

**Arizona State Troopers
Highway Patrol Division
Sergeant John Paul
Cartier**



Average Annual Number of Responders Struck and Killed Nationally

12 Law Enforcement Officers

5 Fire and Rescue Personnel

60 Towing and Recovery Professionals

Several Transportation Professionals from DOT, Public Works,
and Safety Service Patrol Programs

The Fallen Remembered

Arizona State Troopers have lost 29 troopers in the line of duty;

17 of these were involved in motor vehicle crashes, 11 were involved in secondary crashes



Agency Self-Assessment

Agencies Frequently Evaluate:

- Policies
- Procedures
- Training
- Equipment
- Resource Deployment
- Efficiency
- Effectiveness



What is Traffic Incident Management?

- TIM consists of a planned and coordinated multidisciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible.
- Effective TIM reduces the duration and impacts of traffic incidents and improves the safety of motorists, crash victims, and emergency responders.

Traffic Incident Management

Designed to establish the foundation for and promote *consistent training of all responders* to achieve the three objectives of the TIM National Unified Goal (NUG):

- Responder Safety
- Safe, Quick Clearance
- Prompt, Reliable, Interoperable Communications

ARE YOU TOO COMFORTABLE?



Traffic Incident Management (TIM) Performance Measures

Data Collection



Data Application





Partnership Members



U.S. Department
of Transportation
**Federal Highway
Administration**

Co-Location Program Goals

1. Improve public and responder safety by managing traffic incidents and mobilizing effective emergency and investigative responses, road clearance and traffic diversion assets.
2. Use Traffic Incident Management (TIM) concepts to reduce response times, clearance times, secondary collisions and congestion.
3. Use TIM performance metrics to evaluate the impact of the co-location pilot program and report the results.

Co-location Evaluation Study

- ADOT and MAG funded
- 3 Year Pilot Project
 - DPS troopers and ADOT operators at the TOC
 - 3 Months of training, equipment procurement/installation, staffing, outreach
 - Started October 2014, fully operational in January 2015
- Crash clearance data gathered using the DPS electronic reporting system - TraCS
- Evaluation compared **9 Months** of BEFORE vs AFTER performance data:
Jan-Sept 2014 Vs Jan-Sept of 2015

Technologies

- **ADOT CCTV Cameras**
- **DPS CAD (Unrestricted)**
- **DPS Statewide Radio Communications**
- **Dynamic Message Sign (DMS) Boards**
- **ADOT Media Platforms**
 - ADOT Website, AZ511, Twitter, Facebook
- **Private Media – Clear Channel**
 - Radio, TV, Internet, Mobile Applications

