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HARRIS COUNTY TOLL ROAD AUTHORITY

HCTRA Incident Management's

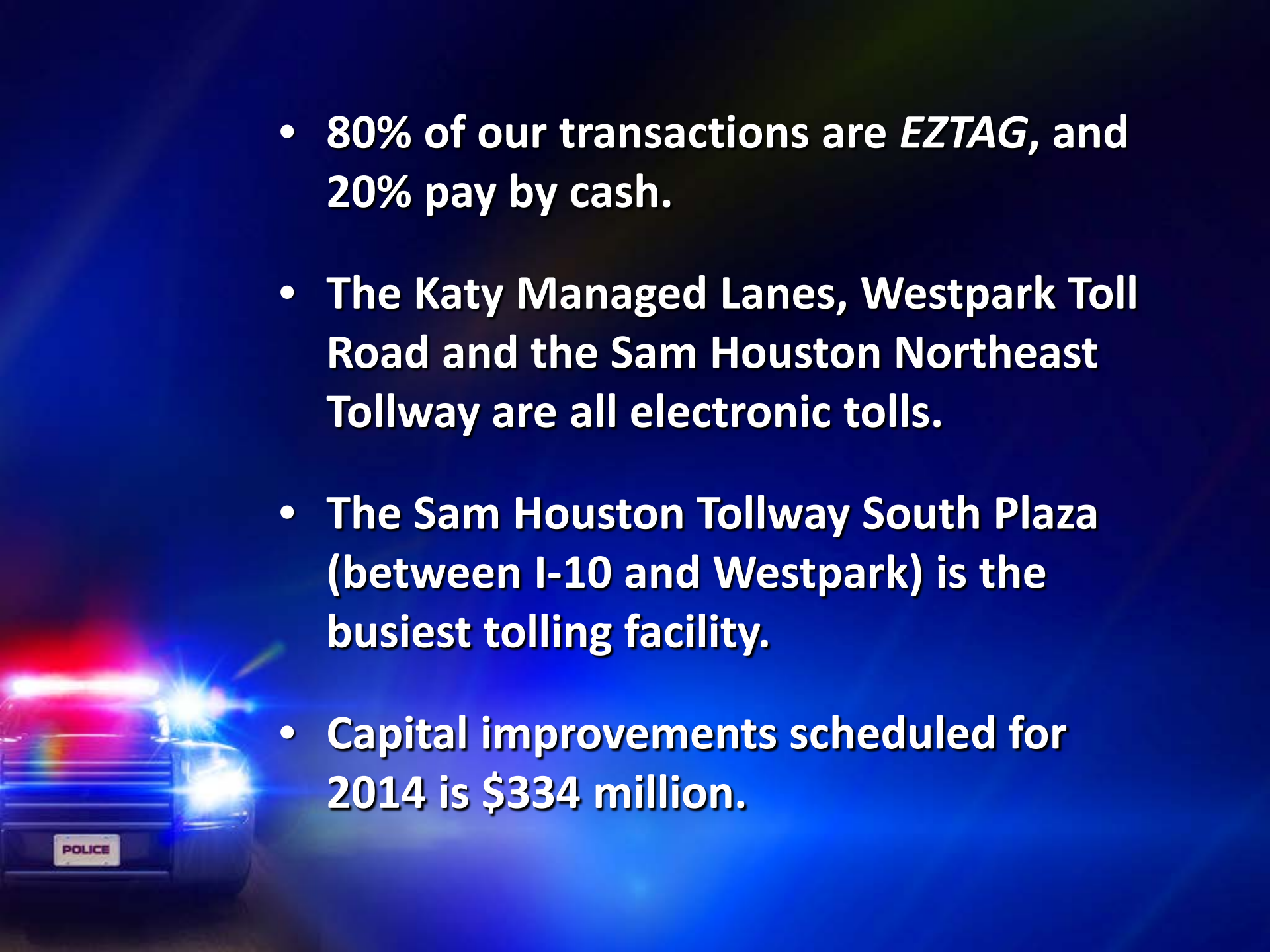
Rapid Response & Rapid Removal


Life
Flight


HOUSTON
FIRE

Quick Facts About HCTRA

- Currently, the roadway is 120 linear miles (approximately 634 lane miles).
- The projected revenue for 2013 is $560 million.
- During the week there is an average of 1.4 million transactions daily.
- Approximately 605,000 vehicles use the system daily.



- 80% of our transactions are *EZTAG*, and 20% pay by cash.
- The Katy Managed Lanes, Westpark Toll Road and the Sam Houston Northeast Tollway are all electronic tolls.
- The Sam Houston Tollway South Plaza (between I-10 and Westpark) is the busiest tolling facility.
- Capital improvements scheduled for 2014 is $334 million.

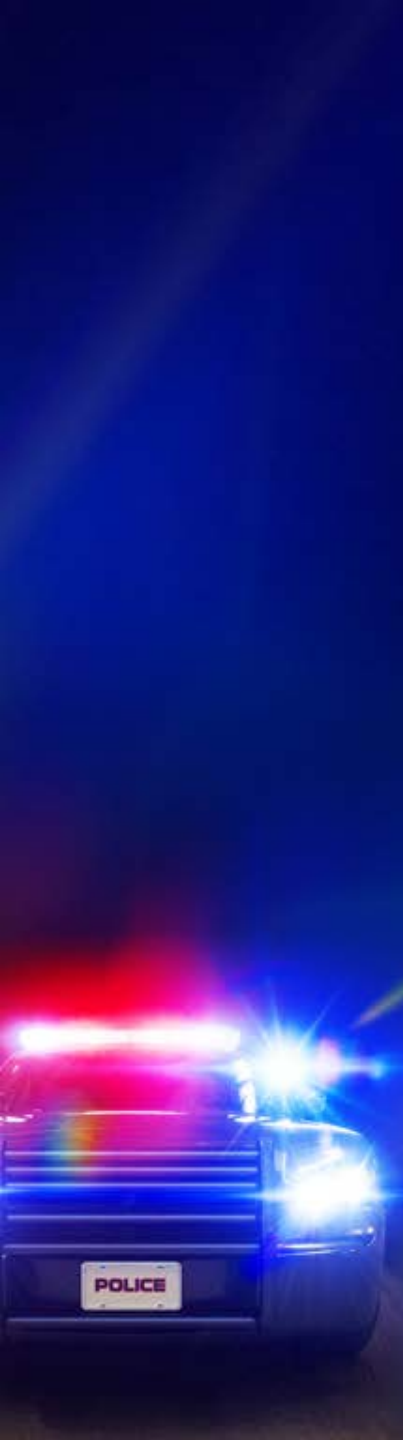
- As of 2013, HCTRA Incident Management coordinates 126 deputies from 6 different agencies.
- We are the only toll road system in the US with 24/7 roadway maintenance personnel.
- All law enforcement and HCTRA Maintenance supervisors participate in an 8 hour training class on the Incident Management Plan.

- We average 380 reported accidents monthly.
- We remediated 21 Haz-Mat scenes in 2012.
- Deputies issued over 68,000 traffic citations last year.
- They made 1,219 arrests in 2012 of which 332 were for DWI.

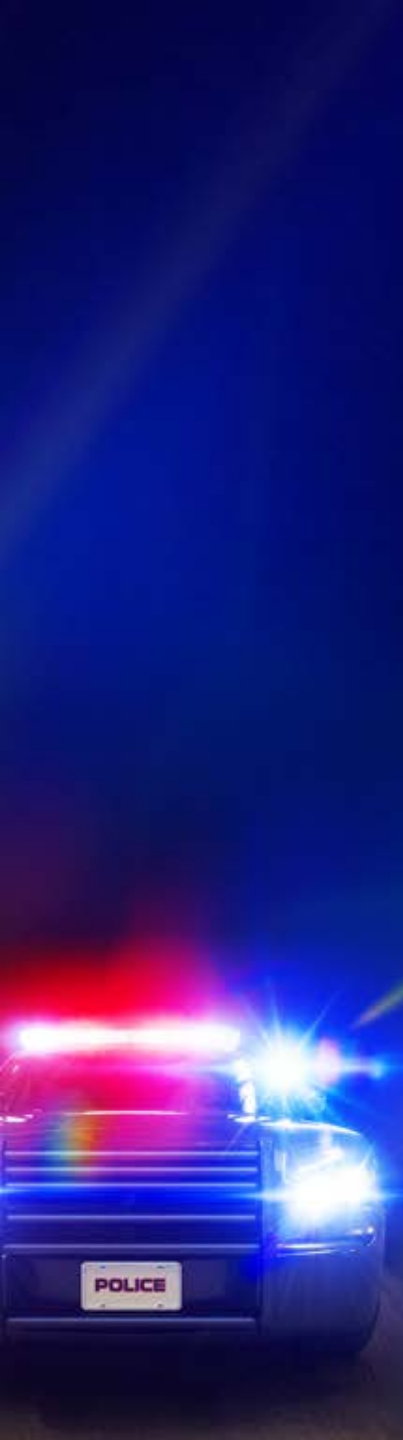
Incident Management
Dispatch Center

- The HCTRA Incident Management Dispatch Center monitors the entire tollway system, dispatching deputies for Harris County and Fort Bend Constable Precincts, and the Roadside Assistance incident response units.
- The contact number for our Center is posted on the DMS, printed on the back of *EZTAG*s, and on static signs around the system. 911 and agency direct calls are rolled-over to us.

- The IMD Center also activates as the Emergency Operations Center (EOC) for HCTRA during large scale or regional incidents.
- This year, the IMD Center was certified as a Law Enforcement Emergency Communications Center by the Texas Commission on Law Enforcement.
- We utilize 261 roadway cameras and post messages on 42 Dynamic Message signs.



- Our dispatch personnel are responsible for operating the roadway cameras, posting incidents and messages for any incident on our system.
- *Houston TranStar's* "Regional Incident Management System" (RIMS) is used to populate the "Real-Time Traffic Map" and create a historical database for the region.
- *TranStar's* Traffic Map is the public and news media's portal for obtaining information on traffic related incidents and travel times.



Traffic Conditions

Traffic Map
Map Features
Camera List
Sign List
Incidents/Road Closures
Construction Report
Speed Reports
Route Builder Updated!
Speed Charts
Road Weather Sensors
Historical Info/Map Archive
Sugar Land Rail Monitor New!
How the Speed Map Works
System FAQ
Traffic RSS
Twitter
Find us on Facebook

