



Roadway Incident Management System for Dallas County Sheriff's Courtesy Patrol Program

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Log in

Username *

Password *



Log In



Background

Roadway Incident
Management System
for Dallas County Sheriff's
Courtesy Patrol Program



- **TxDOT DAL 1988–2003:** Courtesy Patrol/Motorist Assistance Program established.
- **Dallas County since 2003:** joint agreement between TxDOT and the Dallas County Sheriff's Department (DCSO).

- **Records of motorist assists** used to be recorded on paper by the field patrollers, requiring tedious and error prone data entry by personnel in the office after each patroller shift was completed.
- **DCSO developed an in-house digitization** process using Excel via smartphones or tablets.
- **DCSO Incident Reporting Automation Pilot in 2024.**
 - Data Consistency
 - Database format





Current Stats

Roadway Incident Management System
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2 Dispatchers
in DalTrans

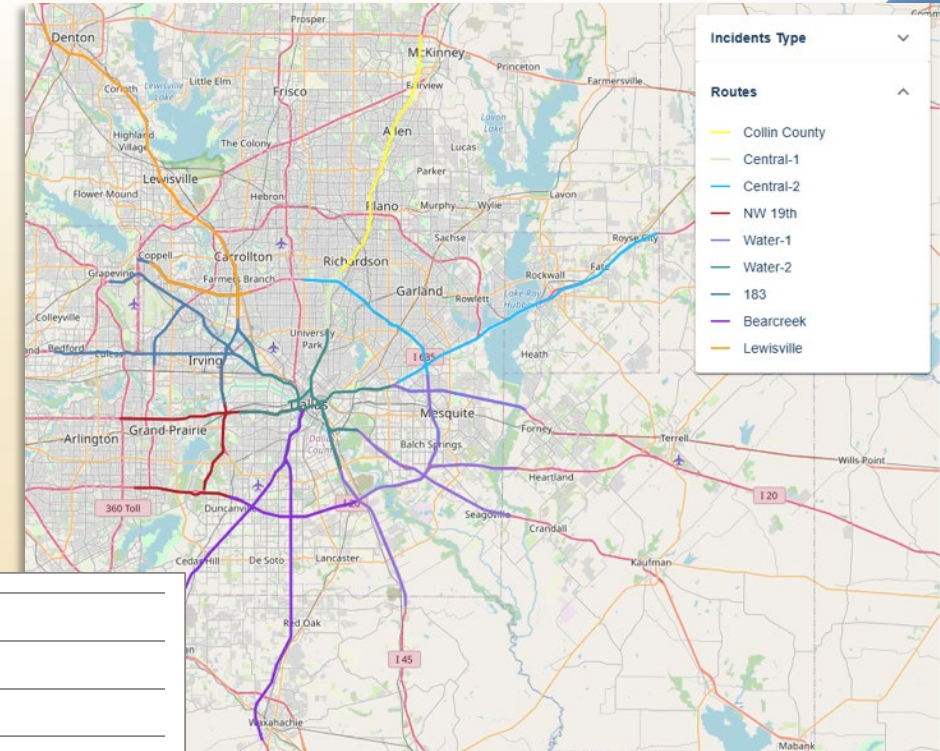
2



Shifts
per day

9

Routes



7 days a week

5 a.m. – Midnight



25

Trucks



53

Patrollers



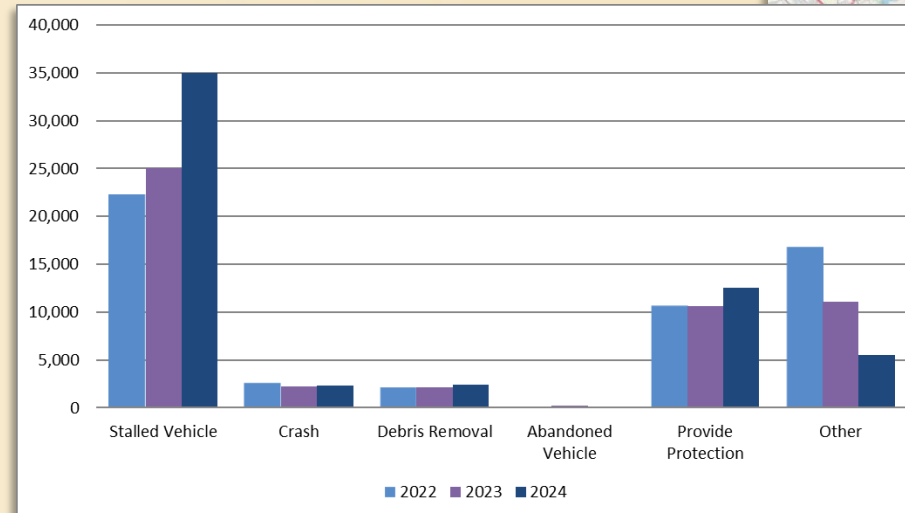
Assists per year:

Average 54,600

Assists/Year (2022–2024)



