Active closure countdown
- Project name and end time
- Updates every minute

To add the widget: long-press your home screen → tap + → search for "Digital Traffic Control Diary" → choose widget size → tap Add Widget.

## Mobile Work Live Activity

Mobile work sessions also show a Live Activity with:

- Operation type (Striping, Sweeping, etc.)
- Duration counter
- Distance traveled

### REQUIREMENT

Live Activities require iOS 16.1 or later. Ensure Live Activities are enabled in Settings > [App Name] > Live Activities. If a Live Activity is dismissed, it restarts when the app becomes active.



# Training Mode

## Purpose

Training mode lets you practice using the app without affecting public data. Closures created in training mode are excluded from WZDx feeds and public dashboards.

## Enabling Training Mode

Toggle **Training Mode** when creating a closure or starting a mobile work session. A "TEST" badge appears on the closure.

## What's Different in Training Mode

Feature	Training Mode Behavior
WZDx Feed	Excluded from public feeds
511 Systems	Excluded
Public Dashboard	Visible but marked as TEST
PDF Generation	Works normally (marked as training)
All Other Features	Work normally
Closure Marker	Displays orange TEST ribbon

## Use Cases

- Training new crew members
- Testing the app before going live
- Demonstrating features to DOT inspectors

### TIP

Training mode is recommended for all new users during onboarding. It allows full practice of the closure creation workflow, auto-capture, and daily entries without generating any public data or WZDx feeds.



# Organization Settings

---

Access from the **\*\*Gear\*\*** icon on the home screen.

## Organization ID

Your unique identifier. This links your closures to your organization on the dashboard.

## Team Management

- **Invite Members** — Send invite codes to team members
- **Accept Invites** — Enter a code to join a team
- **View Members** — See all team members and their roles
- **Remove Members** — Remove someone from the team

## Company Settings

Configure your company branding for PDF reports and invoices:

- Company name and website
- Mailing address
- Phone and email
- Company logo (appears on PDFs)
- Organization data sharing toggle

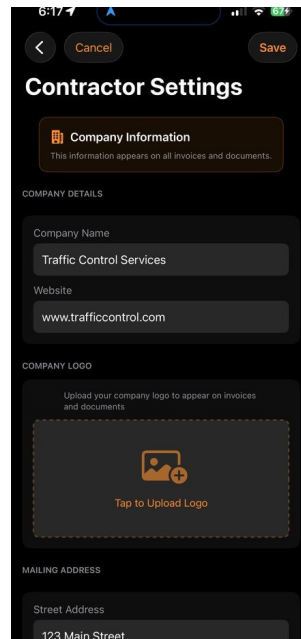


Figure 18.1 — Organization settings for company branding

## Online Dashboard

Tap to open the public dashboard at [dtcd.purposebuilt.systems](https://dtcd.purposebuilt.systems) in your browser.