Mobile Access

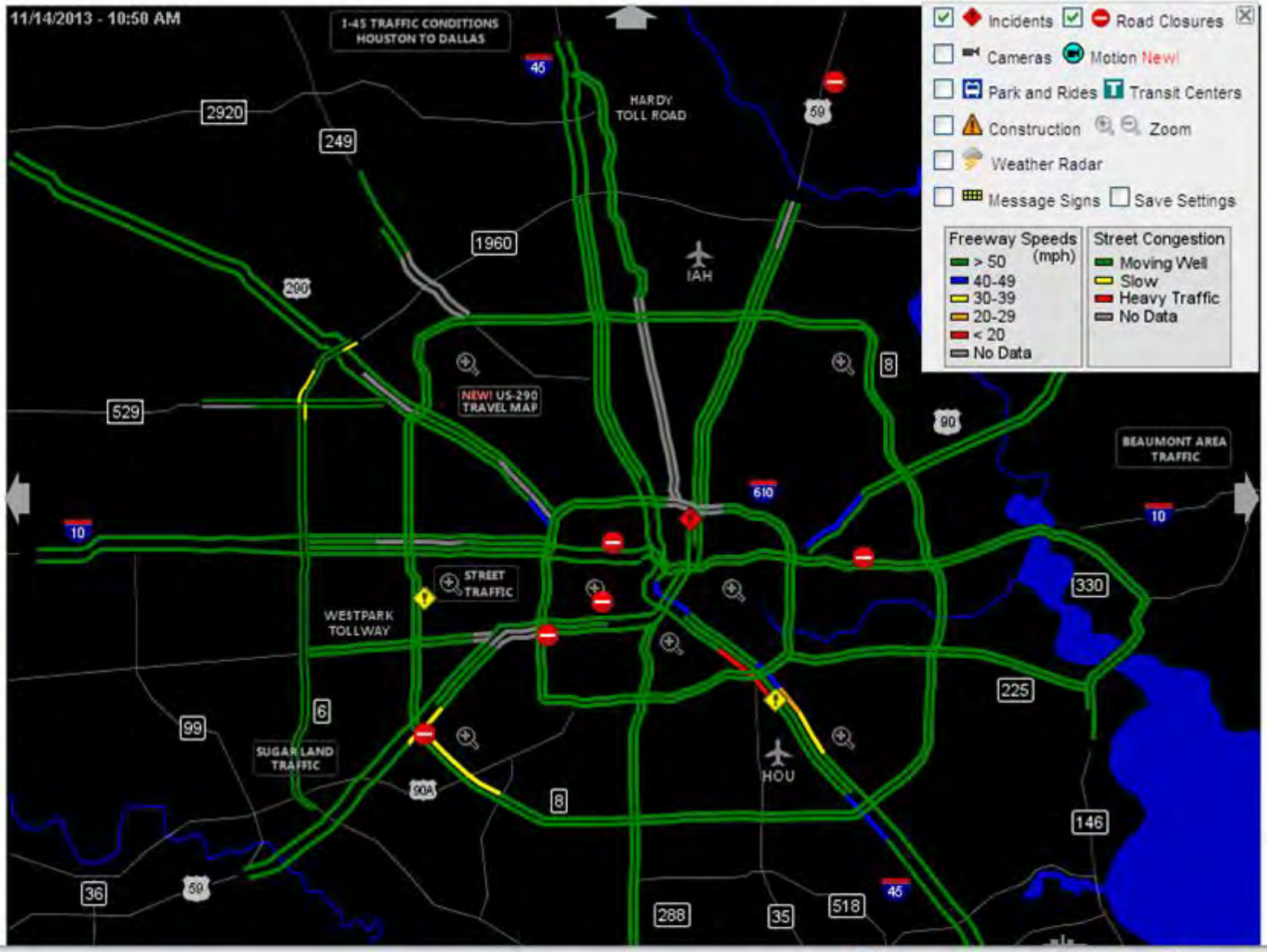
Mobile Web
E-mail Alerts

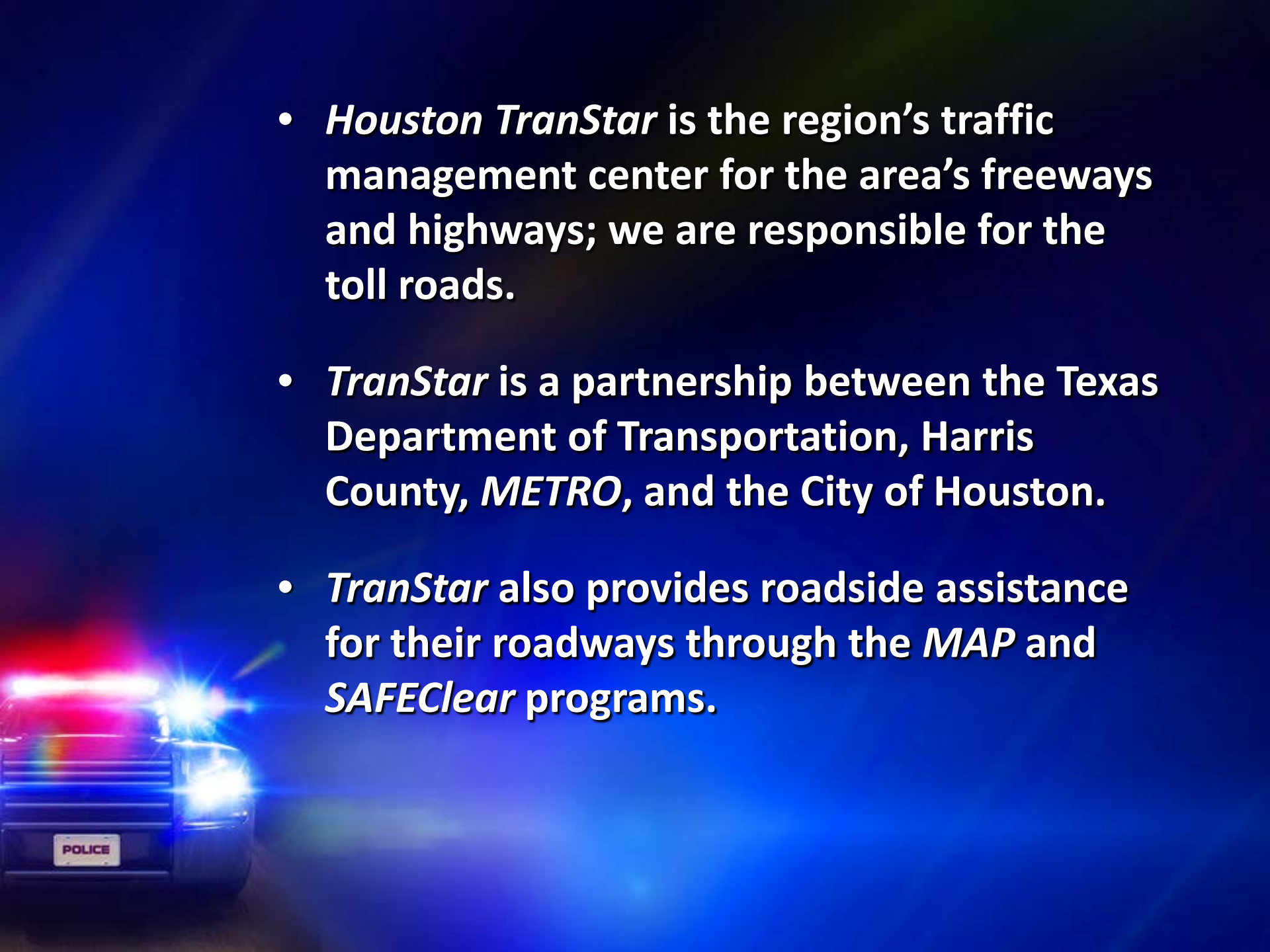
TranStar Programs

Motorist Assistance Program
SAFEClear

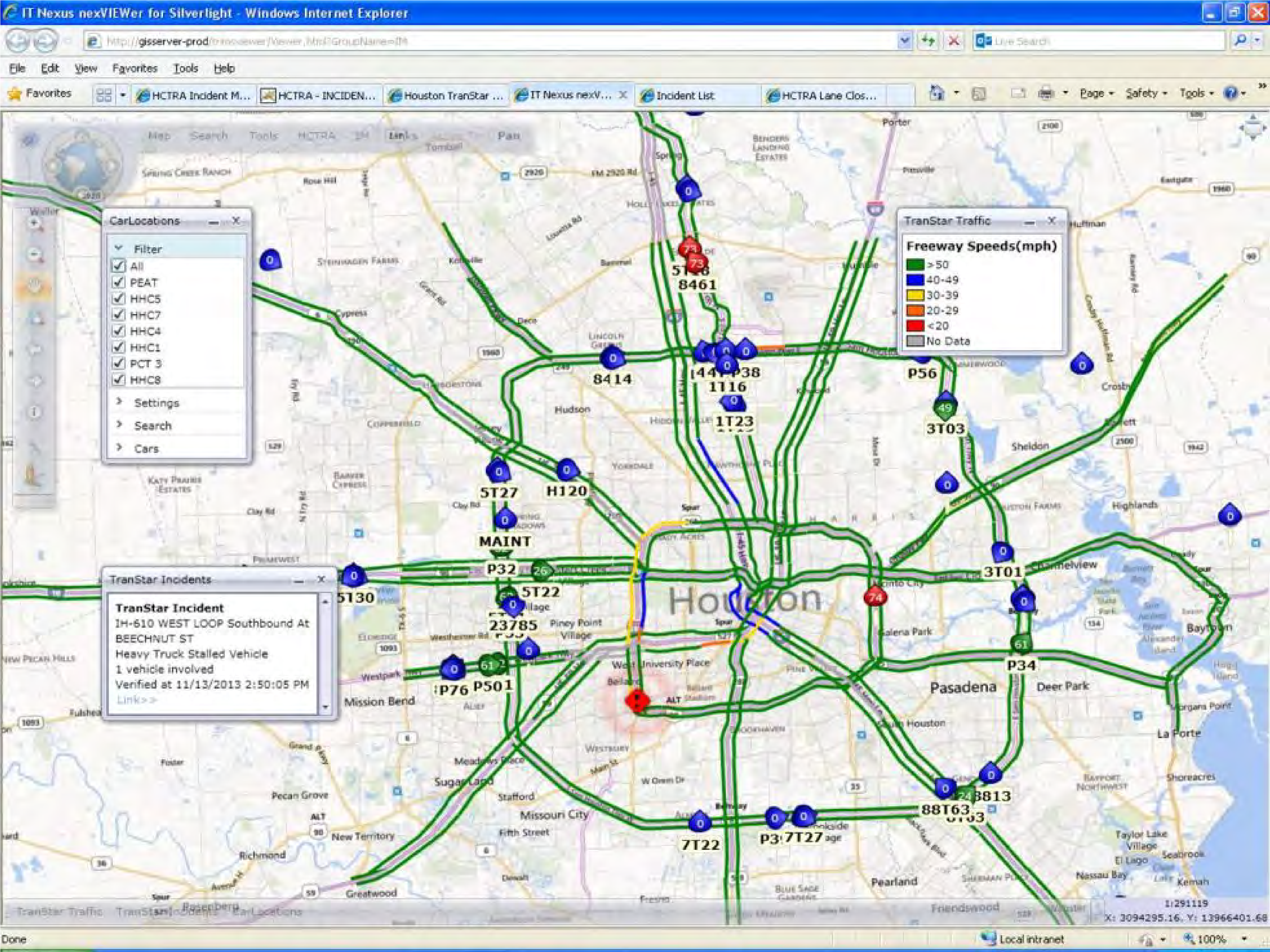
Houston TranStar Traffic Map

Bing Maps Interface | More Maps | Map Controls





- ***Houston TranStar*** **is the region's traffic management center for the area's freeways and highways; we are responsible for the toll roads.**
- ***TranStar*** **is a partnership between the Texas Department of Transportation, Harris County, *METRO*, and the City of Houston.**
- ***TranStar*** **also provides roadside assistance for their roadways through the *MAP* and *SAFEClear* programs.**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File Edit View Favorites Tools Help
Favorites
HCTRA Incident M...
HCTRA - INCIDEN...
Houston TranStar ...
IT Nexus nexV...
Incident List
HCTRA Lane Clos...
Page Safety Tools
CarLocations
Filter
All
PEAT
HHC5
HHC7
HHC4
HHC1
PCT 3
HHC8
Settings
Search
Cars
TranStar Traffic
Freeway Speeds(mph)
>50
40-49
30-39
20-29
<20
No Data
TranStar Incidents
TranStar Incident
IH-610 WEST LOOP Southbound At
BEECHNUT ST
Heavy Truck Stalled Vehicle
1 vehicle involved
Verified at 11/13/2013 2:50:05 PM
Link>>
Houston
Pasadena
Deer Park
La Porte
Baytown
Sugar Land
Missouri City
Pearland
Mission Bend
8414
8461
1116
1T23
P56
3T03
5T27
H120
MAINT
P32
5T22
5130
23785
P501
3T01
P34
8813
88T63
7T22
7T27
1:291119
X: 3094295.16, Y: 13966401.68
Done
Local intranet
100%

- Our dispatchers use GPS to dispatch the closest units to incidents. Field units can also view their agency's own unit's locations.
- The icons give direction of travel and are color coded to indicate speed.
- Supervisors may playback the history of any unit for up to 90 days.
- Dispatchers also proactively perform camera tours of the system to search for possible incidents.

- Using License Plate Recognition, the Dispatchers receive real-time habitual/prohibited vehicle alerts from the tolling cameras mounted at the gantries.
- Amber and Silver Alerts, and Wanted felons license plates are also entered into the ALERT system for detection.
- Incident Management also utilizes a program called “Traffic Pattern Analyzer” to create predictive reports on specific habitual toll violators to increase the probability of apprehension.

From: Klikna, Yen (HCTRA)
To: Harvey, Calvin (HCTRA)
Cc:
Subject: FW: PROHIBITED VEHICLE - HC - SAM HOUSTON SOUTHEAST/Lane 7 WB

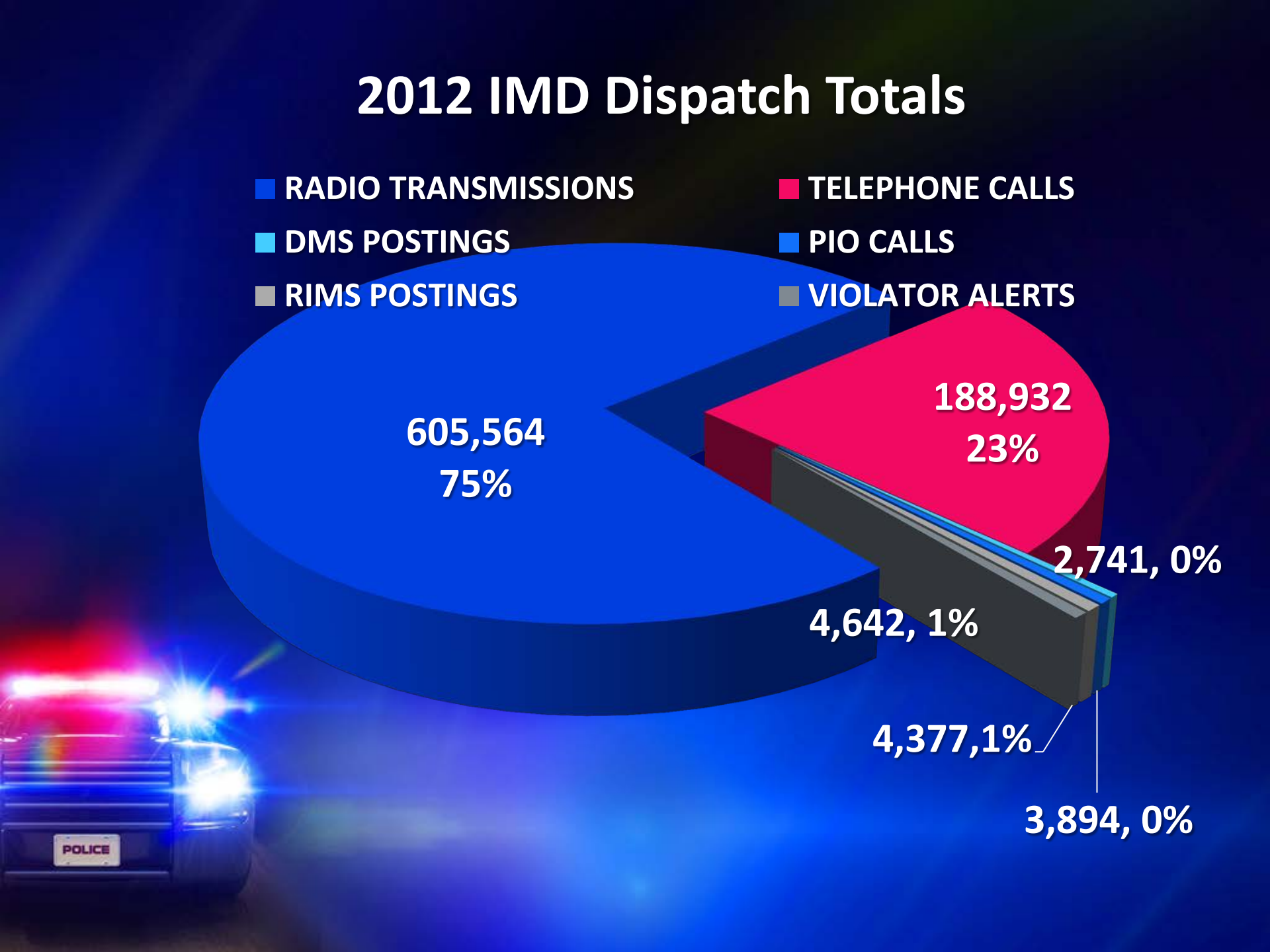
Sent: Thu 11/14/2013 11:40 AM

From: nrt_ocr_alert@hctra.com [mailto:nrt_ocr_alert@hctra.com]
Sent: Thursday, November 14, 2013 9:24 AM
To: HCTRA-IMD-RTA; hctra-ves-sys-alerts@transcore.com
Subject: PROHIBITED VEHICLE - HC - SAM HOUSTON SOUTHEAST/Lane 7 WB

Time: 11/14/2013 09:24:24
Location: SAM HOUSTON SOUTHEAST/Lane 7 WB

Plate Number: CY5[redacted]
Jurisdiction: TX
License Type: NA
Alert Type: PROHIBITED VEHICLE - HC
Vehicle Make: CHEV
Vehicle Model: ML1
Vehicle Year: 2011
Vehicle Color: NA
Originating Agency: NA
Originating Case Number: NA
Top Violator Name: [redacted]
Top Violator Account Balance: $6401.75
Top Violator Rank: 73
Agency Name: HCTRA
Alert Plate Notes: TR - HC

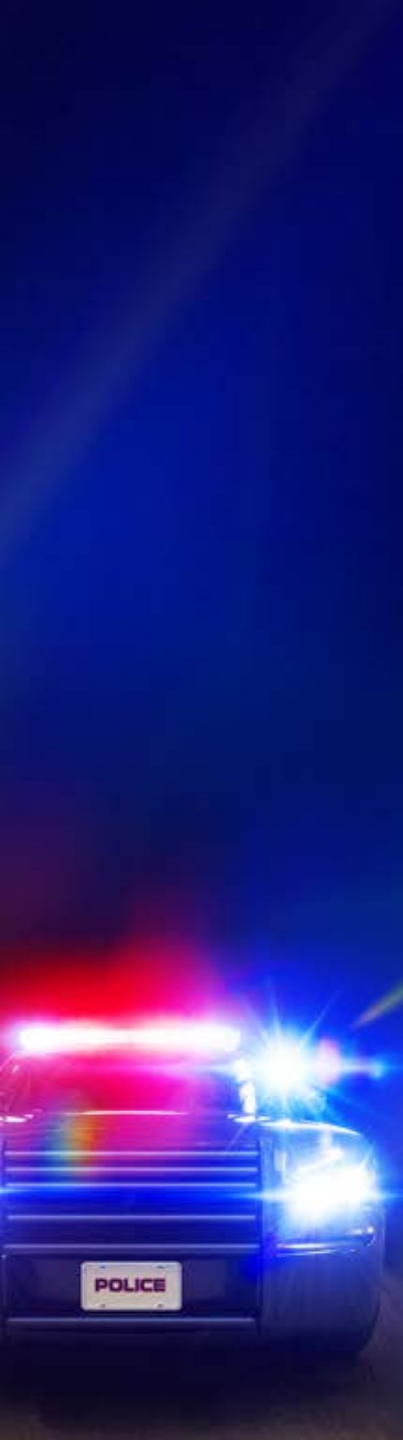
2012 IMD Dispatch Totals



Westpark Wrong-Way Detection


STOP STICK®
SPIKES

- Using ITS based technology and equipment, Incident Management developed a Wrong Way Detection System on the Westpark Toll Road.
- The Wrong Way Detection System won the *International Bridge, Tunnel, and Turnpike Association* (IBTTA) 2009 Award for Excellence.
- In 2013, HCTRA IMD was keynote speaker at the National Wrong-Way Driving Summit at the University of Southern Illinois in Edwardsville.



