# **I-95 Corridor Coalition**

# **SP CAD Integration Workshop**





- WELCOME
- HOUSEKEEPING
- AGENDA
- INTRODUCTIONS
- WEBINAR, SURVEY RESULTS AND PROJECT UPDATE

### Denise Markow, PE, TSMO Director I-95 Corridor Coalition





#### **Initial Webinar Polling Questions**





- 61% Cost
- 82% Law Enforcement Sensitivity
- 39% Lack of Stakeholder Interest and Involvement
- 25% Not sure how to proceed
- 43% Obstacles with outside IT Agency



87% - Improve incident response and quicker clearance

94% - To receive timely data from incident responders

77% - To automate data input

81% - To improve data to populate our traveler information systems

26% - We had no real-time source for incident data in our current system



- 58% A direct link to our ATMS and/or TMC system
- 23% The use of an integration software/system
- 19% Not Sure



#### Webinar versus National Survey











SP CAD Integration Workshop April 23-24, 2018

### Maryland Department of Transportation State Highway Administration (MDOT SHA)



#### I-95 Corridor Coalition Computer Aided Dispatch Workshop

April 23<sup>rd</sup> – April 24<sup>th</sup>, 2018 Maritime Institute of Technology and Graduate Studies

Presented By:

**Richard R. Dye** CHART Systems Administrator Office of CHART & ITS Development



# Why Should we Share?

### According to the USDOT/FHWA

- Most traffic incidents are first detected by means of a cellular telephone call that is received at a Public Safety Answering Point. The information is then routed to the appropriate public safety dispatcher (law enforcement, fire-rescue, medical) for response, but may not go to a transportation management center (TMC). Often TMCs find out about the incident through their own devices, usually several minutes later.
- The TMCs have traffic and transportation related information that would be important to public safety responders both to *enable quicker response* and also to *manage the incident scene more effectively*. That information may not get to public safety agencies. Towing and recovery companies can be left out of the loop entirely except for voice communications with law enforcement.











https://ops.fhwa.dot.gov/eto\_tim\_pse/technologies/data.htm

### How Have we Shared in the Past?







We started by trying to talk to each other.



### How Have we Shared in the Past?





Then we co-located, but we STILL had our dedicated boundaries. Notice how the sliding glass window keeps our information pointing toward us!

## How Have we Shared in the Past?



TOC7 in Western MD was moved to the 911 floor. The PSAP added CHART as an "entity" in their CAD so we could have a "View-only" look at their events

> A few years later his led to full ability to take over certain events, such as disabled vehicles, and worl them to completion

We experimented with getting rid of the window and using each other's systems







# Why Should We Integrate?

### So why are we here today?

- If we share data by phone
  - And radio
    - And leaning through a window
- If we use copies of each other's systems
- If this would enable quicker response and also manage the incident scene more effectively



What stops us from integrating our systems allowing us to each use the system we are best trained on and most comfortable with?







# Using Data to Improve Traffic Incident Management

Paul Jodoin EDC4 Program Manager FHWA Office of Transportation Operations







### What is the TIM Business Case?

- 1. Safety of Incident Responders
- 2. Safety of road users (secondary crashes)
- 3. Congestion mitigation and commerce
- 4. Efficient resource use among each TIM partner

# National TIM Activities Setting the Stage for Improving TIM

### TIM Committees

- Establishing Relationships / MOUs / Agreements
- Managing Assets
- Creating Operating Procedures
- TMCs and ITS Infrastructure
- TIM Training
- TIM Data





### Formal TIM Programs and Committees



### TIM Training Program Implementation Progress Total Trained 319,266



27.8% Trained, 1.15M To be Trained as of March 2018

## What is the Every Day Counts Program?

### • EDC is an FHWA state-based model to

- identify and rapidly deploy proven, but underutilized innovations
- shorten the project delivery process
- enhance roadway safety, reduce congestion and improve environmental sustainability
- EDC Round 2 brought forth the institutionalization of responder training





# EDC Round 4 TIM Data Innovation

- Using Data to Improve TIM is 1 of 11 Innovations
  chosen from hundreds of proposals
- Goals are to:
  - Expand collection of uniform TIM data
  - Improve the quality of the data collected
  - Analyze data to track performance and identify areas
    for improvement in TIM
- 36 States have chosen to adopt this innovation



# Why Collect TIM Data?

#### Drive improvements and outcomes

- Understand current performance
- Identify improvement opportunities
- Measure effects from program and process changes

#### Increase transparency and accountability

- Demonstrate program effectiveness TIM Benefits
- Target and justify future funding and planning
- Support reporting requirements

If you don't measure it, you can't PROVE it!