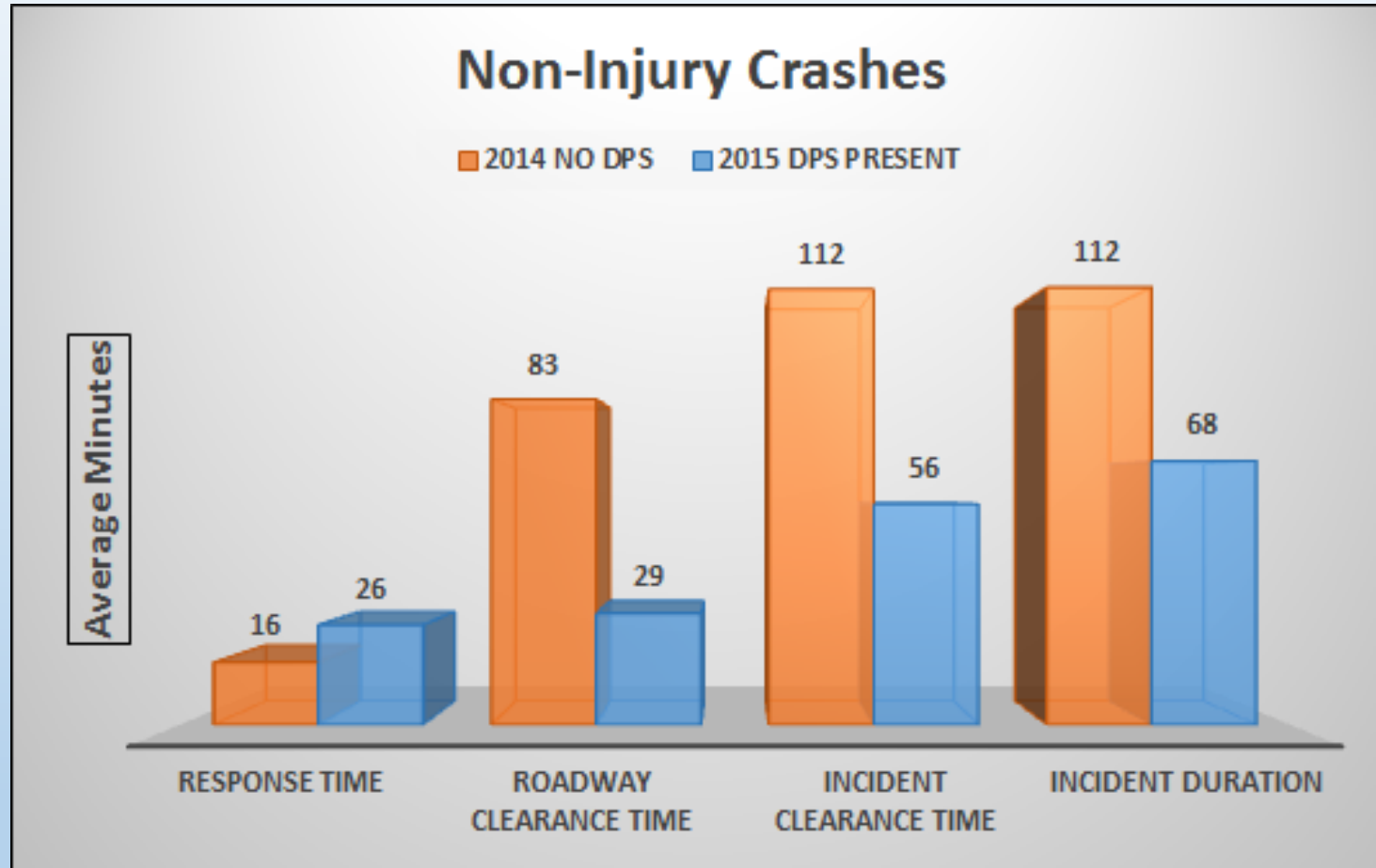


Troopers Incident Management Process

- Incident Notification
- Camera Verification
- Broadcast Information
- Resource Activation
- Incident/Queue Monitoring
- Incident Follow Up
(Data Entry)