# Invoice and Billing

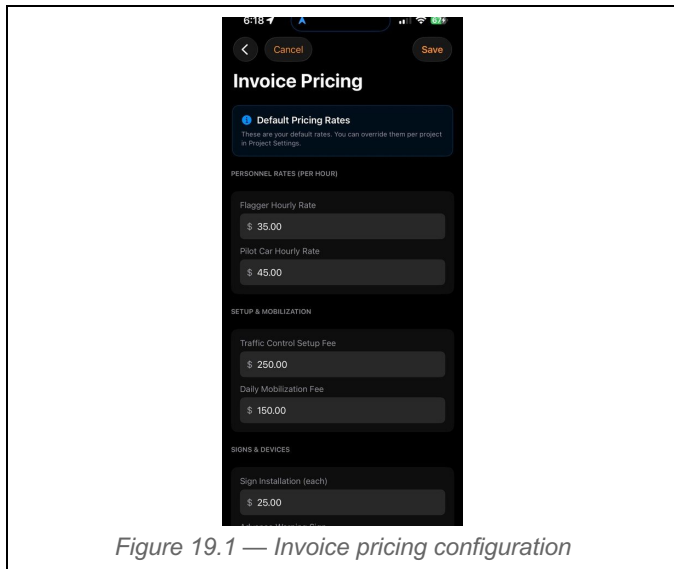


Figure 19.1 — Invoice pricing configuration

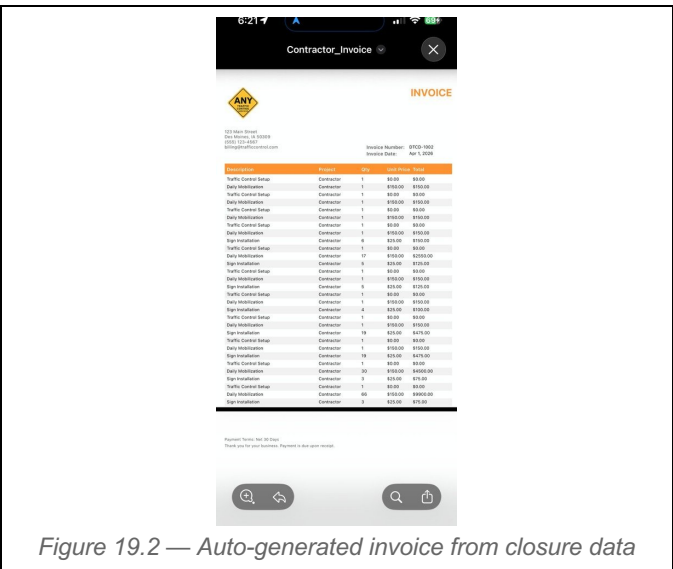


Figure 19.2 — Auto-generated invoice from closure data

## Default Pricing

Set your default hourly rates in Settings > Invoice Pricing:

- Flagger hourly rate
- Pilot car hourly rate
- Setup and mobilization fees
- Signs and devices pricing
- Equipment rental daily rates
- Travel and mileage rates

## Project-Level Overrides

Override default pricing for specific projects with custom rates. This is useful for contracts with fixed bid items or negotiated rates.

## Contract Bid Items

Configure contract-specific bid items:

- Load DOT templates
- Add custom bid items by category
- Set unit types and quantities



## Billing Groups

Group closures for bulk invoicing by project, date range, or custom criteria.

### TIP

Set your default rates once in Invoice Pricing settings. For individual projects with different contract rates, use project-level overrides. This keeps your defaults intact while supporting contract-specific pricing.



# Digital ROW Utilities Integration

## Overview

Digital ROW Utilities is a companion app for documenting underground utility infrastructure. When utility work requires traffic control, the two apps work together seamlessly.

## Creating a Closure from ROW Utilities

48. In Digital ROW Utilities, tap **Create in DTCD** from a permit.
49. DTCD opens with pre-filled data.
50. Complete the closure as normal (photos, details, save).

## Data That Carries Over

From Digital ROW Utilities	To DTCD Field
Project Name	Project ID
Permit Number	Permit Number field
Contract Number	Contract Number field
Utility Company	Utility Company field
Utility Type	Utility Type field

## Viewing Closures from ROW Utilities

ROW Utilities can deep-link to view an existing closure in DTCD, pre-filling the form with the closure's data for reference during utility work.

### WORKFLOW TIP

The recommended workflow is: create the utility permit in Digital ROW Utilities → tap "Create in DTCD" → complete the closure in DTCD → both apps reference the same project ID throughout the job.

# Public Dashboard (Agency Guide)

The public dashboard at [dtcd.purposebuilt.systems](https://dtcd.purposebuilt.systems) gives agencies free, real-time visibility into active work zones.

## Accessing the Dashboard

Open [dtcd.purposebuilt.systems](https://dtcd.purposebuilt.systems) in any web browser. No account is required to view the map.