56,817 in 2024

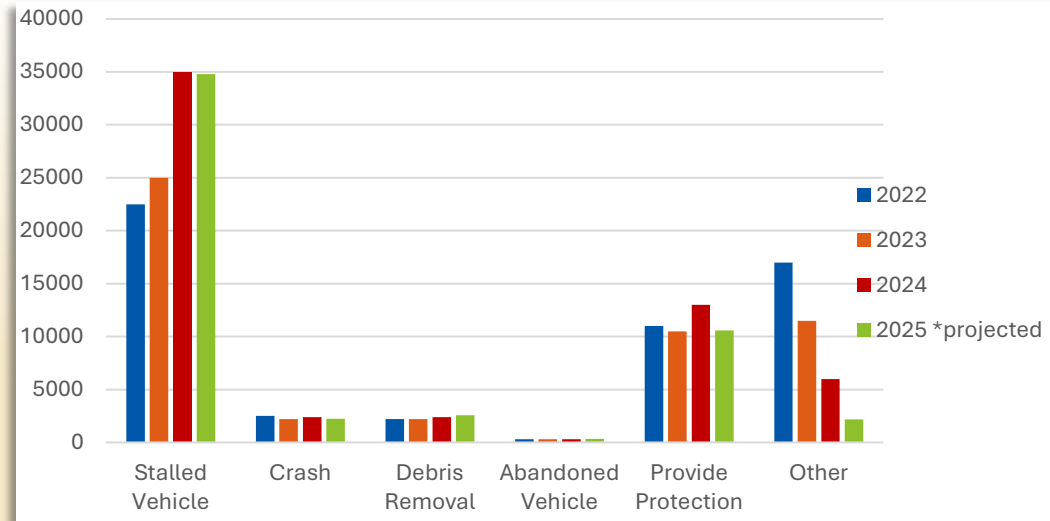




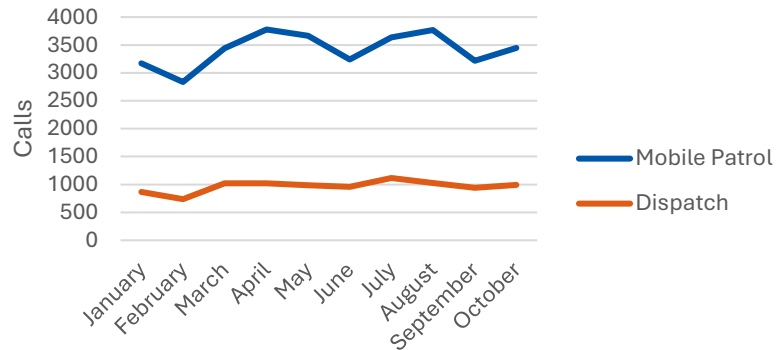
Current Stats

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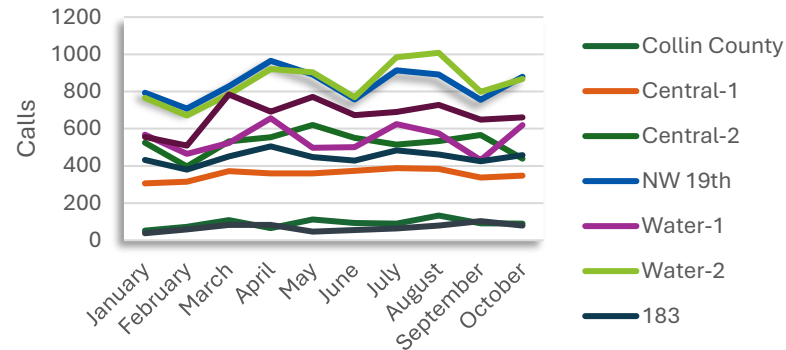
- System in **full production starting January 2025.**
- Averaging **4,385 service calls per month through October.**
- On track for **52,600 service calls for 2025.**



Monthly Service Calls by Source



Monthly Service Calls by Route





Proposed Solution

- Build on existing process
- Develop web-based software
- Utilize Microsoft Azure Cloud
- Client Interface based on login credentials
 - Patrollers, Dispatchers, Managers, and Admin have a role specific interface
- Patrollers provided with latest available tablets

Roles	Minimum Requirements
Patroller	<p>Login & Logout</p> <p>Basic Patroller Information (Shift Input Form) all input fields in the current DCSO form will be included</p> <p>Incident Record (Mobile Input Form)</p> <ol style="list-style-type: none">1. Incident Time and location with map (one location)2. Vehicle Information3. Add Assist information4. Upload photos (a warning message to clear photos on the tablet with 'how to' instructions)
Manager	<ol style="list-style-type: none">1. Login & Logout2. Service Call Summaries: Generate reports daily, monthly, and weekly, between two dates - PDF and charts
Admin	<ol style="list-style-type: none">1. Login & Logout2. Add, update, view and remove - users, trucks, lanes, tablets, phone numbers, assist types, services provided, etc.
Dispatcher	<ol style="list-style-type: none">1. Login & Logout2. View currently assigned incidents (map)3. Create, Delete, and View unassigned incidents (map)

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Tablet and Case Considerations

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- 8 Tablets and Cases
- Samsung A9 Android
- Cases:
 - Heavy Duty Rugged
 - Hand/Shoulder Strap
- Use existing DCSO Cellular Service:
 - T-Mobile
 - Existing SIM cards





Software Parameters

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INPUT FORMS

- All fields in the DCSO developed form included as inputs.
- Input form includes one incident per form, with ability for multiple vehicles per incident.
- Input form include Map with editable location indicator.