Freeway Crashes with No Injuries



Comparison:
2014(Jan–
Sept) NO DPS
Vs
2015 (Jan–
Sept) DPS
Present

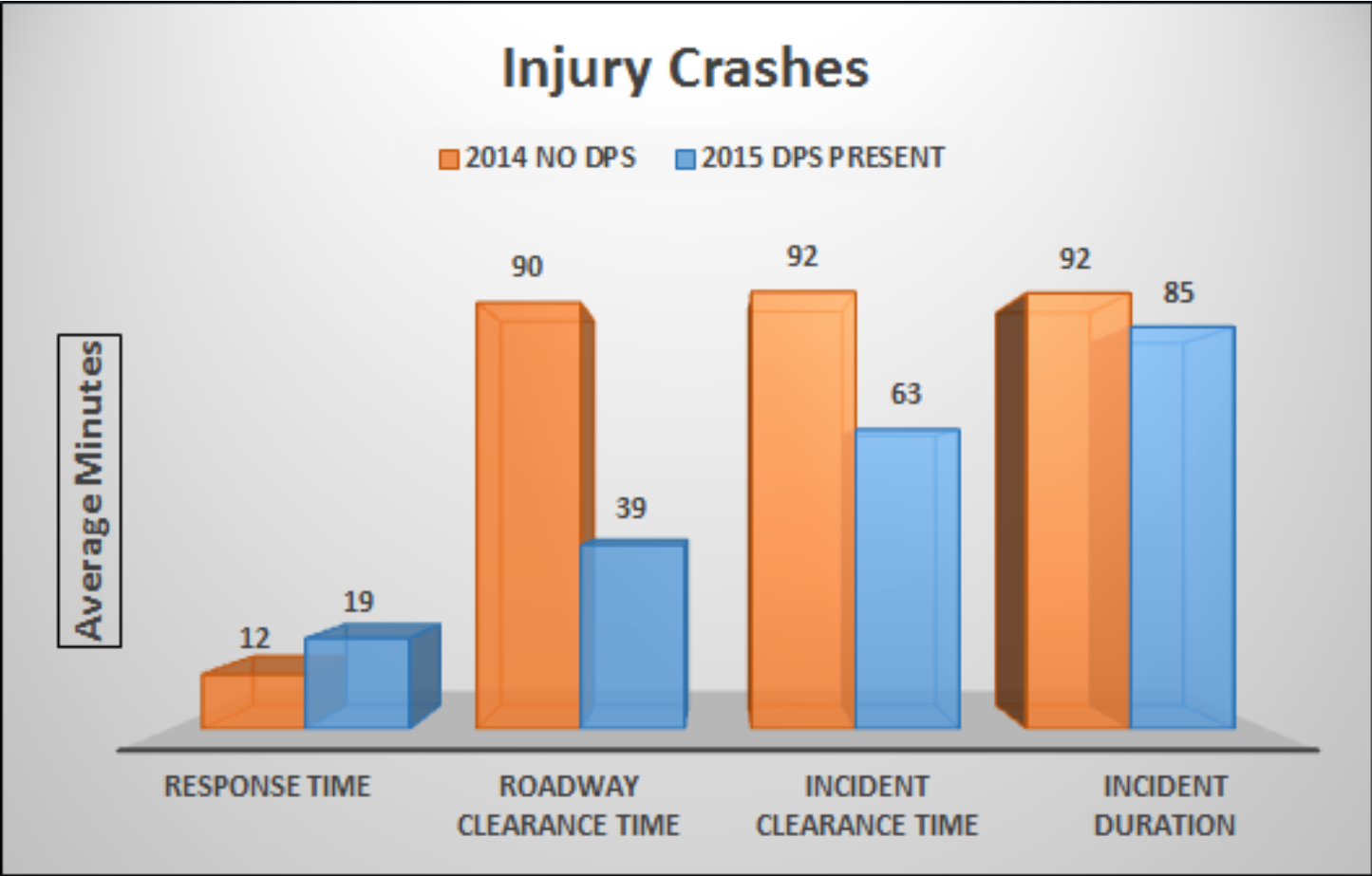
+ 63%

-65%

-50%

-39%

Freeway Crashes with Injuries



Comparison:
2014(Jan–
Sept) NO DPS
Vs
2015 (Jan–
Sept) DPS
Present

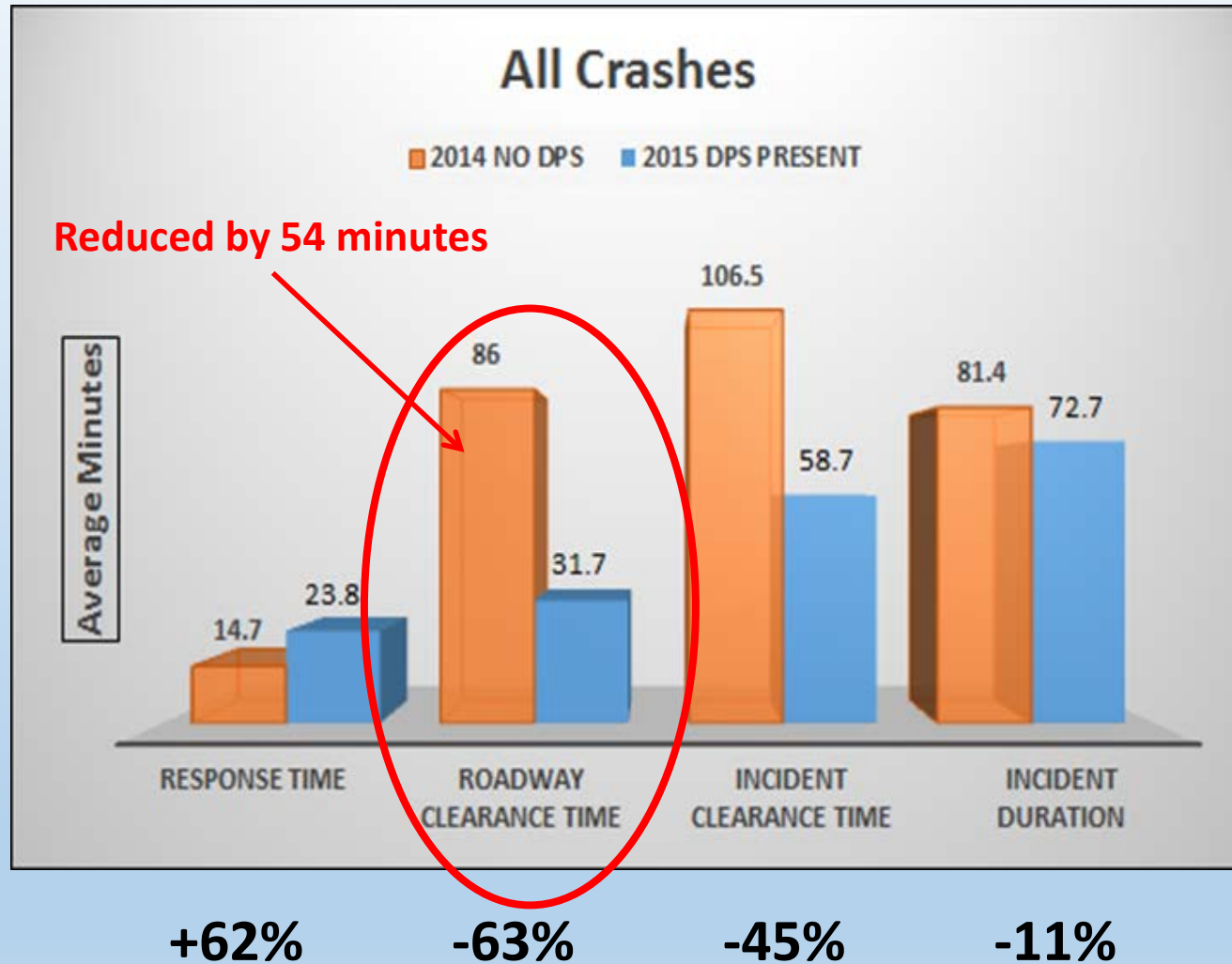
+ 58%

-57%

-32%

-8%

All Freeway Crashes



Comparison:
2014(Jan–
Sept) NO DPS
Vs
2015 (Jan-
Sept) DPS
Present

TIM Data Collection

➤ Traffic and Criminal Software (TraCS)

- Public Safety Data Collection Software
- Used by Troopers to Electronically Document Collision Reports, Enforcement Actions, Vehicle Tows, Supplemental Forms, Etc.
- Downloaded Daily to Arizona Department of Transportation in XML File Format
- Captures TIM Performance Measures