Identified Need…

- Reports from the public and law enforcement of a higher frequency of wrong-way drivers on the Westpark Toll Road.

- One (1) fatality in August 2006 and three (3) deaths on January 1, 2007 due to wrong-way incidents.

Why on the Westpark…

- No toll collectors?

  All electronic toll road.

- Limited ramps and exits?

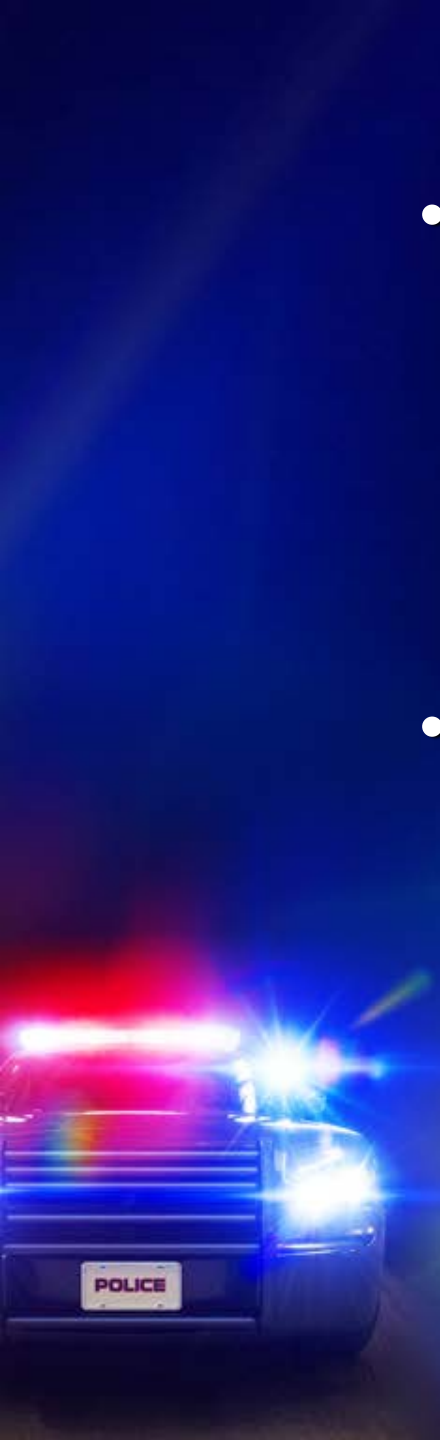
  Due to easement restraints there are no exits for 8 miles.

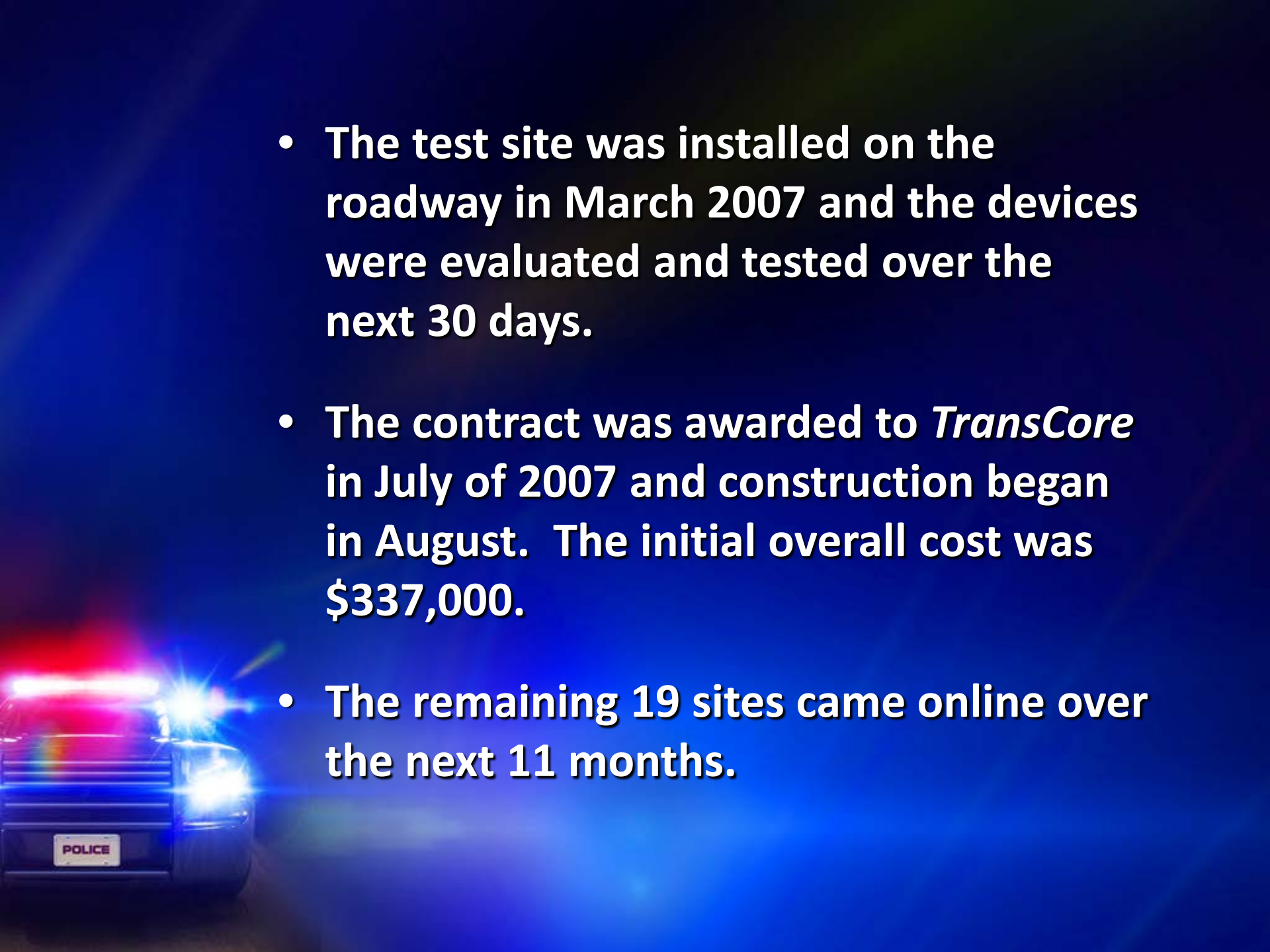
- Design issue?

  Signage and striping.

  Roadway Geometry.

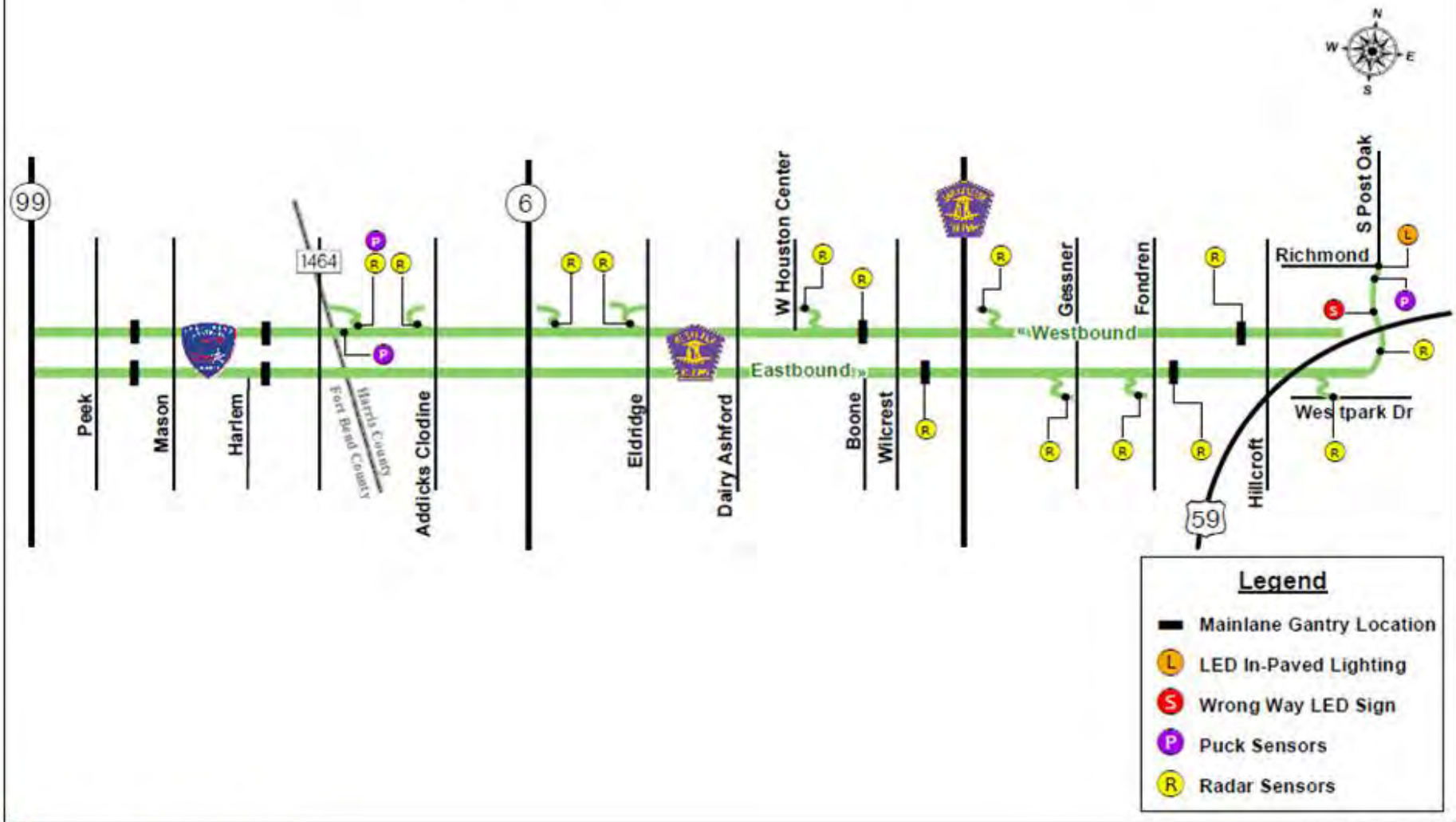
- In 2007, HCTRA Incident Management began researching and testing technology to detect vehicles traveling in the wrong direction on the Westpark Toll Road.
- Doppler radar devices were selected after extensive testing. Video analytics resulted in too many false alarms due to pole and roadway vibration on an elevated roadway.





- The test site was installed on the roadway in March 2007 and the devices were evaluated and tested over the next 30 days.
- The contract was awarded to *TransCore* in July of 2007 and construction began in August. The initial overall cost was $337,000.
- The remaining 19 sites came online over the next 11 months.