#### If you don't measure it, you can't IMPROVE IT either!



### How Can TIM Data be Used?

- Real-time coordination
- After-action reviews
- External/Internal reporting
  - $\circ$  Scorecards
  - Dashboards
- Identifying program refinements
- Safety analysis

- Decision support systems
- Long term planning





### What are Key Performance Measures?



### **Secondary Crashes**



**Responder Struck By Incidents** 



Roadway Clearance Time (RCT)



Incident Clearance Time (ICT)



As programs mature, agencies collect more & detailed data for performance-informed planning & operations



# What Basic Data Should be Collected?

At a minimum, collect 3 time elements related to incidents, whether it is a secondary crash, and if a responder was struck.



### How can TIM Data be Collected?





### **Tennessee Crash Report – Sample Analysis**

### **Commercial Vehicle Secondary Crashes**

• Fatalities from 2 to ZERO and Injury crashes down 18% from July-December 2016 v. 2017



**EDC** 

# EDC 4 TIM Data Successes to date...

### Among EDC4 States, Agencies

- Have or are in the process of changing their crash form to collect RCT, ICT, secondary crash, and responder struck-by data.
- Have trained TMC operators to consistently and quantitatively collect TIM data.
- Have begun reporting TIM performance measures and have explored advanced analytics.
- Are planning / working to integrated CAD with their advanced traffic management system (ATMS) or TMC software.



# Highlighting Efforts toward CAD System Integration / Use

- California SP Data shared for post-analysis. CAD system (TriTech) purchased in 2010 (\$53M – 9yrs)
- Florida FHP CAD now interfaces in real-time with FDOT's SunGuide software system
- Minnesota Integrated System since 2014
- National Model Program CAD and TraCS
- **Oro Valley PD** –Currently training / testing the use of status codes (Spillman) for DOT use



### California – CAD and TMC Data Analysis





# Florida CAD Interface: FHP & SunGuide

SunGuide receives a filtered real-time CAD feed from a single state-wide CAD vendor. Florida has observed:

- Quantitative reduction in incident verification, response, management, and clearance times.
- Reduction in FHP dispatcher workload.
- Improved service by FDOT Regional TMC operators.
- Improved data quantity, accuracy, and precision for real time incident management and analyses to inform TIM policies and practices.







# Minnesota TIM Goal

Awareness of every incident on the freeway system –

be it a crash, stalled vehicle, debris, fire, jumper, etc...

ID incident on camera within 20 seconds of dispatch & begin 'triage'





# Minnesota CAD Integration Story

- 2002 TMC received "view only" console of State Police CAD
- 2008 Integration with SP CAD, (InterCAD)
- 2014 XML feed with real-time traffic-related events

### TMC is firewalled off from CJI databases to ensure security and privacy, SP entries encrypted





### CAD Integration Changes Data Landscape

# Provided MnDOT with more data and more accurate and complete data:

- Time stamp for officer and tow arrival at incident scene, location, event type, and remarks
- TMC Clicks "Lanes cleared" button auto time stamped
- TMC or FIRST clicks "Incident closed" button auto time stamped (may differ from Patrol event clearing)
- TMC created events can be merged into Patrol events as needed for continuity.



# CAD data sharing means more complete capture of events on freeway facilities in Minnesota

ED



# Trend in Incident Response Time highlights greater demand on Troopers



ED

### Incident Clearance Time -

EDC



### Capabilities Enabled or Enhanced through MN CAD Integration

- Shared awareness of incidents by TMC staff
- Better coordination between Police and Transportation
- Eliminate data duplication



Outcome: Improved Traffic Incident Management!



### **NationalModel** program answer to Safety Data Collection and Use

- The National Model is a consortium of 15 states led by Iowa DOT to Improve Highway Safety
- Developed statewide software solutions for sharing resources, information, and technology
- Low cost offering for crash reporting (TraCS) and computer aided dispatch (MACH).






#### **Data Collection**

- Forms (e-Citation, e-Crash, CMV Inspection, UCR/NIBRS, + others)
- Location & Diagraming Tool
- Mobile Data Terminal Interface
- Reports, Forms Manager, Mobile
   Data Interface & more

#### **Records Management System (RMS)**

• Case Management, Master Indexes, Advanced Reporting

#### Software Development Kit (SDK)

• Customization for Forms, Rules, Database, Map, and Reports.