ARIZONA CRASH REPORT			REPORT ID								
			YEAR MONTH DAY	HOUR MIN	MCIC NO	OFFICER ID	AGENCY REPORT NUMBER				
			15 06 17	11 06		6199					
Total Units	Total Injuries	Total Fatalities	Estimated Total Damage Compared To \$1,000 Limit		Private Property	Fatal	Person Transported	Tow Away At Least	District or Grid No.		
0	0	0	<input type="checkbox"/> OVER <input type="checkbox"/> UNDER		<input type="checkbox"/> Crash	<input type="checkbox"/>	<input type="checkbox"/> for Medical Care	<input type="checkbox"/> One Vehicle?			
On Highway / Road / Street					<input type="checkbox"/> Inside <input type="checkbox"/> Outside		City	County			
Intersection Street / Road / M.P. or R.P.					Offset Direction		Distance	<input type="checkbox"/> Measured <input type="checkbox"/> Approximate		<input type="checkbox"/> Miles <input type="checkbox"/> Feet	
Is this a Secondary Collision? <input type="checkbox"/> YES <input type="checkbox"/> NO			Roadway Clearance				Incident Clearance				
			Date	Time		Date	Time				

TIM Data Collection



ARIZONA DEPARTMENT OF PUBLIC SAFETY

COLLISION SUPPLEMENT

DR Number	Date 06/17/2015	Time 14:48	Type	Highway	Milepost	Ramp	Badge 06199	DPS / INV <input type="checkbox"/> Yes <input type="checkbox"/> No	
DPS Collision Supplement Number	Injuries 0	Fatalities 0	Vehicles Involved 0	Time of Call 14:48	10-97 Time	10-98 Time			
Latitude	Longitude	Secondary Collision <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Secondary to Initial Crash <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Secondary Involved a Responder <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
County	Location Code								
Collision Type 1 <input type="checkbox"/> Pedestrian 2 <input type="checkbox"/> Motor Vehicle 3 <input type="checkbox"/> Motorcycle 4 <input type="checkbox"/> Railway Train 5 <input type="checkbox"/> Bicycle 6 <input type="checkbox"/> Animal 7 <input type="checkbox"/> Fixed Object 8 <input type="checkbox"/> Other	Non Collision Type 1 <input type="checkbox"/> Fire 2 <input type="checkbox"/> Mechanical Failure 3 <input type="checkbox"/> Rollover 4 <input type="checkbox"/> Other	Weather Conditions 1 <input type="checkbox"/> Clear 2 <input type="checkbox"/> Raining 3 <input type="checkbox"/> Cloudy 4 <input type="checkbox"/> Snowing 5 <input type="checkbox"/> Strong Wind 6 <input type="checkbox"/> Dust 7 <input type="checkbox"/> Fog	Intersection Related 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No Highway Barrier Involvement 1 <input type="checkbox"/> None 2 <input type="checkbox"/> Guardrail 3 <input type="checkbox"/> Median Cable 4 <input type="checkbox"/> Median Wall 5 <input type="checkbox"/> Crash Barrels 6 <input type="checkbox"/> Right-of-Way Fence 7 <input type="checkbox"/> Other	Road Condition 1 <input type="checkbox"/> Dry 2 <input type="checkbox"/> Wet 3 <input type="checkbox"/> Sand / Gravel 4 <input type="checkbox"/> Snowy - Icy 5 <input type="checkbox"/> Fresh Oil 6 <input type="checkbox"/> Other 7 <input type="checkbox"/> Unknown	Highway Type 1 <input type="checkbox"/> Interstate - Divided 2 <input type="checkbox"/> Frontage 3 <input type="checkbox"/> Ramp 4 <input type="checkbox"/> Highway - Divided 5 <input type="checkbox"/> 2-Way Highway	Direction of Travel 1 <input type="checkbox"/> North 2 <input type="checkbox"/> South 3 <input type="checkbox"/> East 4 <input type="checkbox"/> West	Highway Blockage Time Blockage Reopened Time Off Highway	Construction Zone 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	DPS Photos Taken 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No