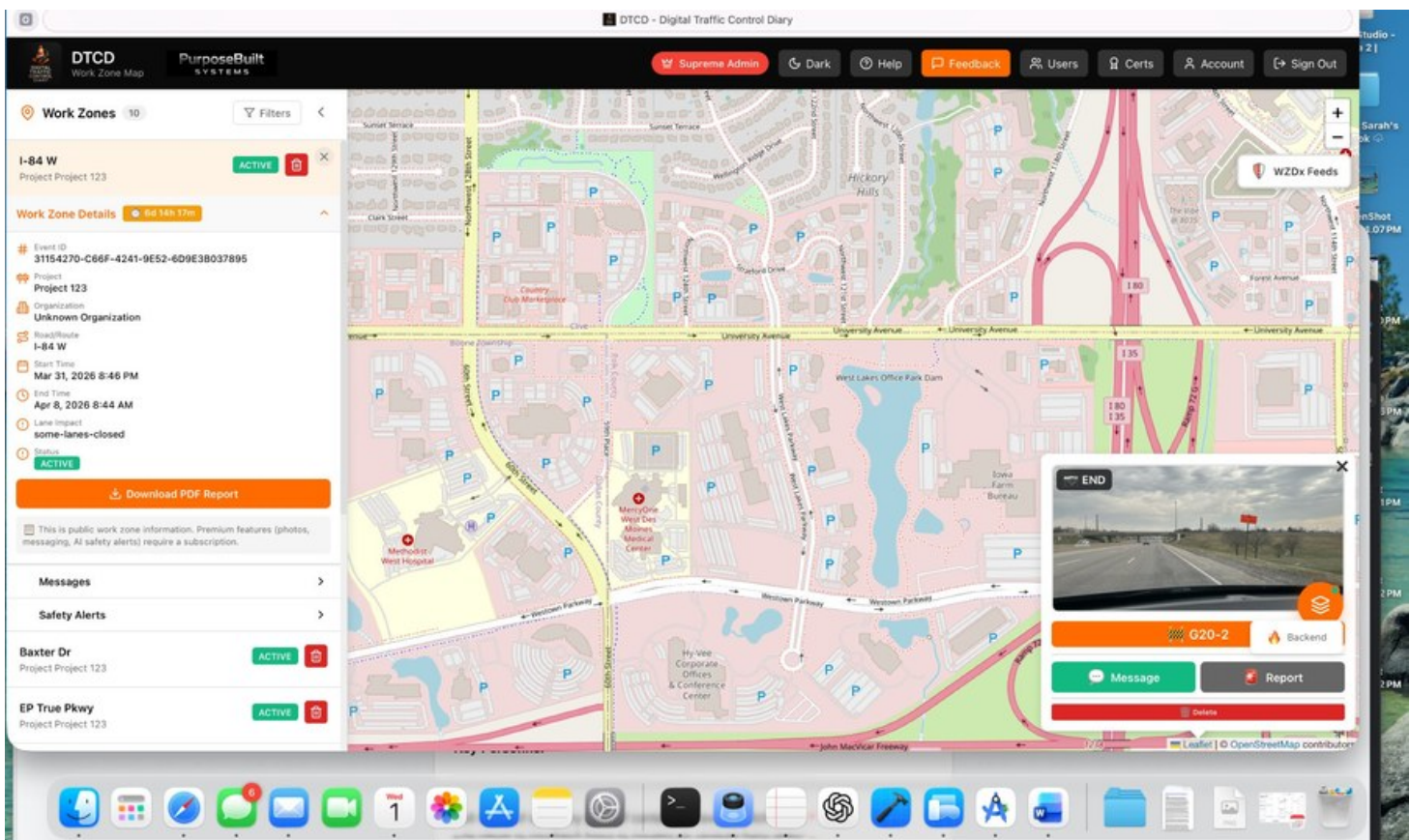


Figure 21.1 — DTCD public dashboard — work zone list, map view, and closure detail panel