Harris County Toll Road Authority
Westpark Tollway Wrong Way Detection Sensors



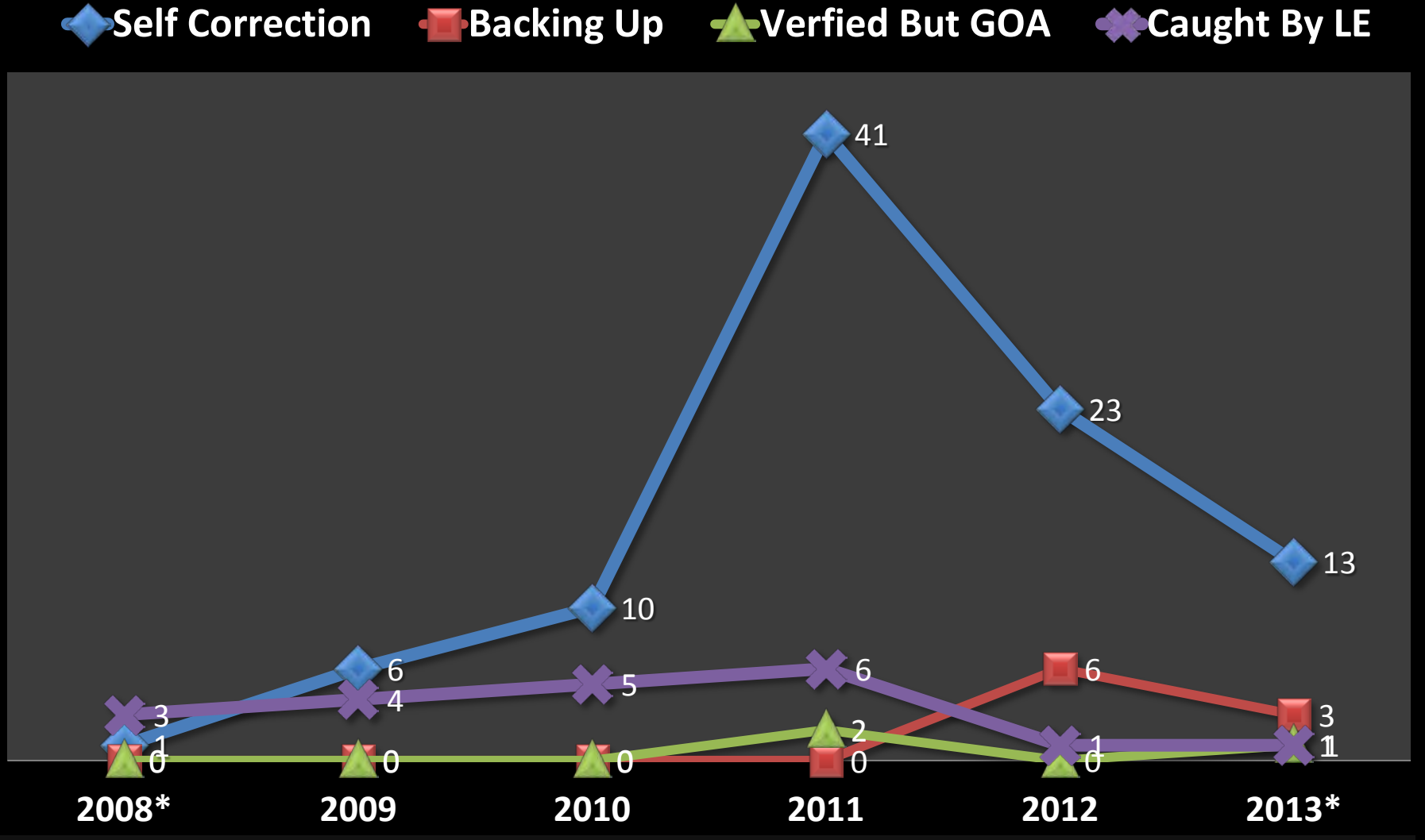
HARRIS COUNTY TOLL ROAD AUTHORITY

Date: February 13, 2012

Enhancements in 2011

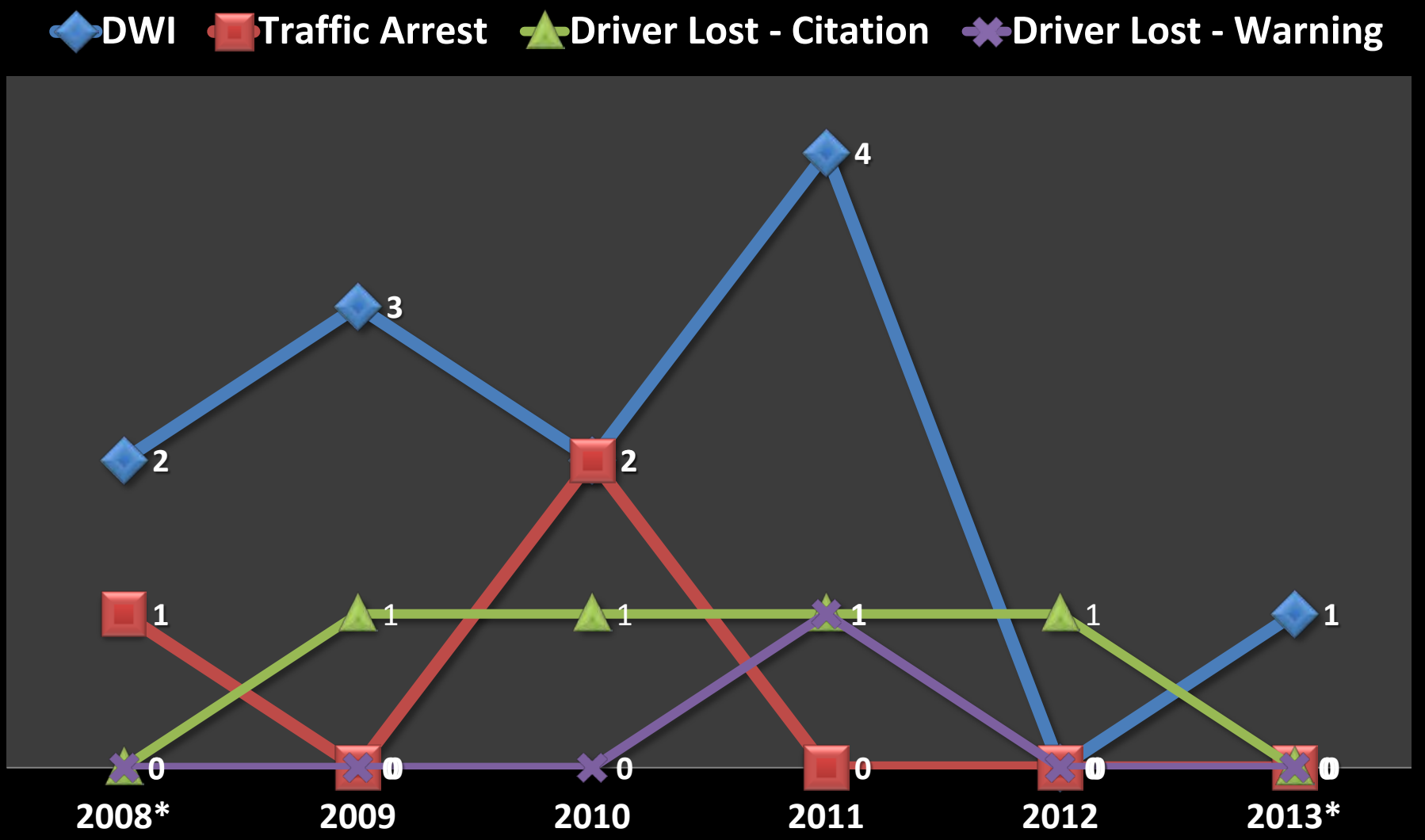
- In-ground LED lighting was installed to warn motorists at Post Oak and Richmond Avenue.
- Flashing LED wrong-way signs were installed at locations which have a higher rate of incidents.
- Through attrition, *Sensys* puck sensors are replacing radars devices.