Metro West In The Last 28 Previous 28-Day Vs. Current 28-Day



➤ Enforcement

Percent Change

Total Stops

12% Increase

Hazardous Citations

21% Increase

Seatbelt Citations

39% Increase

Child Restraint Citations

22% Reduction

Non-Hazardous Citations

12% Increase

➤ Collisions

Percent Change

Total Collisions

21% Increase

Fatal Collisions

75% Reduction

➤ Arrests

Percent Change

Total Arrests

4% Increase

Drugs/Weapons Arrests

6% Reduction

DUI Arrests

6% Increase



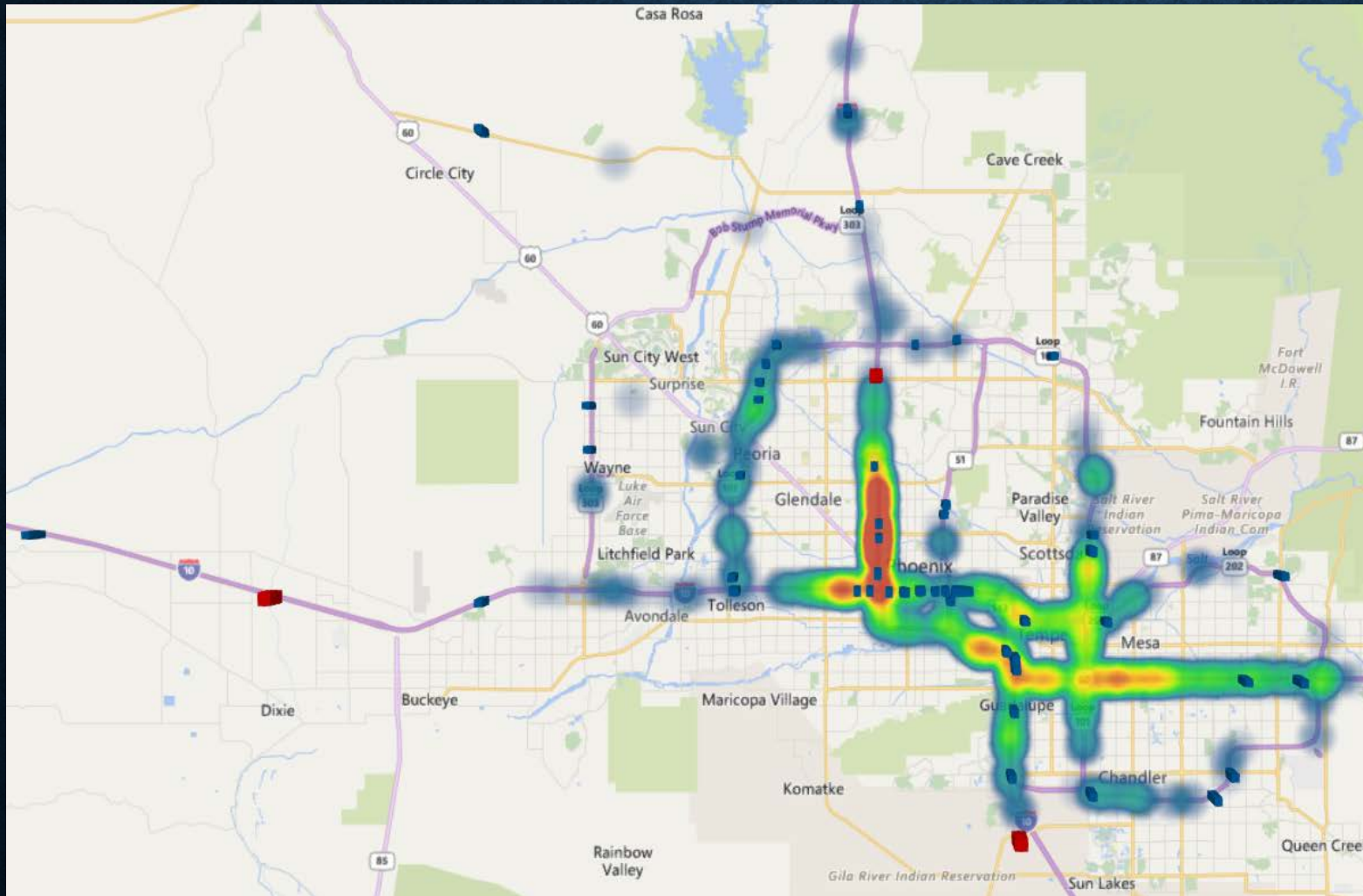
Current Average Roadway Clearance Time

20 Minutes & 26 Seconds



Last 28 Days - Average Roadway Clearance Time

16 Minutes & 40 Seconds



Night Watch

Current 28 Day
July 30, 2016 – August 26, 2016

- **2099 Enforcement**
- **3 Fatal Collisions during Night Watch hours (2100-0500)**
- **61 Injury Collisions**