#### **MACH Features**

- Real-time AVL & Mapping
- **Dispatching** (CAD)
- Instant Messaging car to car, incidents, alerts, broadcast
- State Switch Interface NCIC, NLETS, Hot Files, DL Photo
- Bot Interfaces e911, Snowplows, 511 systems, Traffic Cameras, Case Numbering....
- IOS and Android platforms
- Seamless TraCS Interface





Using Data to Improve Traffic Incident Management

# **MACH Capability: Mapping**





Using Data to Improve Traffic Incident Management

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# MACH Capability: CAD Call for Service

EDC

	Map 🛃 - 🏩 🧏			209:09
Incident Location Location Name Cranberry Twp Walmart Address Line 1 20245 US-19 Address Line 2 City, State Zip Cranberry Twp / Comberry Twp Latitude 40.687570 40.105588 Latitude -80.105588 Units Services Units Services Ev the PEREZ, HELEN	Image: CFS Deta           Owner           Owner           CFS Type           Description           CFS           CFS           Description           CFS           CFS           Description           CFS           Origin           PII           Created           Ol/08/2016           D1/08/2016           O1/08/2016           O1/08/20	lls Status: Arrived kson, Tom (TEG) Accident Accident D-1894 Priority Case Pisposition 2016 12:26:05 r Fred ELEN 04 Arrived 07:58 01 En Route 07:56 59 Dispatched 07:53	Resources  Resources Resour	fh, Sally         bberry Twp Walmart         45 US-19         1         Smith       , Sally         • F •         PA •         (724) 555-5555 x         Cranberry Twp Walmart         20245 US-19         Cranberry T, PA •         16066         ie       40.688231         ie       •0.105548
Dispatch Notes			Car 1	1 2015 Ford F150
01/08/2016 12:31:12 Fredrickson, Tom 01/08/2016 12:31:47 Fredrickson, Tom 01/08/2016 12:32:47 Fredrickson, Tom 01/08/2016 12:33:10 Fredrickson, Tom 01/08/2016 12:33:10 Fredrickson, Tom 01/08/2016 12:33:38 Fredrickson, Tom 01/08/2016 12:33:48 Fredrickson, Tom	911 Caller reported an accident pulling into the Wal Caller, Sally Smith is a female with a DOB of 12/01/ Caller reported that her Ford truck was pulling into Her car cannot be moved and is blocking traffic. The car that hit her is a Brown Chevy Cruz, year in No injuries are being reported. Dispatching officer to clear the accident. Dispatching tow truck.	mart parking lot. 1964. the parking lot when another car ran into unknown.	A ber passenger side.      A ber passenger side.      Color Red      Make Ford      Plate      VIN      Car      Car      Color Brown      Make Chevy      Plate      VIN      Save Note      VIN	Year 2015 Model F150 State PA 2 ym ??? Chevy Cruz Year ??? Model Cruz State PA



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# **MACH Capability: Messaging**

	1/8/2016 Second Shift Change Broadcast Update - MACH	Client 4.19.5 (Tom Fredrickson on TEG-T	EG-02)	
Home	Testant Chat Alert Broadcact Incident Bot Request	New CES Self Dispatch Buddy	eration History Reset	Administration
Ileer Status	Message Create Section	List * an	d GPS * Layout	* Launch
Buddy List TEG	PETTY, LOUIS × & Amber Alert × Breaking	and Entering Reported × 1/8/2	2016 Second Shift Change Br	roadcast Update ×
> 👄 Fredrickson, Tom	Appearance - Session Options	Selected User •		
✓ Demo Agency	1/8/2016 Second Shift Change Broadcast	activity	Users In Session	
🛶 👄 ALBERT, RUBEN	Fredrickson, Tom ( 12:42:15 PM ) : [No Message		AVILA, CHAD	
🛶 🖦 BRADFORD, EDUARDO	Fredrickson, Tom (12:43:33 PM): An ongoing A review the Ar	mber Alert was issued this mornin mber Alert Session before starting	g, please your shift.	BARLOW, MICHELE
EV 🕾 BULLOCK, ARTHUR	Fredrickson, Tom ( 12:45:01 PM ) : The weather afternoon so	hroughout the per of accident	BEASLEY, JOEL	
S TA 🕅 BULLOCK, JOHN	and motor as		Beaver County Disp	
👾 🚝 CHARLES, ALICE	Just recieved	r Alert was	BELL, LESTER	
Even conley, Rachel	Fredrickson, Tom ( 12:47:29 PM ) : There is a ret	y at 17:00 in	BERRY, NELSON	
	Fredrickson, Tom ( 12:48:18 PM ) : Weekly timed	ift today.	BEST, JOHN	
Communication	Please comp leaving.	TraCS before	₩ 👄 BRADFORD, EDUARDO	
✓ Session	Fredrickson, Tom ( 12:48:31 PM ) : BE CAREFU		BRITT, PAULINE	
1/8/2016 Second Shift Change Br				BROCK, GAIL
& Amber Alert				BROOKS, LARRT
M Amber Alert				Ruck Adam
Crime Incident	IL Click Hara to Incort Attachment & Characters		Buck, Adam	
Instant Message	Click Here to Insert Attachment. U Characters.	10.1		Buffington, Jereme
				Sullock, Arthur
		<b>~</b>	Send Message	BULLOCK, JOHN