Westpark WWD Alerts



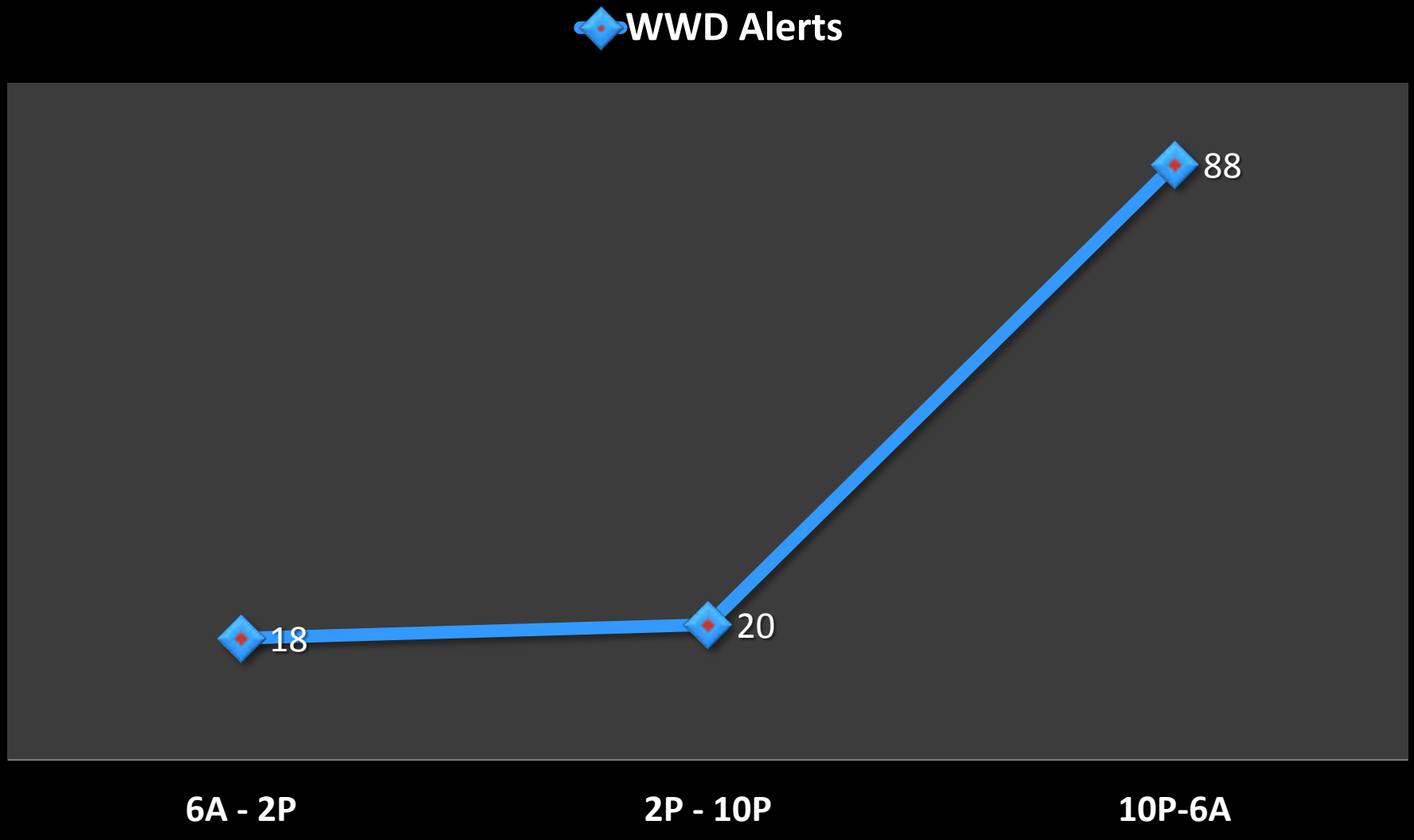
* Statistics from Partial Year

WWD Law Enforcement Action



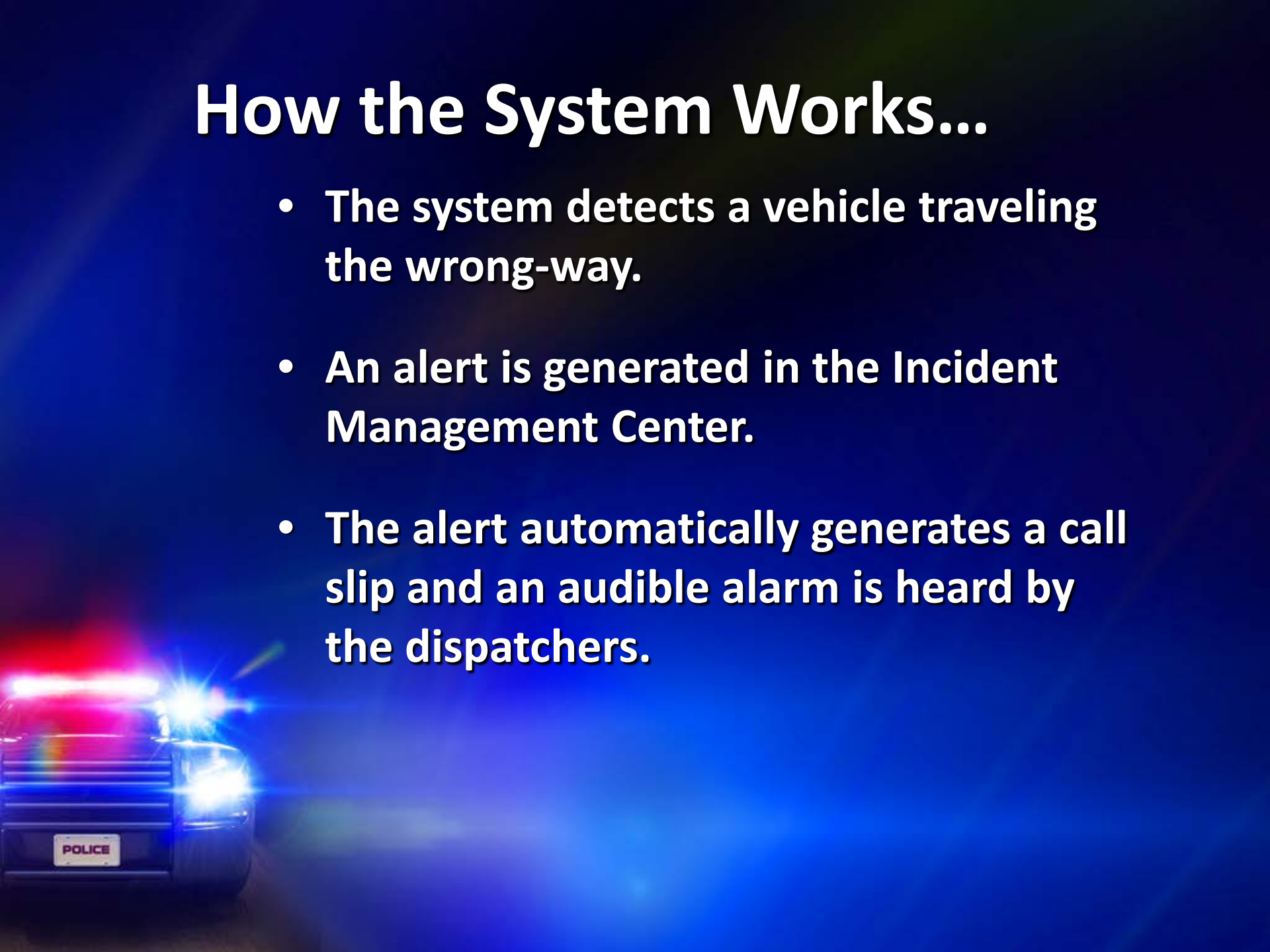
* Statistics from Partial Year

WWD Alerts by Time of Day

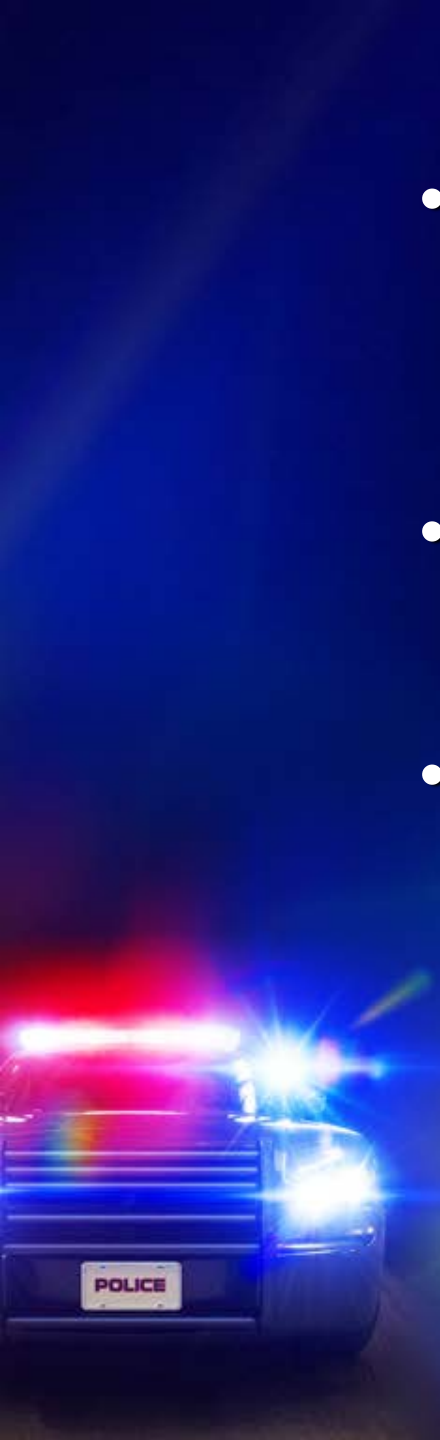


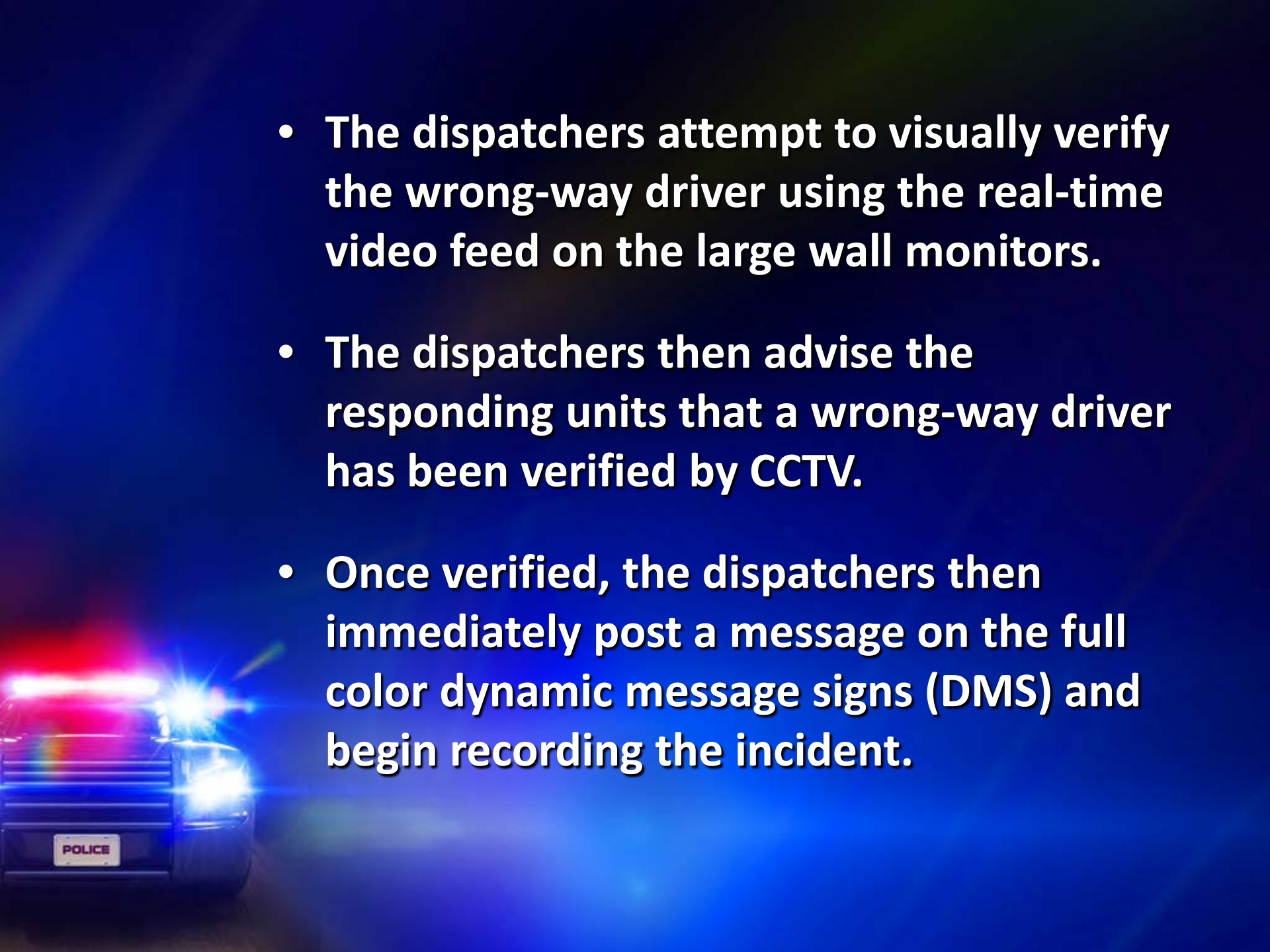
How the System Works…

- The system detects a vehicle traveling the wrong-way.
- An alert is generated in the Incident Management Center.
- The alert automatically generates a call slip and an audible alarm is heard by the dispatchers.



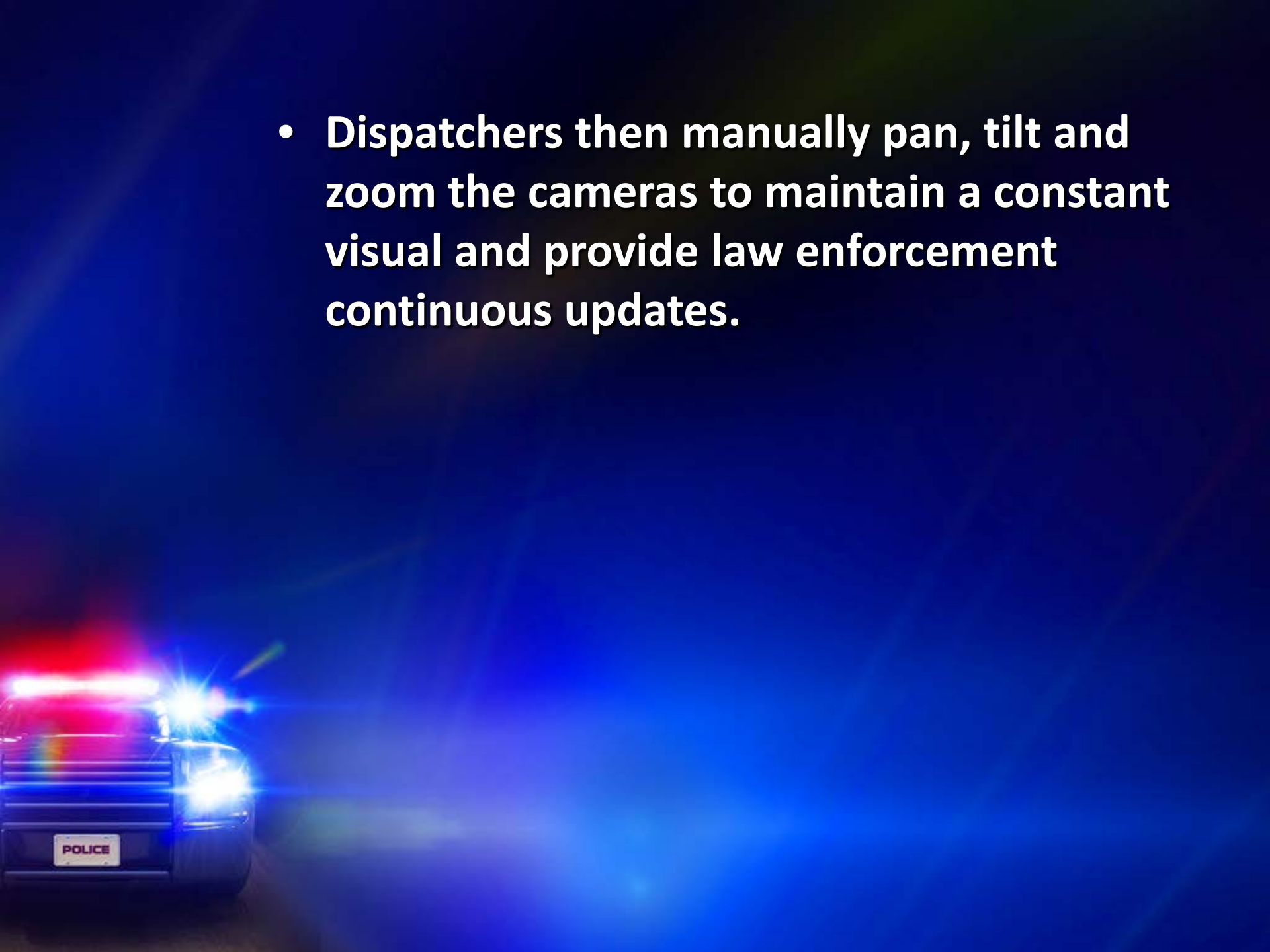
- The GIS Wrong-Way Detection Map zooms into the alert location and displays the location and direction of travel.
- Using GPS, the closest patrol unit is dispatched.
- Six downstream roadway cameras automatically pan, tilt and zoom to presets and the video feeds are displayed on the video wall.





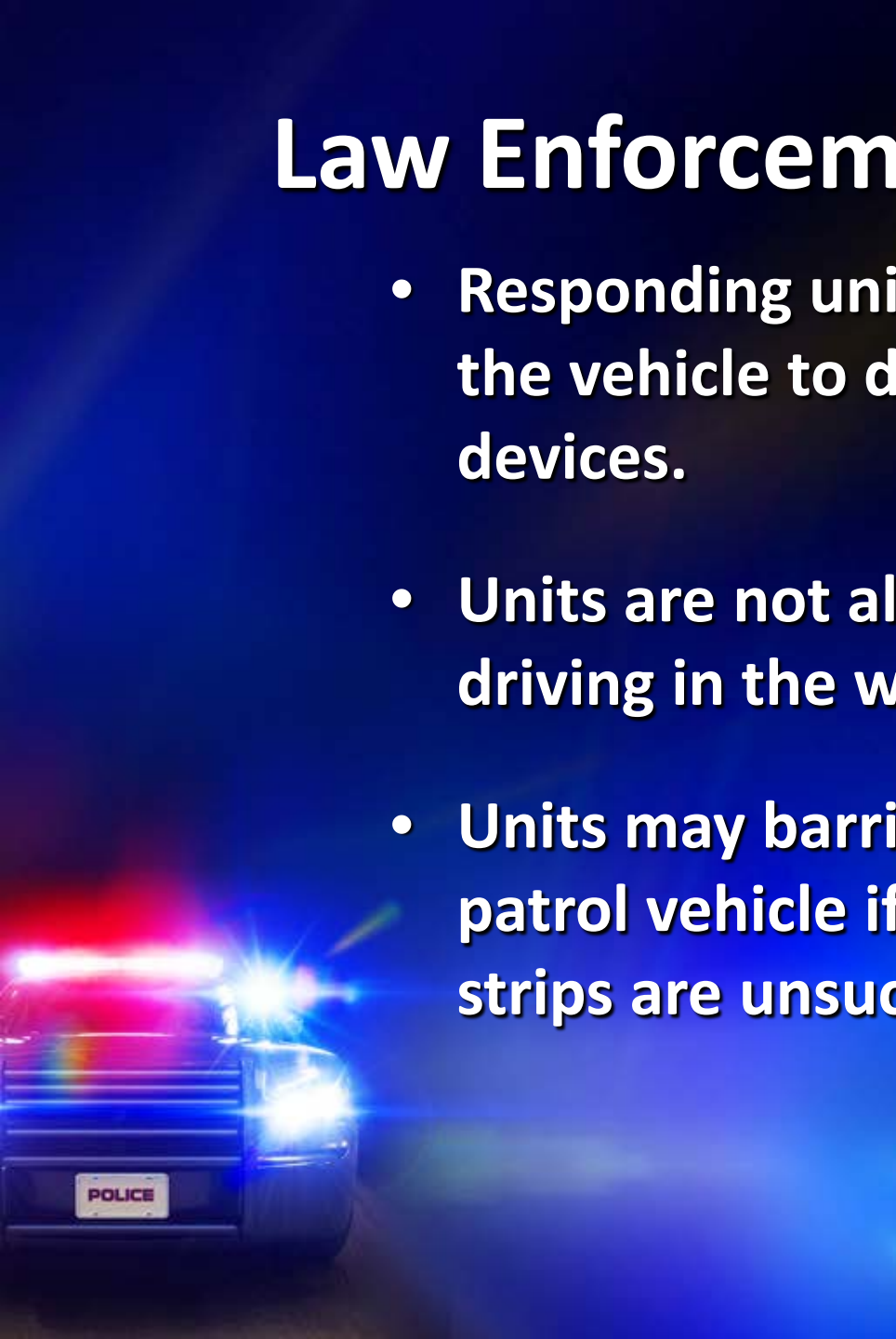
- The dispatchers attempt to visually verify the wrong-way driver using the real-time video feed on the large wall monitors.
- The dispatchers then advise the responding units that a wrong-way driver has been verified by CCTV.
- Once verified, the dispatchers then immediately post a message on the full color dynamic message signs (DMS) and begin recording the incident.

- Dispatchers then manually pan, tilt and zoom the cameras to maintain a constant visual and provide law enforcement continuous updates.



Law Enforcement Response

- Responding units attempt to intercept the vehicle to deploy tire deflation devices.
- Units are not allowed to respond by driving in the wrong direction.
- Units may barricade the road with their patrol vehicle if needed or if the spike strips are unsuccessful.