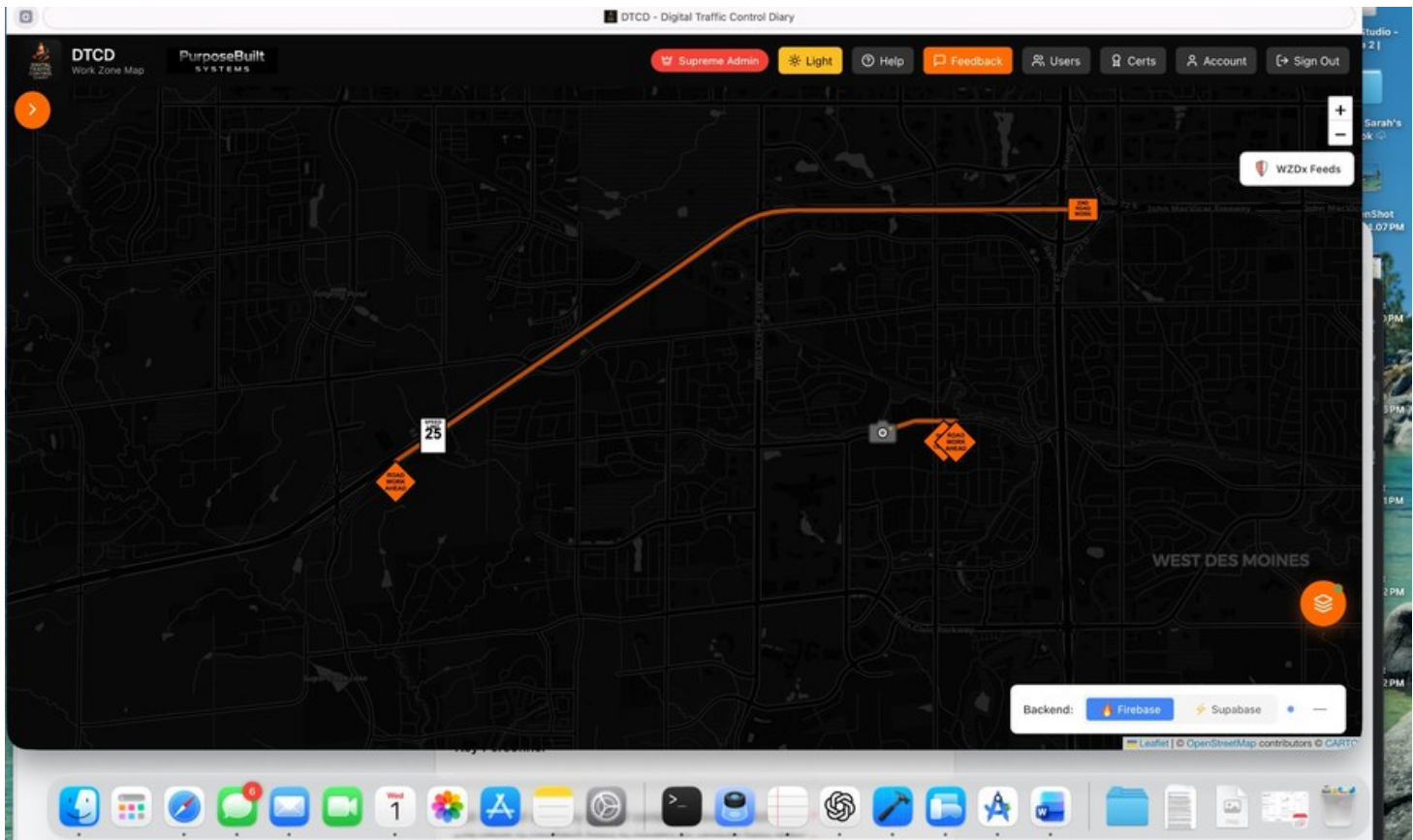


Figure 21.2 — Dark mode map view showing work zone routes and MUTCD sign markers

## Map View

- All active closures shown as MUTCD sign icons on an interactive map
- Orange polylines show work zone routes
- Blue dashed lines show detour routes
- Click any sign icon to view closure details

## WZDx Feeds Toggle

Click the **WZDx Feeds** button to overlay federal DOT work zone data from across the country. These appear as blue dashed polylines. Click any polyline to see road name, direction, dates, and source organization.