For Official Use Only

This report and content is property of the Arizona Department of Public Safety (AZDPS) and/or the associated Investigative Unit or Agency; Secondary dissemination is NOT permitted without prior authorization.

TIM Performance Measures

AZ DOT TIM Data Collection

➤ Highway Condition Reporting System (HCRS)

- ADOT's Traffic Management and Documentation Software
- Used by ADOT Traffic Operations Center Operators to Electronically Document the Agencies Response to All Incidents
 - Maintenance
 - Signing / Striping
 - Traffic Signals
 - HAZMAT
 - Emergency Management
 - Notify ADOT Executives of Incidents Affecting Roadways



HCRS Incident Report																		
Wednesday, June 17, 2015 3:04:03 PM																		
Event ID:	551233	Status:	Closed	DR Number:	2014-031488													
District Name:		Responding Org Name:	Winslow Maintenance	Last Updated:	Tue Sep 02 2014 04:35 PM													
Last Updated By:	Jayson Winter	Source Agency:	DPS CAD															
Estimated/Actual Start:	Fri Aug 08 2014 06:43 PM			<u>ELAPSED:</u>	<u>>= 4 HRS</u>													
ADOT Response Requested Time:	Fri Aug 08 2014 06:46 PM																	
Callback Time:	Fri Aug 08 2014 06:46 PM																	
On Scene Time:	Fri Aug 08 2014 07:40 PM		00:54															
Traffic Moving Time:																		
All Lanes Opened Time:	Fri Aug 08 2014 10:20 PM		03:37															
Clearance Time:	Fri Aug 08 2014 10:25 PM		03:42															
Estimated/Actual Stop:	Fri Aug 08 2014 10:25 PM																	
Calculated Duration:	03:42																	
Priority:	1																	
ITIS Category:	Crash - Traffic																	
ITIS Description:	closed due to crash																	
Location:	On Interstate 40, West-bound from mile post 255.0, 2.70 miles West of SR 87																	
Injuries:	0	Fatalities:	0															
Floodgate Tracking:																		
LANES BLOCKED																		
South/West										North/East								
L	H	1	2	3	4	5	6	R	Median	L	H	1	2	3	4	5	6	R
Public Contact Phone:																		
Internal Contact Phone:																		
Alternate Contact Phone:																		
Public Note: Traffic taken off at Exit 255 - Transcon, back on via on ramp																		
RESTRICTIONS																		
HazMat Prohibited:			Escort Vehicle Required:			DPS Escort Required:												
<u>Vehicle Height</u>			<u>Length</u>			<u>Width</u>			<u>Gross Weight</u>									
									0 tons									
NOTES																		
Time Stamp		Text																
08/08 06:45 PM		JWint		DPS en route crash to crash in the construction area.														
08/08 06:46 PM		JWint		Activated DMS #352 (I-40 WB MP 260.2).														
08/08 06:46 PM		JWint		Contacted Robert Middleton (H50) who will get units en route.														
08/08 06:47 PM		JWint		DPS advised they moved the vehicle out of the roadway.														
08/08 06:47 PM		JWint		DMS deactivated notified H50.														
08/08 07:40 PM		KAbdu		Derek Nelson (H51-1) reports on scene. WB traffic now being taken off at Exit 255 (Transcon) and														

Arizona TIM Data Collection

Municipal Law Enforcement

State Law Enforcement
(Includes RMA's, ADOT TOC, ALERT)

County Law Enforcement
(Includes REACT, TMC)