Incident Response Resources

Incident Respor
Vehicle (IRV)


POLICE


Incident Response Vehicle 2010-03-25 03:32:34 AM
270 -008
X15


HCTRA
Emergency
Communication
HCTRA
SQUIRETECH
FULTON


CALL
(713) 222-P.L.A.T.
9-CKC


ACCIDENT
AHEAD
HCTRA
(713) 222-7328
Roadside
Assistance

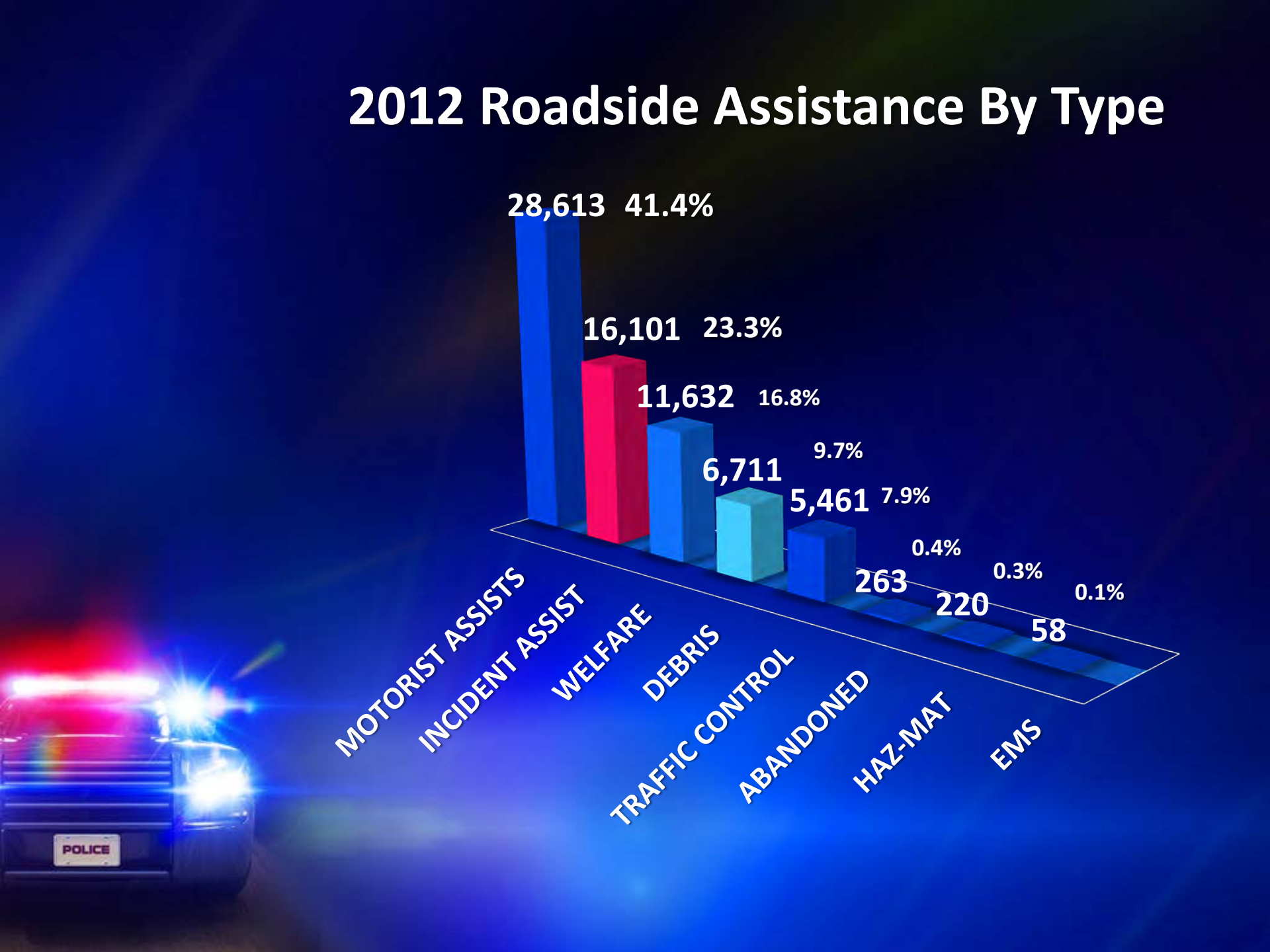

Harris County
Toll Road
Authority
Incident Response


Harris County Toll Road Authority
Roadside Assistance
Roadside

2012 Roadside Assistance Totals

Call Summary Totals

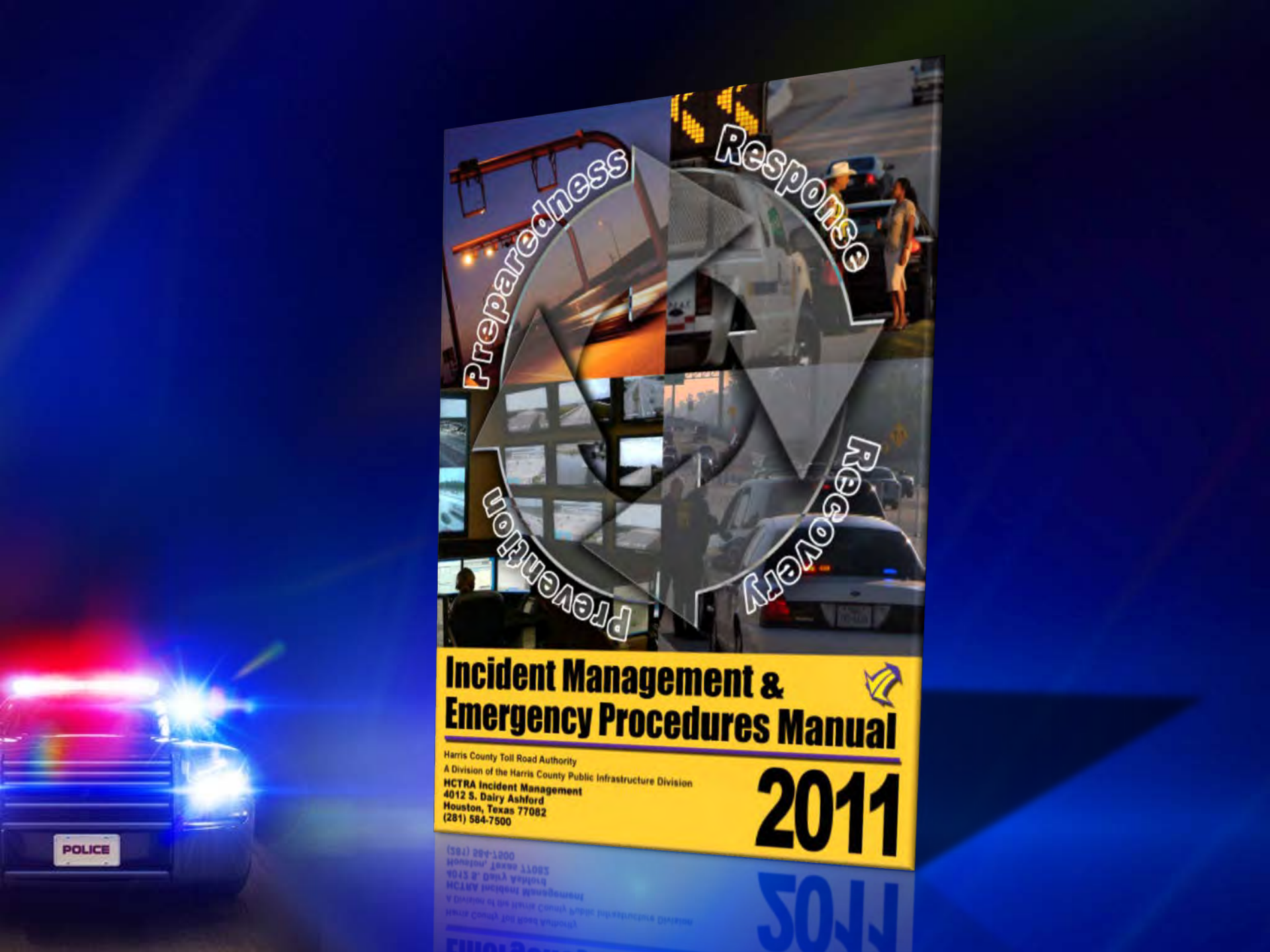
2012 Roadside Assistance By Type



So How Does All of This Come Together to Create Incident Management?

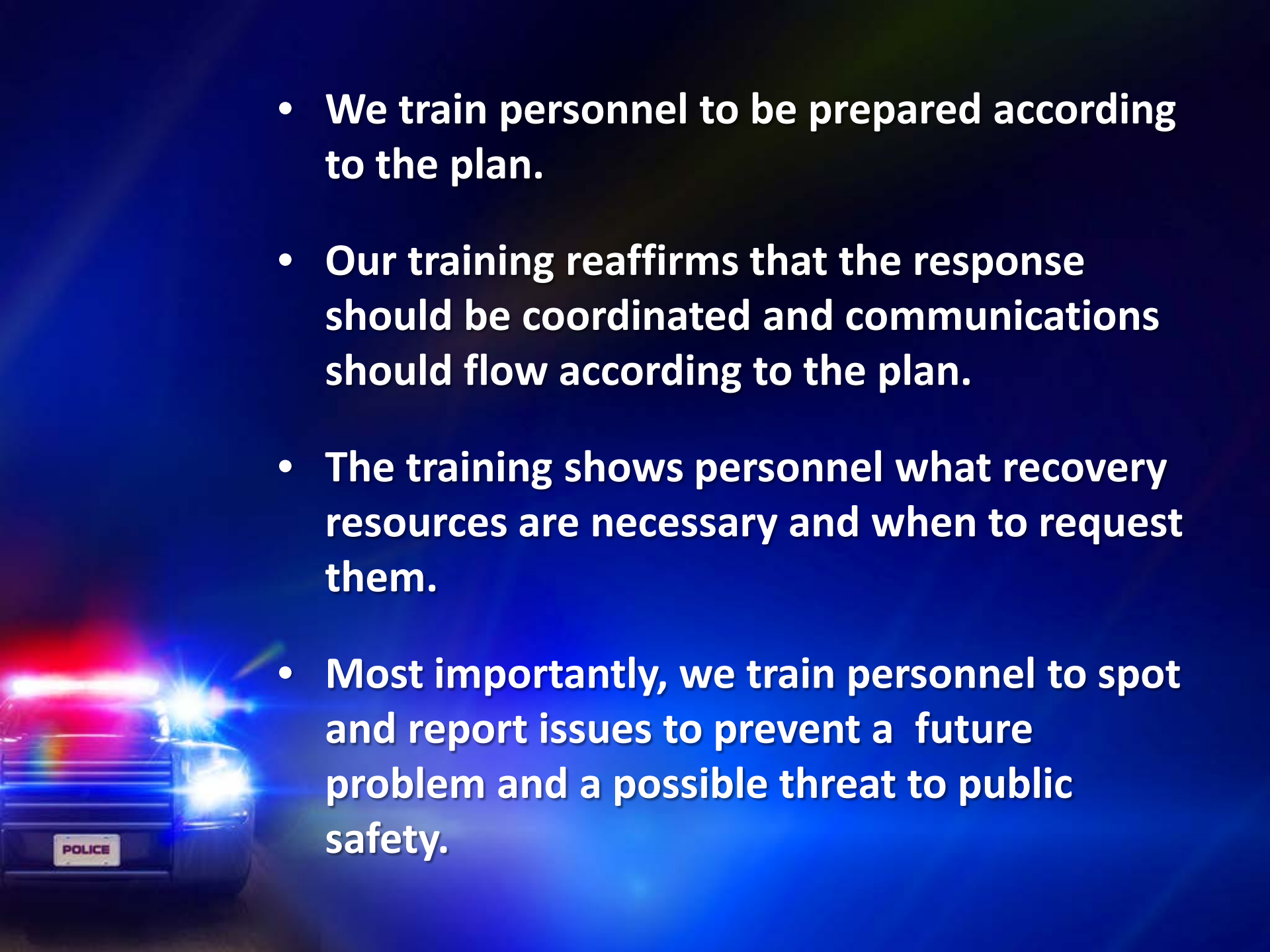
Communication, Coordination & Cooperation

You Must Have a Plan


Preparedness
Response
Prevention
Recovery
Incident Management &
Emergency Procedures Manual
Harris County Toll Road Authority
A Division of the Harris County Public Infrastructure Division
HCTRA Incident Management
4012 S. Dairy Ashford
Houston, Texas 77082
(281) 584-7500
2011
POLICE

Those Who Respond Together Must Train Together

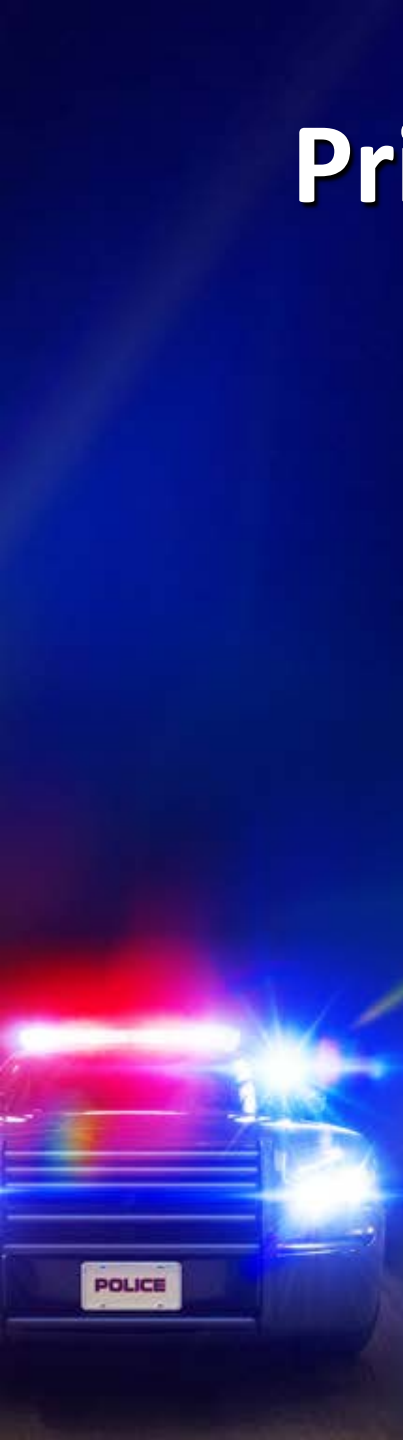

PREPAREDNESS
PREVENTION
RESPONSE
RECOVERY
POLICE



- We train personnel to be prepared according to the plan.
- Our training reaffirms that the response should be coordinated and communications should flow according to the plan.
- The training shows personnel what recovery resources are necessary and when to request them.
- Most importantly, we train personnel to spot and report issues to prevent a future problem and a possible threat to public safety.

Priorities for Clearing Incidents:

- Public and First Responder Safety
- Care for the injured.
- Protect the public and determine the critical actions necessary to restore traffic to its normal state.
- Safely clear traffic lanes of obstructions.
- Reduce the risk of secondary incidents.