## Filtering

Use the filter panel to narrow results:

- **Status** — Active, Completed, All, Training
- **State** — Filter by state
- **County** — Filter by county (within selected state)
- **Search** — Search by road name, project, or contractor



## Sending Messages to Field Crews

51. Click a closure on the map.
52. Click **Message**.
53. Enter subject, body, and priority.
54. Click **Send**.

Crews receive the message in their app and can reply. Responses are visible in the same thread on the dashboard.

## Account Tiers

Tier	Coverage	Features
Public	Nationwide	Map view, basic closure info
County (Free)	1 county	Photo access, messages, real-time updates
Regional	2–20 counties	Multi-county coverage
Statewide	All counties in state	Full state access, API endpoints
Nationwide	All states	Complete access, all features

## Signing In

Click **Account** in the top-right to sign in. Authentication unlocks tier-specific features like photo access and messaging.



# Troubleshooting

## Auto-Capture Not Detecting Signs

- Ensure the camera has a clear view of the sign
- Signs must have readable text (not obscured by glare, dirt, or distance)
- At night, rely on your headlights to illuminate reflective signs — the app boosts exposure automatically
- If a sign isn't detected, use the manual **Cam** button instead

## Photos Show as Empty Thumbnails

- Photos captured before version 1.1.1 may have lost their temp files — this is fixed in the current version
- Photos uploaded to Firebase will still load from the cloud

## "Certification Required" Alert

- This appears if the WZDx publish fails for any reason (network, timeout, etc.), not just certification issues
- Check your internet connection
- If you have a green checkmark on the Certifications screen, your certification is valid — the publish will retry on next save

## Live Activity Not Showing

- Ensure Live Activities are enabled in Settings > [App Name] > Live Activities
- Live Activities require iOS 16.1 or later
- If dismissed, the Live Activity restarts when the app becomes active

## Lock Screen Timer Not Counting Down

- Update to version 1.1.1 or later — earlier versions showed a static time instead of a live countdown

## Closure Not Appearing on Dashboard

- Ensure you have a valid certification (green checkmark)
- Check your internet connection



- Training mode closures appear on the dashboard but are marked as TEST
- Non-certified closures save to Firebase but are excluded from public feeds

## GPS Location Inaccurate

- Ensure Location Services are enabled for the app (Always or While Using)
- GPS accuracy improves outdoors with clear sky view
- The app uses road-snapping to align coordinates to the nearest road

## Connected Device Not Found

- Ensure the device is on the same WiFi network
- Try adding the device manually by IP address
- Check that the device is powered on and broadcasting

## Messages Not Sending

- Check your internet connection
- Ensure you're signed in (not anonymous)
- Messages require an active organization ID