ADOT

Compiles Electronic / Written Crash Report
Data in Database Called ALISS

ALISS Populates Safety Data Mart

(Application used by public safety stakeholders to
obtain and analyze data)

MPO – MAG

Law Enforcement

Fire/EMS

FHWA

AZTech
(TIM Coalition
Committee)

Strategic Highway Safety Plan
(TIM Emphasis Area)

Daily Log

Log Date	CAD Num	Call Start	On Scene	Lanes Clear	Call Clear	Call Type	Roadway	Direction	Milepost
9/27/2016	1538	17:30	17:35			964B	I-17	NB	199

Type of Incident

(Select all that apply)

Entry Created By: David Duran - 7

- Collision
- Motorist Assist
- Debris
- Traffic Control
- Pedestrian
- Fire
- Animal
- ATL
- Pursuit
- Wrong Way
- Suicidal Subject
- Agency Assist
- No Contact in the Field
- No Contact on Camera
- Special Events
- Public Relations
- Amber Alert
- Silver Alert
- Blue Alert
- Police Incident

Resources Used/Actions Taken

(Select all that apply)

- Camera Verification
- Initiated Tow Truck
- Initiated ALERT
- Initiated ADOT
- Initiated Call
- Cleared Unit
- Utilized Ztron Radio
- Utilized DPS CAD
- Update/Correct Call

Comments

Attach Picture





Report Start Date
5/7/2015

Report End Date
9/27/2016

Number of Incidents by Type

Collision	16563	Pursuit	42	Amber Alert	0
Motorist Assist	5784	Wrong Way	208	Silver Alert	1
Debris	2599	Suicidal Subject	48	Blue Alert	0
Traffic Control	217	Agency Assist	244	Special Events	6
Pedestrian	1447	Police Incident	672	Public Relations	0
Other Traffic	962	No Contact on Camera	4501	No Contact in the Field	3092
Fire Calls	109	Animal Calls	63	ATL Calls	63

Resources Utilized and Actions Taken

Camera Verification	27911	Initiated ALERT	87	Utilized Ztron Radio	5788
Cleared Unit	1176	Initiated ADOT	52	Utilized DPS CAD	28357
Initiated Tow Truck	770	Initiated Call	136	Update/Correct Call	2956

Assist on over 16
Thousand Crashes

Providing real time
Pursuit/WWD
Information Improving
Trooper Safety

294 Hours Saved

257 Hours Saved

Corrected Almost
3,000 Calls
Changing the
Responses of
Troopers

Economic Impact

- Despite a 23% increase in the number of freeway crashes, the time to clear crashes was reduced by 63% on average
- Time to clear all freeway lanes at crash sites have been reduced by nearly one-hour, on average.
- Overall savings due to reduced traffic delay during 2015 is estimated at \$165 million (does not include potential savings from reduced secondary crashes)
- Benefit : Cost = 368:1

TOC Co-Location Project Improving Safety, Efficiency, and Effectiveness

Benefits

- Monitor incidents and mobilize effective response
- Reduce traffic congestion and secondary collisions
- Unrestricted CAD access (manage all incidents)
- Timely updates to police, fire and other first responders
- Point of Contact for Media/Incident Command
- Queue Monitoring









2 ROAD WORKERS
KILLED THIS MONTH
DRIVE ALERT

Trooper Tim Huffman Secondary Collision



TIM Performance Measures

Collaborative Approach Leads to the Following Outcomes

- Collect/Analyze/Apply TIM Data
- Develop 4 E's - Engineering, Education, Enforcement, EMS Strategies and Goals
- Improves First Responder / Public Safety
- Improves Communications
- Safe Quick Clearance
- Institutionalizes TIM Strategies, Training, Practices



Contact Information

Sergeant John Paul Cartier

jcartier@azdps.gov

Office #602-712-7688

DPS Trooper Console
602-712-6217



ADOT Traffic Operations
Center

2302 West Durango Street
Phoenix, Arizona 85009

ADOT TOC Telephone
602-257-1563

“What gets measured gets performed.”