DAILY LOGSHEET											PATROLLER:	Durham	TRUCK:	23
											PATROLLER:	Smith	PHONE:	5
CALL IN	10-17	10-22	STOPS	FREEWAY	LOCATION	10-7	10-8	CP/MP	LANE /SHOULDER	LICENSE PLATE	TYPE OF ASSISTANCE	SERVICE PERFORMED	GALLONS	COMMENTS ABOUT STOPS
			1	w30	JimMiller	533	544	MP	Shoulder	HYN3281	Stalled Vehicle	Air/Flat Tire		
			2	n35	Beltline	615	651	MP	Shoulder	TCS0835	Stalled Vehicle	Wrecker Called		WhiteFordF150 Truck
			3	n35	Beltline	616	652	MP	Shoulder	LWS3711	Provide Protection	N/A		RedChevyTruck
			4	n35	Beltline	617	653	MP	Shoulder	SWH3428	Stalled Vehicle	Wrecker Called		GrayFordF150
			5	n35	Beltline	618	654	MP	Lane block	NA	Debris Removal	N/A		Bl a ckTruckBumper
			6	n35	Beltline	638	655	MP	Lane block	J8688T	Provide Protection	N/A		WhiteTowTruck
			7	n35	Beltline	643	656	MP	Lane block	T2689k	Provide Protection	N/A		Bl a ckTowTruck
			8	e183	161	755	759	MP	Shoulder	GL49DR	Stalled Vehicle	Wrecker Called		GrayFordF150
			9	w635	M a cArthur	920	942	MP	Lane block	GVR2771	Stalled Vehicle	Wrecker Called		
			10	n35	MedicalDistrict	1132	1134	MP	Shoulder	SRM8938	Stalled Vehicle	Wrecker Called		White Toyota SUV
			11	n35	ValleyView	1210	12334	MP	Lane block	THT5717	Stalled Vehicle	Wrecker Called		WhiteToyotaCorolla
			12	n35	ValleyView	1211	1235	MP	Lane block	PPK9177	Stalled Vehicle	Wrecker Called		BlackChrysler300
			13	n35	ValleyView	1212	1236	MP	Lane block	TDW4603	Provide Protection	N/A		WhiteChevyTruck
			14	n35	ValleyView	1213	237	MP	Lane block	Na	Crash	N/A		2-Cars WhiteToyota,BlackChrysler



Software Parameters

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INPUT FORMS

Multiple input screens developed, including:

- Shift begin/end.
- TMC Dispatcher Overview Screen.
- Manager Reporting Screen.

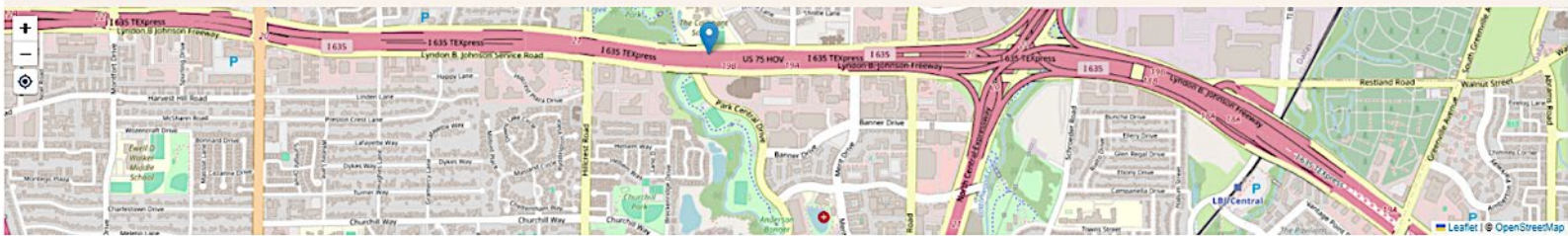
Location

Route*	Select route Central-2	Travel Direction* Select one or more	Select travel direction(s) West
Freeway*	Select freeway IH-635	Cross Street*	Select cross street Park Central
Lane(s) Blocked* <small>Select one or more</small>	Select lane(s) blocked Right Shoulder		

[Hide Location](#)

Latitude: 32.92437466054391 Longitude: -96.77985191345215

Move pin around the map to change location.





Roles

PATROLLER

Multiple input screens developed:

- Shift begin/end
- Add Incident Location
- Add Vehicle information
- Add Services Provided
- Review Completed Incidents

All fields possible implemented as drop-down lists to maintain consistency and improve speed of entry.

Location

Route* Select route Central-2

Freeway* Select freeway IH-635

Lane(s) Blocked* Select lane(s) blocked Right Shoulder

Travel Direction* Select travel direction(s) West

Cross Street* Select cross street Park Central

Latitude 32.92437466054391

Longitude -96.77985191345215

Hide Location

Move pin around the map to change location.