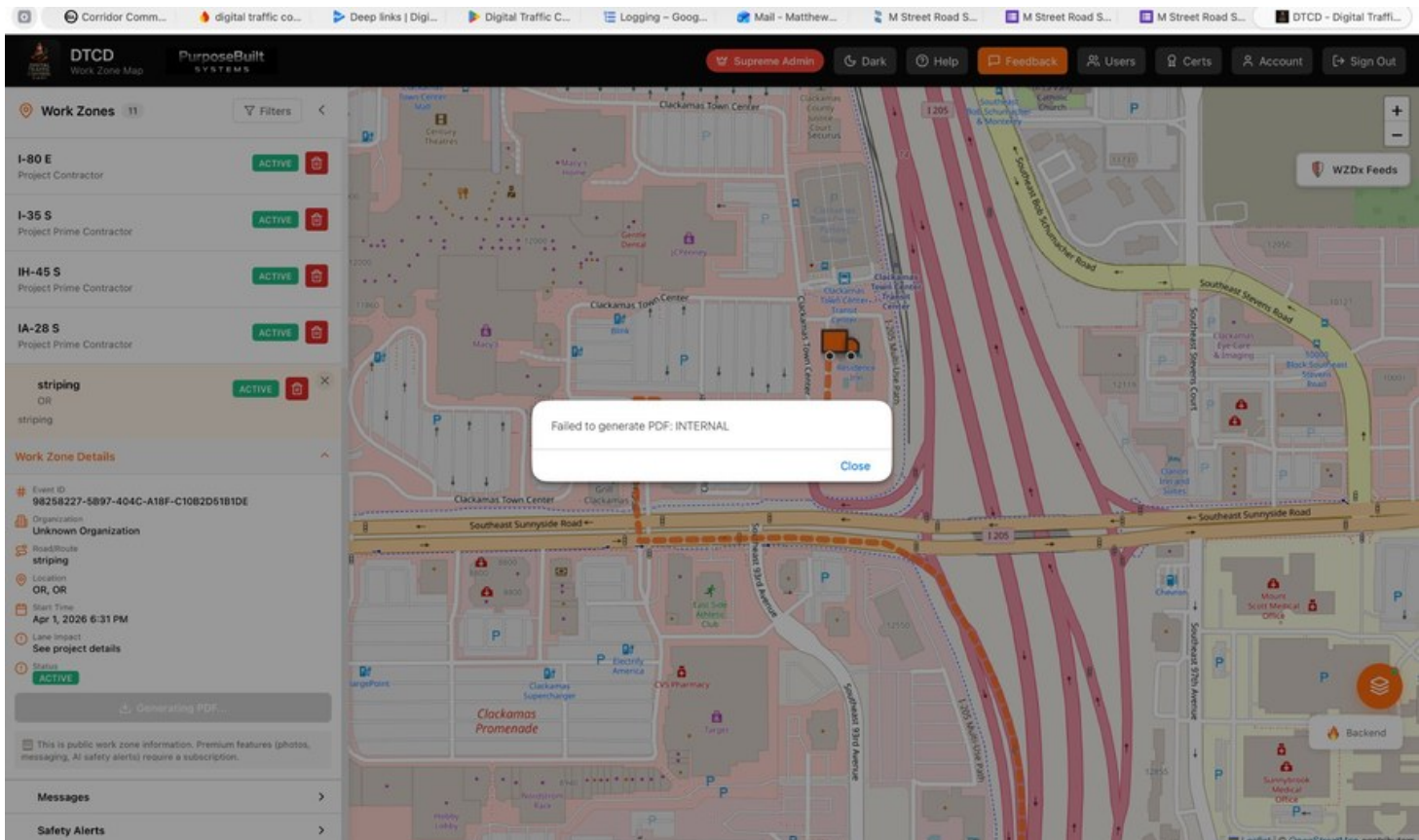


Figure 22.1 — PDF generation error dialog — check internet connection and retry or regenerate from PDF library



Error / Symptom	First Step	Second Step
Signs not detected	Check camera has clear line of sight	Use manual Cam button as fallback
Closure not on dashboard	Verify certification (green checkmark)	Check internet connection
Live Activity missing	Enable in iOS Settings > Live Activities	Update to iOS 16.1+
GPS inaccurate	Enable "Always" location permission	Move to open sky area
Messages not sending	Check internet connection	Confirm organization ID is set
Invoice totals wrong	Review pricing in Invoice Settings	Check project-level overrides