# **Experiences from MACH States**

Currently, Four States have acquired MACH and are sharing it with agencies

State	Agencies	Users	<b>NCIC Requests</b>
lowa	254	8,677	6.41M
Wisconsin	186	4,320	4.64M
Nebraska	21	1,277	
Pennsylvania	87	1,694	

States pay an annual fee with unlimited sharing with local partners

"MACH can help dispatchers see which officer or agency might be closest to a call or help officers see where they should set up a perimeter...MACH also is a key tool for officer safety"

State Patrol Capt. Gerry Krolikowski

"Nebraska State Patrol seeks to expand mapping tool that locates officers in real-time" article from Lincoln Journal Star, 2017



# The Big Picture

- Law Enforcement and Transportation agency CAD-TMC Software Integration means:
  - Better transportation responsiveness,
  - Reduced miscommunications,
  - Improved situational awareness (e.g. access to CCTV),
  - Less manual/duplicative, more accurate data, and
  - Long-term data repositories that can be mined to improve operations, show value, and shape future decision support systems
- CAD TMC Software Integration is the next step towards safe, efficient, and effective traffic incident management.







## **REAL-TIME TRAFFIC INCIDENT MANAGEMENT INFORMATION SYSTEM (RTIMIS)**

Scott Cowherd

April 23-24, 2018

## RTIMIS

- Objective
- Features
- How it works
- Program History
- Lessons Learned
- Future Directions

#### **The Objective**



VDOT

#### Improve safety and mobility through sharing *existing* information





Virginia Department of Transportation

## **Opportunity Statement: traffic incident management could be improved by automated sharing of available**

information











# Communication Stovepipes





Virginia Department of Transportation

#### **Features**

- Real-time data sharing system
- Cross agency, cross jurisdictional
- 911 CAD systems, DOT ATMS, Signal system
- Secure, login protected access
- Automated Data Extraction (zero operator impact)
- Data Filtering
- Automated Data Injection
  - Not yet achieved for 911 participant
  - Web application available

#### How it works



VDOT

## **Program History**

- VSP Integration in 2004
- Albemarle integration 2005
- Hampton Roads Regional system launched 2007
- NOVA Regional system
- I-81 Regional system
- Statewide consolidation 2011







VDOT

#### **Lessons Learned**

- Immediate value to VDOT
  - up to 88% of accident discovery was by VSP CAD
  - 34% reduction in clearance time across 67 miles of I-95
- Additional value to integration partners
  - Reduced communication workload (ROADI)
  - Improved situational awareness

#### **Lessons Learned: Success Factors**

- Integration into existing operational system vs. web client
  - VDOT regions other than one has ATMS integration
  - Lack of ATMS integration at one region reduces effectiveness
  - Integration partners only have access to web client
- Scope of Data Feed
  - CAD systems have varying integration capabilities
  - Different jurisdictions have different levels of comfort with information sharing
  - More data = more value
- Depth of Operational Integration
  - CAD operators and traffic operators have different goals
  - Frequency of interaction influences nature of operational relationship
  - Often an operational triangle: VDOT ↔ Local TMC ↔ PSAP
  - VSP ROADI tag



- ANALYZE DATA
  - Analyze data over a 6 month to a year period to determine its usefulness.
  - How many events are traffic related, would be managed by DOT, or would need to go to 511.
- MOU APPROVAL
  - Don't engage technical team until MOU has been signed by DOT and locality.
- PROJECT TIMELINE
  - Projects that should take less than ninety days can take up to a year due to municipality participation or beaurocracy.