Roles

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Multiple input screens developed:

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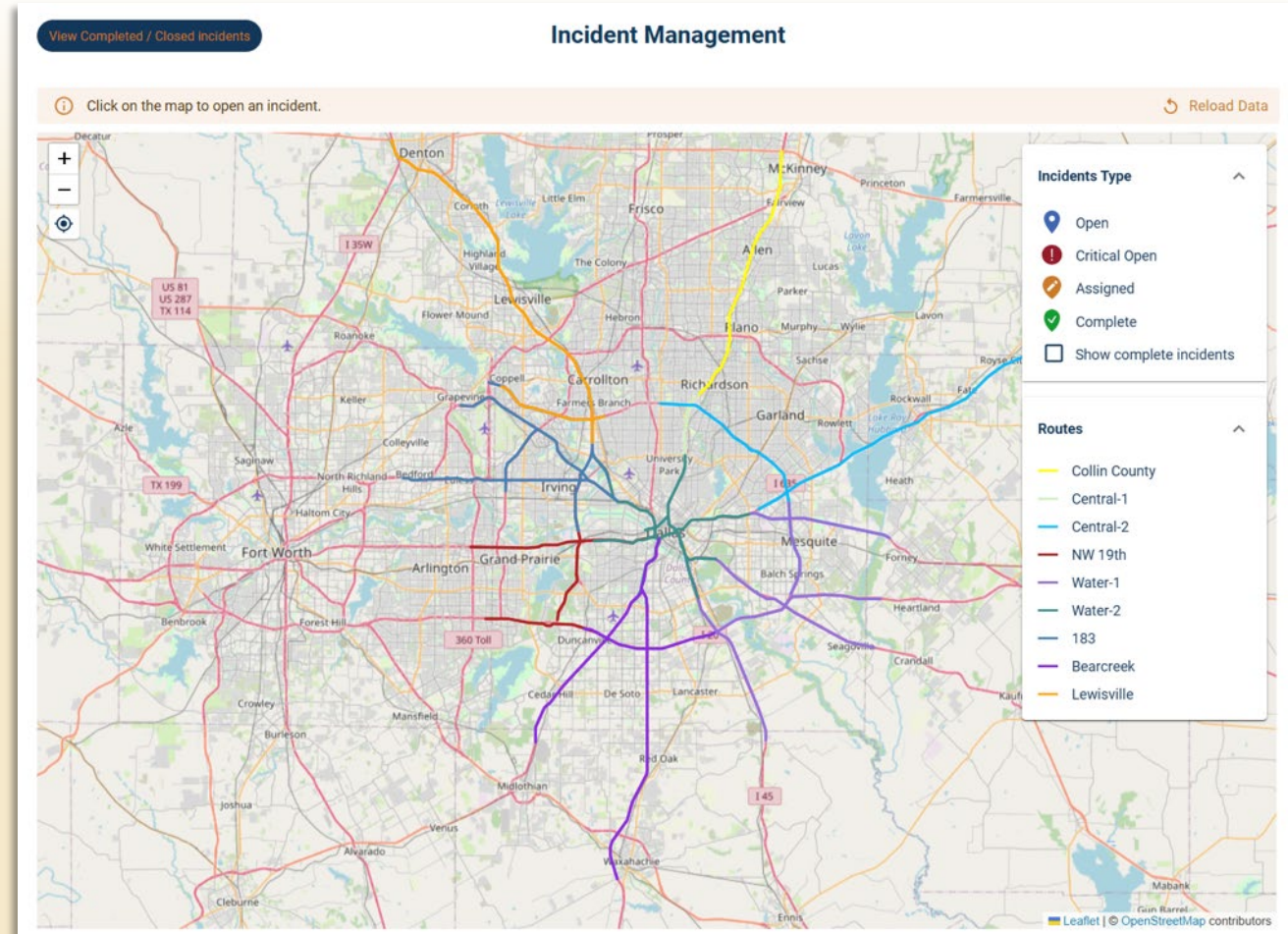
The screenshot displays the 'Add Incident Details' form within the 'DCSO Courtesy Patrol Management' system. The form is organized into several sections: 'Time' (Date, Day of week, Start Time, Detect Method, Mark incident as critical), 'Location' (Route, Freeway, Lane(s) Blocked, Travel Direction, Cross Street, Show Location), 'Vehicle 1 Information' (Type of Assist, Service Provided, Comments, License Plate, Add another vehicle, Add Image(s), Submit Incident), and a 'Delete Vehicle 1' link. The form includes various input fields, dropdown menus, and checkboxes to capture incident details.