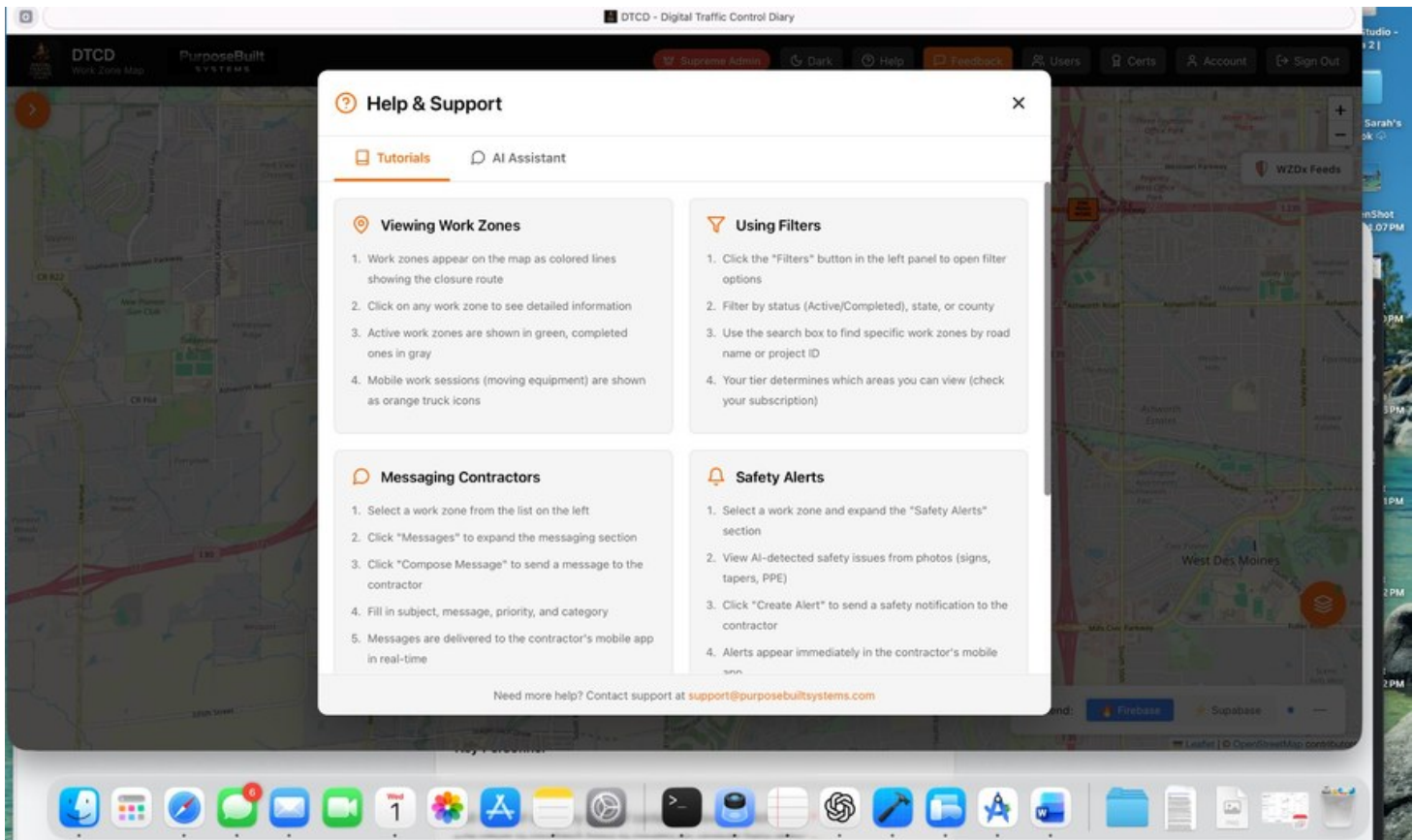


Figure 22.2 — Built-in Help & Support tutorials accessible from the Help button on the dashboard

## SUPPORT

For issues not covered in this guide, use the in-app Feedback feature (Settings > Send Feedback) or visit [purposebuilt.systems](https://purposebuilt.systems) for documentation and support.



# Digital Traffic Control Diary

Training Manual v1.1.1

**PurposeBuilt Systems**

[dtcd.purposebuilt.systems](https://dtcd.purposebuilt.systems)

*For support, visit [purposebuilt.systems](https://purposebuilt.systems) or use the in-app Feedback feature.*