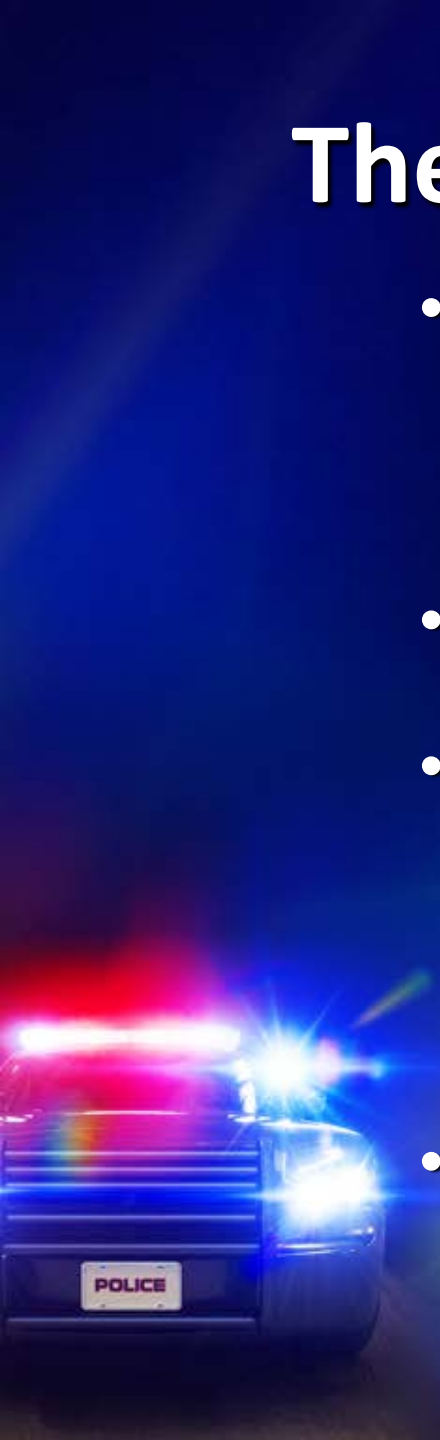


It’s Not About the Tolls…

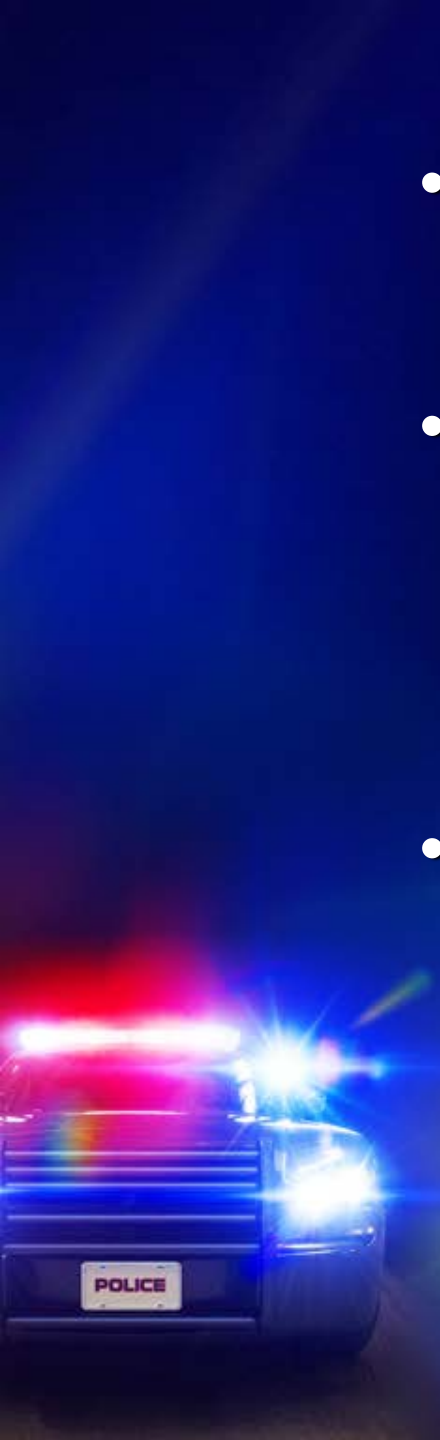
- Incident Management has personnel assigned to recover losses associated to incidents.
- We file claims for loss of revenue and damage to county property.
- In the past 10 years, we have filed $6 million dollars in claims and recovered $4.5 million.

The Coordinator's Role

- The Incident Management Coordinator is responsible for ensuring the plan is being followed on incidents.
- They respond or monitor every incident.
- The IM Coordinator's main role is to coordinate the request and arrival of resources and create a traffic diversion plan.
- Their actions allows the responding deputies to focus on the crash investigation.

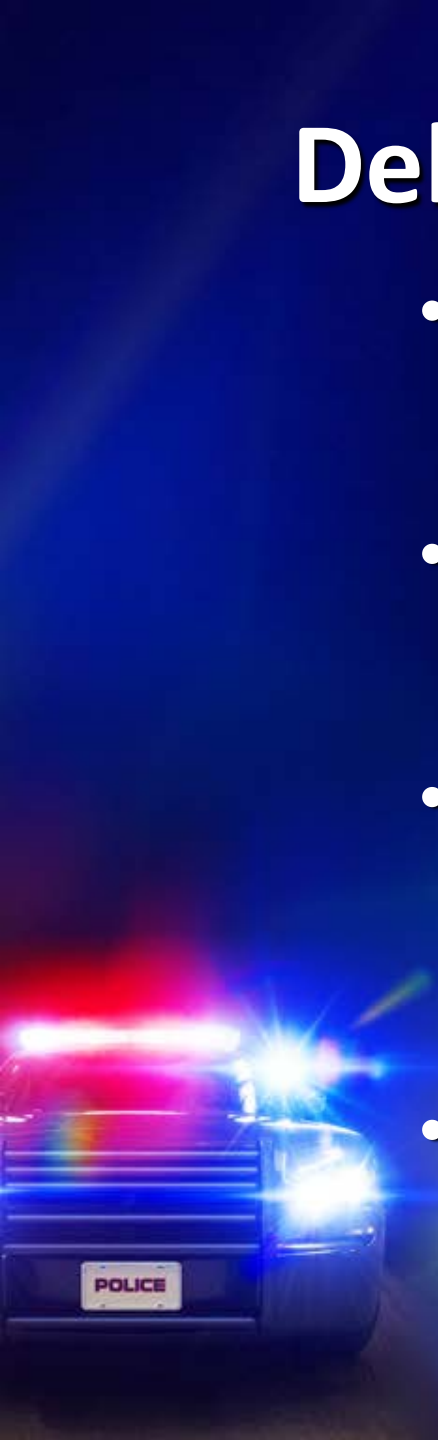


- They have authority to waive tolls for up to an hour to reduce traffic back-up.
- Our Coordinators have been trained to remediate HAZ-MAT scenes to ensure the response is appropriate, safe, and efficient.
- They also work with HCTRA's Maintenance and Construction personnel to review their projects to ensure public safety and verify the appropriate traffic plan is in place.

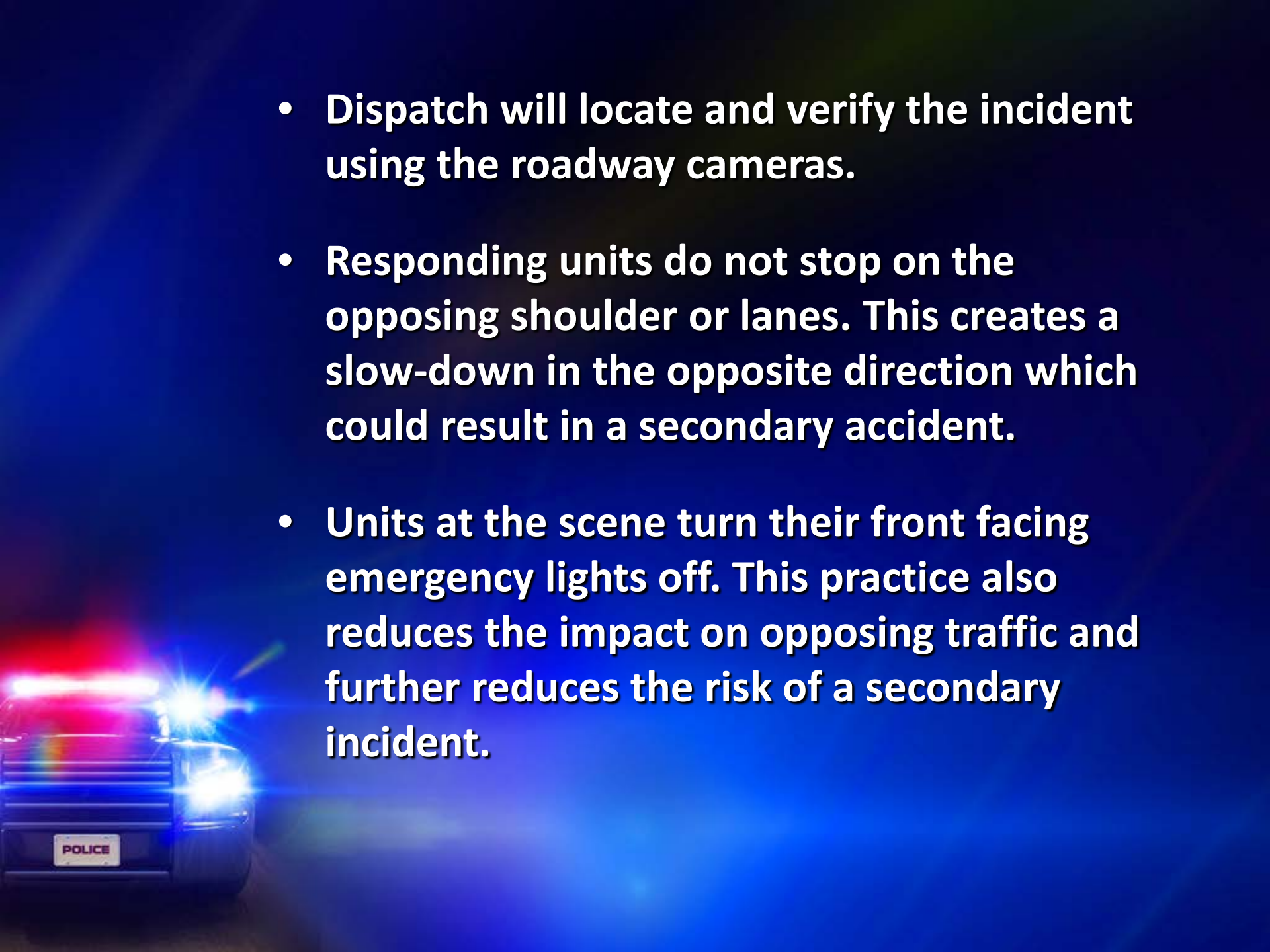


Debrief All Major Incidents

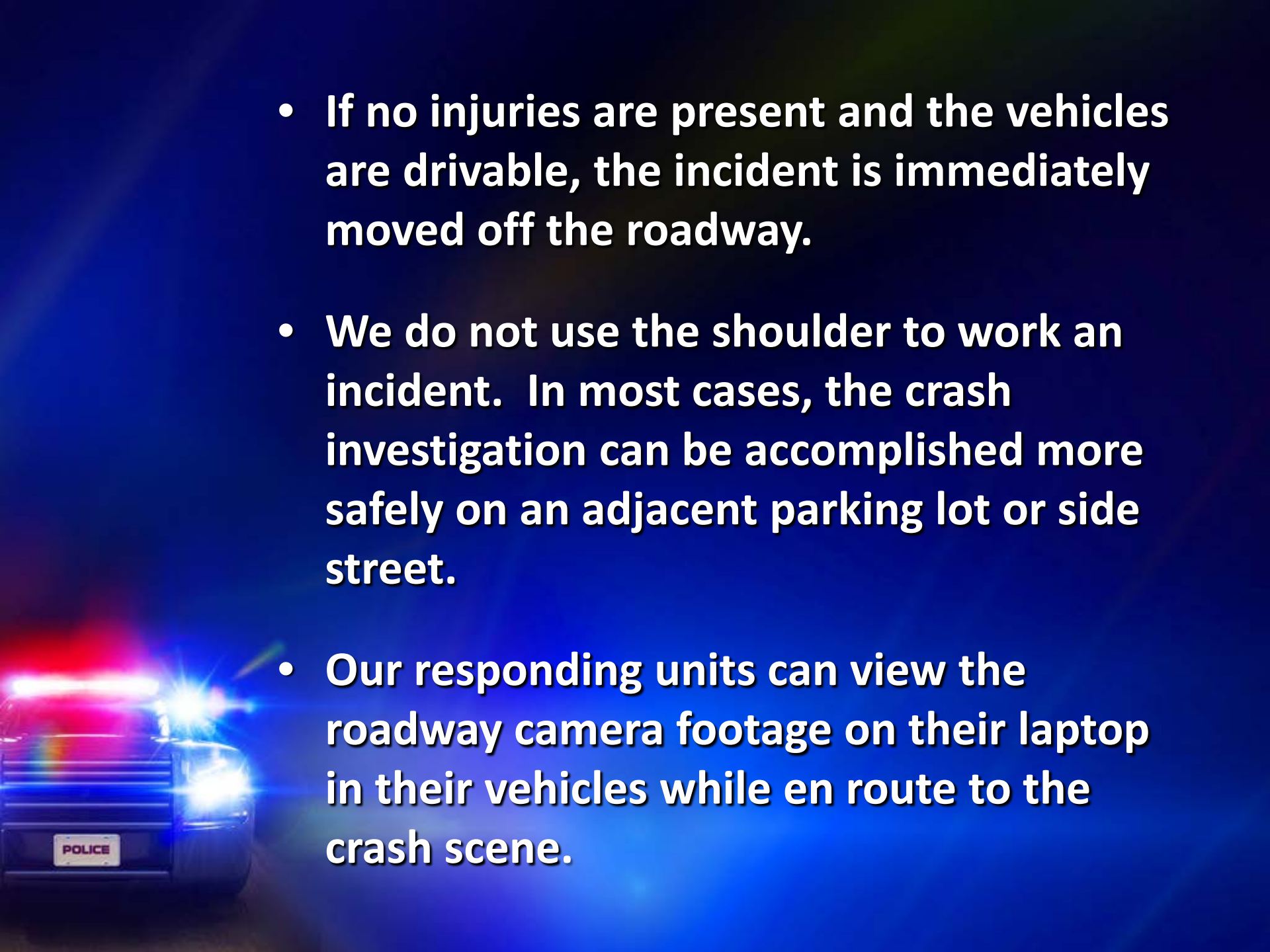
- It is always important to debrief major incidents as soon as possible.
- You need to review what did not work and what needs to be improved.
- The debriefing must include frank discussions and people should not refrain from speaking their minds.
- As we say, “Leave your ego at the door, we’re here to solve problems.”