VDOT

- FEED LIMITATIONS
  - The feed is limited by how much "form fields" are available in CAD. The more free form text and lower identified data fields over complicates the integration and filtering.
  - **"TOP TEN LIST"**
- 1. Incident Type
- 2. Incident Location; route (number and/or name), nearest mile marker and/or cross street, special facility if applicable
- 3. Incident Detection Source; helps determine if incident confirmed from onset

4. PSAP Responder Status; waiting, dispatched, on scene, clear (distinguish between only PSAP clear or entire incident scene clear of incident and all responders), details or execution may change if multiple departments under one PSAP

- **5. Line Impact; reported, confirmed, projected, updated as conditions change**
- 6. Injuries/Fatalities; reported, confirmed
- 7. Agency On Scene Status; Fire, Rescue, LPD; responding, on scene

8. Infrastructure Damage; bridge hit, guardrail damage, traffic signal damaged, etc.

**9. Incident Details;** tractor trailer, overturned, cargo spill, vehicle fluid spill or hazmat, etc. Helps give sense of potential lane impacts and incident duration

**10. Traffic Delays** 

VDDT Virginia Department of Transportation

- "Roadl" ROADWAY AND TRAFFIC INFORMATION
  - Although our goal is to have no impact on municipalities and their operations, consider the value of a "Roadl" type field to talk to DOT specifically.
- CAD to TOC IM CAPABILITY
  - It would be very valuable to have CAD to TOC IM capability.

## **Future Directions**

- VDOT to move to statewide ATMS
  - Tighter integration statewide
- Potential enhancements
  - Two-way CAD integrations
  - Additional operational system integrations



## **Integration Information**

- CAD Vendor/Administrator
  - CAD system
  - Preferred integration method
- CAD Administrator/Operations Manage
  - Call Types
  - Data Fields and Filters
- Network
  - Access for maintenance
  - Configuration for operations



**Contact Information** 

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# State of Delaware

CAD Integration with Law Enforcement and State Highway

## Importance

- Faster notification process
- Accurate information sharing
- Cuts down on the amount of phone calls
- Provides ability for Field Units to have accessibility to information



0D80XNC3View				
04/06/2018 : 10:53:45 system Narrative: Unit AREA10 Enroute [DelDOT]				
04/06/2018 : 10:53:40 system Narrative: Unit AREA10 Dispatched [DelDOT]				
04/06/2018 : 10:53:40 system Narrative: Added Incident Number, ORI: DELDOT001,				
Number: 2018-00003247 [DelDOT]				
04/06/2018 : 10:53:31 system Narrative: Priority: Moderate [DelDOT]				
04/06/2018 : 10:52:54 system Narrative: AREA 10 RESPIONED TO CALLOUT MAXIMo# 904649				
[DelDOT]				
04/06/2018 : 10:49:51 system Narrative: TMC REC'D [DelDOT]				
04/06/2018 : 10:46:45 psp1152 Narrative: Remote CFS Created by [DelDOT]				
04/06/2018 : 10:46:45 system Narrative: Created call 578 [DelDOT]				
04/06/2018 : 10:46:44 system Narrative: Transfer Received [DelDOT]				
04/06/2018 : 10:46:17 system Narrative: Call transfer initiated to DelDOT				
04/06/2018 : 10:44:00 system Narrative: Call Status Updated: Supervisor				
[NewCastle/Wilmington]				
04/06/2018 : 10:43:56 system Narrative: Mapped call type 'Traffic Haz/Serv' for				
remote call type 'Traffic Service'.				
04/06/2018 : 10:43:56 system Narrative: Location: S HARMONY RD Cross street:				
ROSEWOOD Beat: NCC 23 Quadrant: 1212 District: 1212e [NewCastle/Wilmington]				
04/06/2018 : 10:43:56 system Narrative: tmc to handle please [NewCastle/Wilmington]				
04/06/2018 : 10:43:56 system Narrative: ProQA Paramount Police:				
Call had been completed in ProQA Paramount. [NewCastle/Wilmington]				
04/06/2018 : 10:43:56 system Narrative: ProQA Paramount Police:				
CC Text: HAZARDOUS ROAD CONDITIONS				
Caller Statement: DEAD DEER ON SIDE OF ROAD				
Dispatch Code: 132C02 Det. Text: HAZARDOUS ROAD CONDITIONS				
Response: Available				