Roles

DISPATCHER

- Map based incident locating.
- Add detected and reported incidents, and Patrollers area able to instantly see new incidents in their area.
- Pre-fill incident data to assist patrollers.





Roles

MANAGER

- Report that can be filtered by available parameters: Dates and Times, Routes, Patrollers.
- Summary screen and detailed incident reporting.
- Preconfigured Monthly Reports for MPO and TxDOT reporting.

Service Call Summaries View All Service Calls

Total Records: 73

Search

Actions	Status	Truck #	Primary Patroller	Route	Detect Method	Last Modified
	complete	CP022	Long Nguyen	Water-2	Mobile Patrol	05-15-2025 05:45:14 CDT
	complete	CP022	Long Nguyen	Water-2	Mobile Patrol	05-15-2025 05:47:25 CDT
	complete	CP022	Long Nguyen	Water-2	Mobile Patrol	05-15-2025 06:05:48 CDT
	complete	CP022	Long Nguyen	Water-2	Mobile Patrol	05-15-2025 06:06:36 CDT
	complete	CP056	Peyton Anderson	Central-2	Mobile Patrol	05-15-2025 06:09:54 CDT
	complete	CP022	Long Nguyen	Water-2	Dispatch	05-15-2025 06:56:23 CDT
	complete	CP051	Ely Morel	Bearcreek	Dispatch	05-15-2025 07:14:55 CDT
	complete	CP056	Peyton Anderson	Central-1	Mobile Patrol	05-15-2025 06:37:29 CDT
	complete	CP022	Long Nguyen	Water-2	Dispatch	05-15-2025 07:18:23 CDT
	complete	CP056	Peyton Anderson	Central-1	Dispatch	05-15-2025 07:44:37 CDT





















Rows per page 10 1-10 of 73



Roles

ADMIN

- Restricted Administrative Access to modify input values.
- Admins can:
 - Modify drop-down field list items.
 - Add or remove users.
 - Add or remove equipment, such as trucks, phones, tablets.

Manage Information		
Services Provided		Add New
Total Records: 11		<input type="text" value="Search"/>
Actions	Name	Status
 	Air/Flat Tire	active
 	Wrecker Called	active
 	Fuel	active
 	Jump Start/Mechanical Assistance	active
 	Push/Pull Vehicle	active
 	Directions/Information	active
 	Radiator Water	active
 	Transportation	active
 	Major Crash	active
 	Minor Crash	active
Rows per page 10 1-10 of 11		



Lessons Learned

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- **Cellular Dead Zones** e.g. SH 183, SH 114, etc.
- **Establish Development and Production Environments.**
- **Only push software changes out by 2 p.m. weekdays.**
- **Create a backup plan for system downtime.**
- **Patrollers using Voice-to-Text for Vehicle information:** (type, color, etc.) for Comments Field instead of using respective drop-down menus.
- **Manager default view** to only show completed incidents from previous day (5 a.m. – Midnight).
- **Procedural Processes:** e.g. when to take and upload photos, determining critical from non-critical events, etc.



Next Steps

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- DCSO and TTI to develop custom reports, as needed.
- TTI to provide minor software modifications, as requested.
- TTI to maintain database and server support.
- TTI to maintain software documentation and training support.

Questions?



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