Best Incident Management Practices

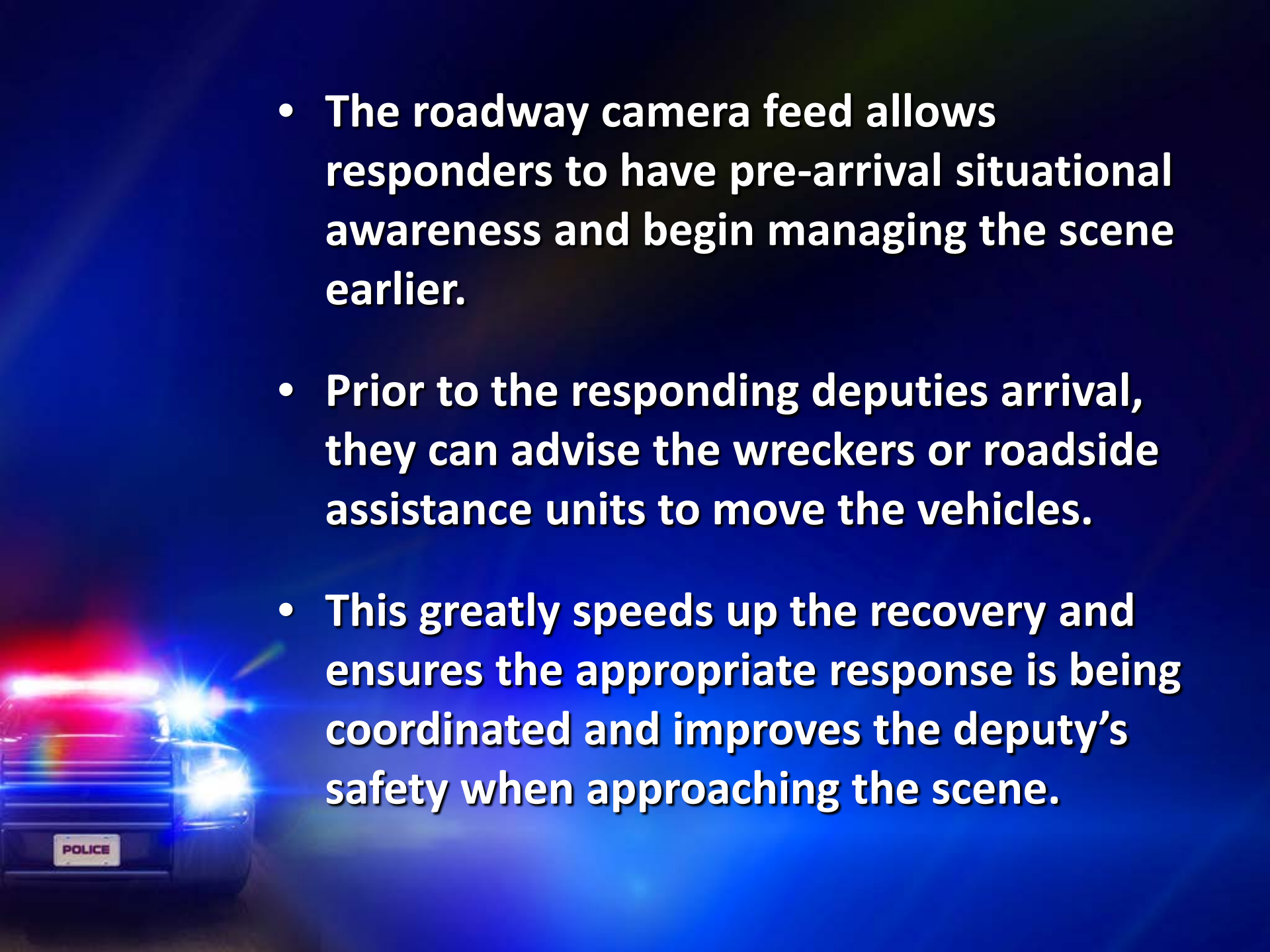


- Dispatch will locate and verify the incident using the roadway cameras.
- Responding units do not stop on the opposing shoulder or lanes. This creates a slow-down in the opposite direction which could result in a secondary accident.
- Units at the scene turn their front facing emergency lights off. This practice also reduces the impact on opposing traffic and further reduces the risk of a secondary incident.



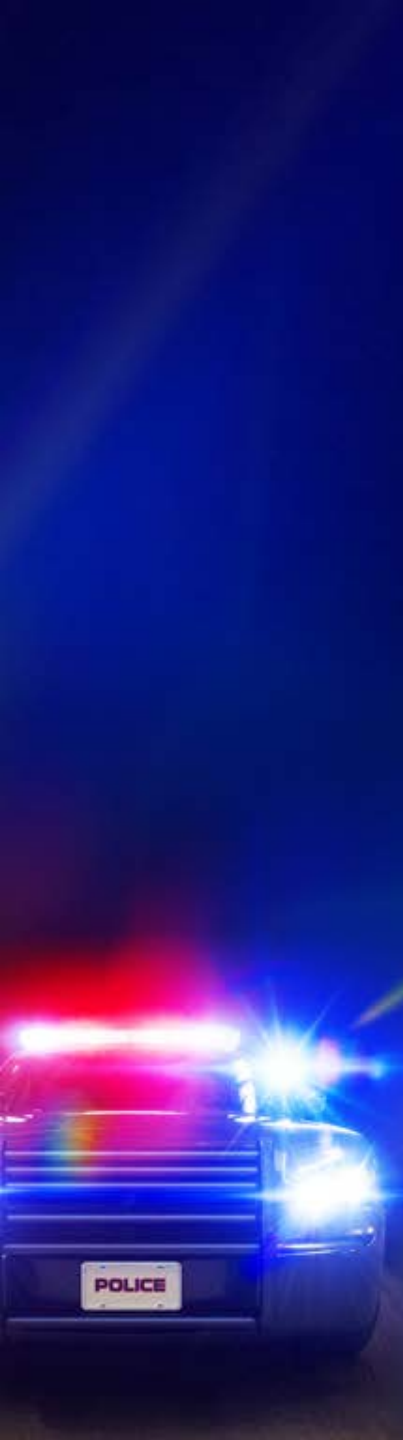
- If no injuries are present and the vehicles are drivable, the incident is immediately moved off the roadway.
- We do not use the shoulder to work an incident. In most cases, the crash investigation can be accomplished more safely on an adjacent parking lot or side street.
- Our responding units can view the roadway camera footage on their laptop in their vehicles while en route to the crash scene.

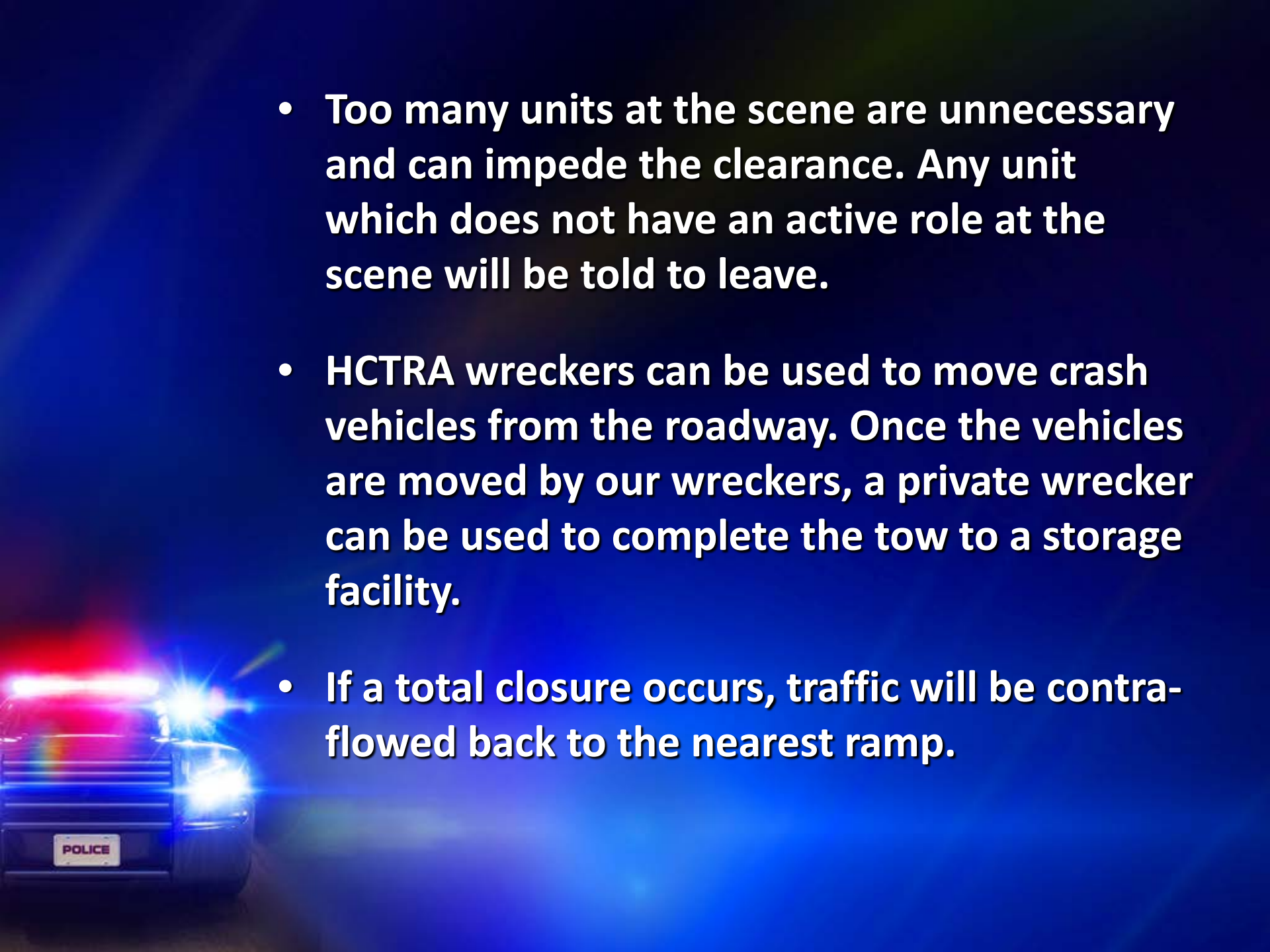

[002] HCTRA2 ITB TOP SOUTH [1]
Panasonic
TOUGHBOOK
AM 740



- The roadway camera feed allows responders to have pre-arrival situational awareness and begin managing the scene earlier.
- Prior to the responding deputies arrival, they can advise the wreckers or roadside assistance units to move the vehicles.
- This greatly speeds up the recovery and ensures the appropriate response is being coordinated and improves the deputy's safety when approaching the scene.

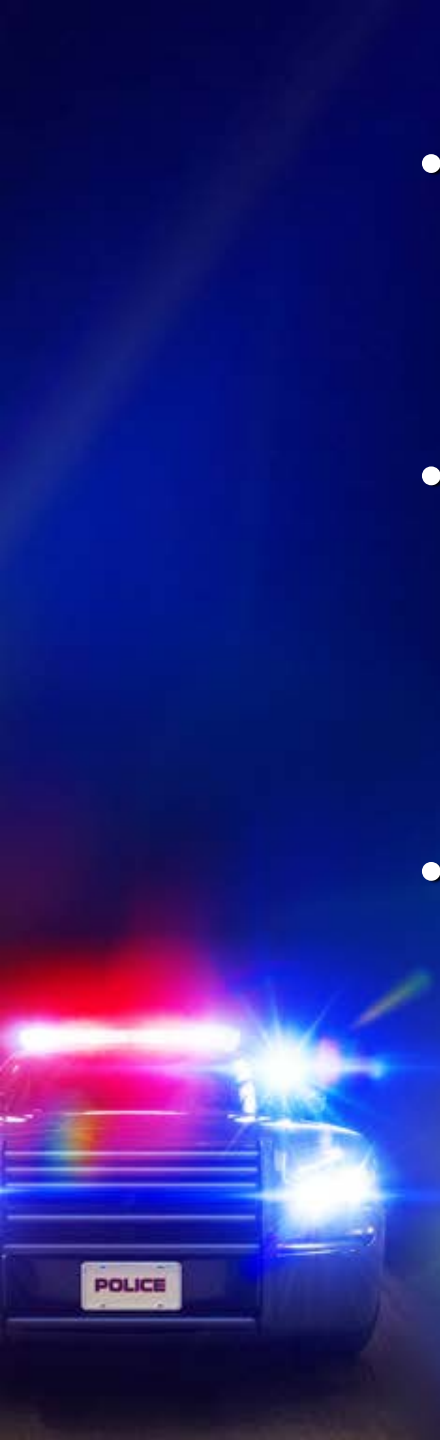
- If a vehicle is drivable but not running and it's blocking a moving lane of traffic, we will push the vehicle out of the lane with a responder's vehicle.
- Likewise, if the vehicle is operable and its driver is incapacitated, we have someone move the vehicle. Remember, "Steer It…Clear It" is the law.
- If EMS/Fire is dispatched, we will direct them where to park to ensure safety and to not unnecessarily take lanes.





- Too many units at the scene are unnecessary and can impede the clearance. Any unit which does not have an active role at the scene will be told to leave.
- HCTRA wreckers can be used to move crash vehicles from the roadway. Once the vehicles are moved by our wreckers, a private wrecker can be used to complete the tow to a storage facility.
- If a total closure occurs, traffic will be contra-flowed back to the nearest ramp.

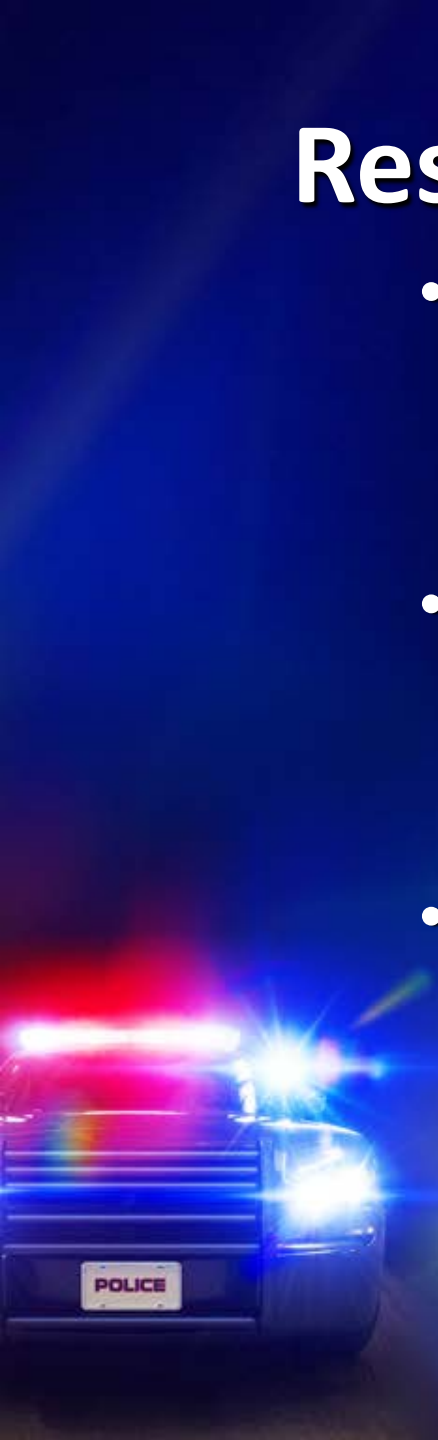
- IMD Coordinator(s) will assign units to perform traffic control at the intersections on the adjacent service roads.
- Even if the incident has cleared on the mainline, units will remain at intersections and continue performing traffic control until traffic movement has recovered.
- If any other resource such as: Heavy Duty wreckers, HCTRA Maintenance, Medical Examiner's Office, is needed at the scene; they will be escorted to the scene to expedite their arrival.



- Not all crash scenes are crime scenes and they do not require a comprehensive investigation on the road or shoulder.
- We created a Special Response Group (SRG) for handling life-threatening injuries/fatal crashes.
- This group trains monthly to keep their skills sharp and efficient to reduce the evidence recovery time.
- In most cases, we “paint or mark” the scene and return later during non-peak traffic to finish the investigation.

Response and Clearance Times

- In 2012, we had four (4) fatalities on our system. Average clearance time on a fatality was just under 2.5 hours.
- System wide in 2012, the average response time to a major crash was just over 5 minutes and the clearance time was 27 minutes.
- On the busiest section, the West Sam Houston, we have an average major crash response time of 4 minutes and a clearance time of 20 minutes.



- Our average response time to minor crashes is 7 minutes and the clearance time is 14 minutes.
- We had 590 major and 2,632 minor crashes on the mainline.
- We handled 1,178 non-toll road crashes on the service roads.
- Traffic Hazards were cleared in 10 minutes and Stranded Vehicles were cleared in an average of 18 minutes.

For More Information:

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HARRIS COUNTY TOLL ROAD AUTHORITY