#### 0D80Q5W3View

10/31/2016 : 06:45:12 system Narrative: 23b4 verified on 141 sb over top of i-95 [NewCastle/Wilmington] 10/31/2016 : 06:45:02 system Narrative: Location Updated: RTE 141 SB /I 95 [NewCastle/Wilmington] 10/31/2016 : 06:44:19 system Narrative: Location Updated: RTE 141 SB/95 [NewCastle/Wilmington] 10/31/2016 : 06:43:57 system Narrative: Location Updated: RTE 141 SB / BARLEY MILL RD [NewCastle/Wilmington] 10/31/2016 : 06:43:41 system Narrative: Location Updated: RTE 141 SB [NewCastle/Wilmington] 10/31/2016 : 06:42:53 system Narrative: Unit X2797 At Scene [NewCastle/Wilmington] 10/31/2016 : 06:42:38 system Narrative: Call Type Updated: Medical [NewCastle/Wilmington] 10/31/2016 : 06:42:38 system Narrative: Call Type Updated: Medical [NewCastle/Wilmington] 10/31/2016 : 06:42:38 system Narrative: Unit 22B4 Dispatched [NewCastle/Wilmington] 10/31/2016 : 06:42:32 system Narrative: Call Type Updated: Choose Call Type ----> [NewCastle/Wilmington] 10/31/2016 : 06:42:17 system Narrative: RTE 141 SB OVER 95 [NewCastle/Wilmington] 10/31/2016 : 06:42:12 psp1152 Narrative: mc down 10/31/2016 : 06:42:10 psp1152 Narrative: 141sb at 95 10/31/2016 : 06:41:58 system Narrative: Mapped call type 'Accid PI' for remote call type 'Accident PI'. 10/31/2016 : 06:41:58 system Narrative: Location: RTE 141 NB@WATER ST [NewCastle/Wilmington] 10/31/2016 : 06:41:58 system Narrative: Unit 23B8 Enroute [NewCastle/Wilmington] 10/31/2016 : 06:41:58 system Narrative: Unit 23B4 At Scene [NewCastle/Wilmington] 10/31/2016 : 06:41:58 system Narrative: MC VS VEH SUBJ IS UNCON [NewCastle/Wilmington] 10/31/2016 : 06:41:58 system Narrative: Call Source: Officer [NewCastle/Wilmington] 10/31/2016 : 06:41:58 system Narrative: Call Status: In Progress [NewCastle/Wilmington]

0D80Q5W3View 10/31/2016 : 06:53:08 system Narrative: MAXIMO 808768 [DelDOT] 10/31/2016 : 06:52:55 system Narrative: DISPATCHED AREA 14 WITH ARROW BOARDS [DelDOT] 10/31/2016 : 06:52:45 pspc167 Narrative: 63L ADV TRAUMA ARREST 10/31/2016 : 06:52:43 system Narrative: tmc rec [DelDOT] 10/31/2016 : 06:50:38 system Narrative: 22B4 ADV SUFFICIENT NCC UNITS 10-2, DSP , NEWPORT ARE 10-2 ALSO/// REO ALS & BLS [NewCastle/Wilmington] 10/31/2016 : 06:50:26 system Narrative: DSP ADDV LATE 20'S MALE, TRAUMA CODE [NewCastle/Wilmington] 10/31/2016 : 06:50:15 psp1152 Narrative: page sent ref road closure 10/31/2016 : 06:50:14 system Narrative: Unit NA23 Enroute [NewCastle/Wilmington] 10/31/2016 : 06:50:13 psp1570 Narrative: fb adv 10/31/2016 : 06:49:57 system Narrative: Unit 23A1 cleared from call [NewCastle/Wilmington] 10/31/2016 : 06:49:57 system Narrative: Unit Dispositions: 23A1 - NPASST [NewCastle/Wilmington] 10/31/2016 : 06:49:53 system Narrative: Unit M7D Enroute [NewCastle/Wilmington] 10/31/2016 : 06:49:33 system Narrative: Created call 633 [DelDOT] 10/31/2016 : 06:49:32 pspc167 Narrative: 63L ADV MALE LATE 20'S...TRAUMA CODE 10/31/2016 : 06:49:27 system Narrative: Transfer Received [DelDOT] 10/31/2016 : 06:49:27 system Narrative: Unit ALS21 Enroute [NewCastle/Wilmington] 10/31/2016 : 06:49:22 system Narrative: Unit 23B8 At Scene [NewCastle/Wilmington] 10/31/2016 : 06:49:16 system Narrative: Unit 22B4 At Scene [NewCastle/Wilmington] 10/31/2016 : 06:48:19 psp1570 Narrative: deldot adv 10/31/2016 : 06:48:12 system Narrative: Call transfer initiated to DelDOT 10/31/2016 : 06:48:05 pspc167 Narrative: 63L ADV WILL BE A TRAFFIC ISSUE 10/31/2016 : 06:48:00 system Narrative: Unit STA23 cleared from call [NewCastle/Wilmington] 10/31/2016 : 06:47:53 system Narrative: Unit 22A1 At Scene [NewCastle/Wilmington] 10/31/2016 : 06:47:46 psp1570 Narrative: calling deldot 10/31/2016 : 06:47:19 pspc167 Narrative: 9033 ADV THE LEFT LANE IS CLOSED AT THE CONSTRUCTION

10/31/2016 : 07:08:05 system Narrative: Unit M7D Transport [NewCastle/Wilmington] 10/31/2016 : 07:08:05 system Narrative: Unit NA23 Transport [NewCastle/Wilmington] 10/31/2016 : 07:02:27 system Narrative: Unit ALS29 At Scene [NewCastle/Wilmington] 10/31/2016 : 07:01:42 system Narrative: TMC HAS PLACED THIS ON TRACKER, WTMC AND SENT IM [DelDOT] 10/31/2016 : 06:59:23 system Narrative: Unit M7D Arrived At Patient [NewCastle/Wilmington] 10/31/2016 : 06:58:05 system Narrative: Unit S3 Dispatched [DelDOT] 10/31/2016 : 06:57:11 system Narrative: Unit M7D At Scene [NewCastle/Wilmington] 10/31/2016 : 06:57:06 system Narrative: Unit ALS21 At Scene [NewCastle/Wilmington] 10/31/2016 : 06:56:26 system Narrative: Unit AREA14 Dispatched [DelDOT] 10/31/2016 : 06:56:26 system Narrative: Added Incident Number, ORI: DELDOT001, Number: 2016-00010035 [DelDOT] 10/31/2016 : 06:56:25 psp1161 Narrative: del dot adv ref 10-91 10/31/2016 : 06:55:22 psp1161 Narrative: 10-91 per 61 10/31/2016 : 06:55:15 system Narrative: DSP ADV TRAMA ARREST [NewCastle/Wilmington] 10/31/2016 : 06:55:10 system Narrative: Unit NR23 cleared from call [NewCastle/Wilmington] 10/31/2016 : 06:55:05 system Narrative: Unit NSQD23 At Scene [NewCastle/Wilmington] 10/31/2016 : 06:53:33 system Narrative: Unit ALS29 Enroute [NewCastle/Wilmington] 10/31/2016 : 06:53:21 system Narrative: SAFETY S-3 NOTIFIED [DelDOT] 10/31/2016 : 06:53:11 system Narrative: Unit NA23 At Scene [NewCastle/Wilmington]

```
10/31/2016 : 09:31:45 system Narrative: Peer Server Closed Call. No more updates
will be received. Dispositions:
                                  [DelDOT]
10/31/2016 : 09:31:45 system Narrative: Remote call CFS # has been closed [DelDOT]
10/31/2016 : 09:31:44 system Narrative: Unit TR5 cleared from call [DelDOT]
10/31/2016 : 09:31:44 system Narrative: Unit S3 cleared from call [DelDOT]
10/31/2016 : 09:31:44 system Narrative: Unit AREA14 cleared from call [DelDOT]
10/31/2016 : 09:31:42 system Narrative: Dispositions Changed [DelDOT]
10/31/2016 : 09:23:45 system Narrative: UPDATED IM SENT [DelDOT]
10/31/2016 : 09:23:37 system Narrative: TR5 REPORTS ALL LANES OPEN AND ALL UNITS ARE
CLEARING THE SCENE. CHANGED MESSAGES ON TRACKER AND WTMC TO REFLECT DELAYS [DelDOT]
10/31/2016 : 09:21:24 pspc167 Narrative: UPDATE PAGE SENT
10/31/2016 : 09:18:03 psp1161 Narrative: roadway reopened
10/31/2016 : 09:06:13 system Narrative: hook 10-2 [DelDOT]
10/31/2016 : 08:26:59 system Narrative: PER TR-5 THEY SHOULD BE ANOTHER HOUR
[DelDOT]
10/31/2016 : 08:06:45 system Narrative: Unit AREA14 Arrived [DelDOT]
10/31/2016 : 08:06:44 system Narrative: Unit TR5 Arrived [DelDOT]
10/31/2016 : 08:06:42 system Narrative: Unit S3 Arrived [DelDOT]
10/31/2016 : 08:06:41 system Narrative: Unit TR5 Dispatched [DelDOT]
10/31/2016 : 08:06:17 system Narrative: CRU TEAM 10-2 [DelDOT]
10/31/2016 : 07:55:06 system Narrative: Unit M7D cleared from call
[NewCastle/Wilmington]
10/31/2016 : 07:55:06 system Narrative: Unit Dispositions: M7D - TRA
[NewCastle/Wilmington]
10/31/2016 : 07:50:23 system Narrative: Priority: Moderate [DelDOT]
10/31/2016 : 07:44:24 psp1161 Narrative: 9033 request advise him when roadway open,
he has ramp from newport to 141 sb closed
10/31/2016 : 07:40:35 psp1161 Narrative: updated page sent
10/31/2016 : 07:39:53 system Narrative: Unit NA23 cleared from call
[NewCastle/Wilmington]
10/31/2016 : 07:37:22 psp1161 Narrative: confirmed 10-91 per 854
10/31/2016 : 07:35:27 system Narrative: Unit 23B8 cleared from call
```



## Oregon Interoperability Service (OIS)

How the Oregon Dept. of Transportation, Oregon State Police and PSAPs share Computer Aided Dispatch (CAD) information

#### Contents:

- Video Presentation
- •History / Background / Future
- High Level Conceptual Architecture
- Message Process Overview
- Information Sharing Factors
- •Challenges / Lessons Learned
- •Questions and Answers



# **Video Presentation**

# History / Background / Future

- Before 2009: ODOT/OSP shared CAD System
- 2009: ODOT release Transportation Operation Center System (TOCS)
- 2009: Project launched to develop new statewide CAD information sharing between PSAPs, OSP, ODOT
  - Route US97
  - Homeland Security grants
- 2012: ODOT/OSP went live with new Oregon Interoperability Service (OIS)
- 2013: Deschutes connects to OIS, study conducted
#### BENEFIT SUMMARY OF ODOT/911/OSP INTEGRATED DISPATCH PROJECT (DESCHUTES CO.)



## History / Background / Future

- 2014:
  - Hood River PSAP connects to OIS
  - Project wins NASCIO award
- 2015:
  - Wasco, Frontier (Gilliam, Sherman, Jefferson, Wheeler Counties) PSAP connect to OIS
  - Hosting the OIS transferred from ODOT to OSP
- 2016-18: No new connections. Some initial discussion about new counties interested in OIS
- Future:
  - Replace Sonic ESB software with FATPOT
  - Connect/align with Portland Dispatch Center Consortium (PDCC) ESB/CAD2CAD messaging
  - Connecting additional PSAPs

#### **High Level Conceptual Architecture:**





- Use IEEE 1512 event types as a way to map local event types to a master standard
- Call For Service (CFS)
  - Manually initiated by operator
  - Requires a response: Will Respond, Will Respond Later, Will Not Respond
  - Ex: A fatal crash has occurred that has closed both lanes of the highway. Deschutes 911 receives the call from a citizen, enters an event in their CAD System and sends a CFS to ODOT and OSP requesting assistance
- FYI Call
  - Manually initiated by operator
  - A response is not required
  - Ex: ODOT has scheduled maintenance that will shut one lane of highway leading to potential traffic congestion. ODOT sends a FYI Call to OSP and Deschutes to inform them so they are aware of the event in order to avoid the delays in responding to future incidents
- Information Share
  - <u>Automatic</u> sending message upon an operator creating or modifying the event
  - New, Update and Close incident
  - Up to each member agency to determine what new incidents to publish and allow into their CAD system based on "filter" rules



- Center-to-Center
  - Ability to allow operators to send a custom "instant message" about an incident to operators at another agency
- Supporting Process Messages (Automatic)
  - Syncing
    - Occurs anytime an event in one Agency's CAD system corresponds to another Agency's CAD system event for the same incident. Syncing ensures that information updates are processed and added to the correct event
  - Heartbeat
    - Every 5 minutes, the OIS sends messages to the Agency endpoints to confirm the Agency is connected to the OIS. Status update messages are sent informing all Agencies who is online and offline
  - OIS Error
    - Messages can't be delivered to a recipient Agency
  - Agency Error
    - Messages where an Agency CAD received a message but did not process the message. The recipient Agency will send the error message to the sender Agency



### **Information Sharing Factors:**

- Law Enforcement data ODOT TOCS users have to be LEDS/CJIS certified
- Flexibility to choose what to send/receive
  - Sender has ability to designate in their CAD system who the recipient are for the event. OIS only routes it to the recipients defined in the message
  - Functionality to flag information as sensitive/restricted and not include in message
  - Recipient has flexibility to decide what messages to consume and how to consume
- Requirement/agreement not to publish information received from one agency to other agencies

## **Challenges / Lessons Learned:**

- Lack of formalized program governance
- Budget constraints for PSAP
- Targeted info broadcast geographical area of responsibility
- Resistance/preference not to auto share/broadcast
- Technical:
  - Message schema design complicated
  - Sync message separate process
  - Test Agency hard to use
  - Connection kit needs improvement



#### **Questions and Answers:**

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# Roundtable

•What is your state of the practice regarding CAD integration?

•Are you considered a beginner, intermediate or advanced program?

•What two expectations do you hope to get out of the workshop?

•Do you have a lesson learned to share with the group based on your experiences with CAD Integration?



## Review of Sessions 1 & 2: Overview of Day 2 Agenda







SP CAD Integration Workshop April 23-24, 2018