



Computer Aided Dispatch: Ways to Integrate into TMC Systems Webinar October 12, 2017

Agenda:

#	Topic	
1	Welcome & Overview	Denise Markow, PE I-95 Corridor Coalition
2	ATMS CAD Integration	Robert Heller, PhD Southwest Research Institute
3	Computer Aided Dispatch (CAD) Integrations: Perspectives and Lessons Learned	John Horner, PE Q-Free North America
4	Minnesota DOT & State Patrol CAD Integration for Traffic & Incident Management	John McClellan Minnesota DOT
5	Instant Polls – To gather info on participant experience with CAD Integration	All

The complete presentation and audio are available for this webinar:

- [Presentation](#)
- [Audio](#)

Meeting Highlights:

- **Welcome and User Group Organization:**
 - Joanna Reagle (KMJ) reviewed housekeeping items and the question and answer protocol.
 - Denise Markow welcomed all, provided a brief overview of the webinar and introduced the speakers. She noted that nearly 127 persons registered for this webinar in 35 states.
 - Denise noted the I-95 Corridor Coalition is a partnership of transportation agencies, including 16 DOTs from Maine to Florida and including the District of Columbia. It provides a forum for key decision makers to address transportation management and operations issues of common interest. More information about the Coalition may be found on their website: <http://i95coalition.org/>.
 - The webinar focuses on two different perspectives on CAD Integration – two speakers from an integrator perspective and one speaker from a DOT perspective.
- **ATMS CAD Integration (Robert Heller, Ph.D., Southwest Research Institute):**
 - Robert Heller from Southwest Research Institute (SwRI) presented on integrating CAD systems with advanced traffic management systems (ATMS) from an integrator perspective.
The highlights follow:
 - SwRI has developed the codebase for three ATMS (but the states own the system): TxDOT's Lonestar, FDOT's SunGuide, and NE Compass (by NHDOT, VTrans, and MaineDOT).
 - SwRI utilized different integration approaches based on statewide CAD setup:



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- For FDOT, the CAD interface had to process multiple CAD update files from each different highway patrol troop and then distribute to each SunGuide installation
 - For NHDOT, they directly connected the NE Compass ATMS to the single state highway patrol CAD system.
 - The CAD operator would see an alert, create an event, and update fields as necessary. At that point, the ATMS will manage the event (one way). CAD can update the ATMS but the ATMS can't update CAD.
 - Robert noted some common issues in ATMS integration:
 - Documentation Errors
 - Field Names
 - Field Order
 - Field Format
 - Changes to Closed Events
 - Connection Information
 - CAD Operations Issues
 - Roadway Names
 - Latitude/Longitude Accuracy
 - Street Addresses
 - Abbreviations
 - Update Frequency
 - Robert also noted some strategies to increase the probability of success in an integration:
 - Coordinate schedules between CAD team and ATMS team
 - Give your integrator access to test CAD feeds
 - Realize that there are two contracting agencies and two developers
 - Determine specific points-of-contact at each agency for information exchange
- During and following the presentation, the following questions were discussed:
 - Denise Markow (I-95 CC): Asked what first three steps state agencies should take to begin integration. *Robert Heller (SwRI) suggested getting your ATMS vendor involved early, assessing whether information from your CAD system is useful/timely as-is, and finally assessing what kinds of roadblocks might exist in the data feed.*
 - Mike Juliano (NJDOT): Asked how long it took to integrate from concept to completion. *Robert Heller (SwRI) noted that it was a two-year effort for both NHDOT and FDOT, but that included other pieces. For just CAD integration, integration is estimated at four to six months.*
 - Dave Wolfe (Drive Engineering): Asked if there were any institutional barriers or if any Memoranda of Understanding (MOU) were utilized. *Robert Heller (SwRI) noted that communications with the CAD vendors was a roadblock because all communication was routed through a single police officer. There were no formal MOUs in place.*
 - Mike Juliano (NJDOT): Asked if there were any issues with structured data vs. operator freehand data. *Robert Heller (SwRI) noted that freehand data was sometimes an issue but noticed that CAD operators generally developed a standardized shorthand so utilizing that data was sometimes possible. ATMS wasn't just autogenerating events from CAD data, ATMS operators would look at the CAD event to determine what freehand data was relevant as they created the ATMS event.*



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- Ben Pecheux (Aemcorp): Asked what percentage of CAD events were added to ATMS. *Robert Heller (SwRI) did not have figures on how many CAD events were being processed into ATMS.*

- **Computer Aided Dispatch (CAD) Integrations: Perspectives and Lessons Learned (John Horner, PE., Q-Free North America):**
 - John Horner presented on Q-Free's experience integrating CAD and ATMS systems and the lessons learned in their 40 integrations with 12 different vendors in two states. The highlights follow:
 - CAD-ATMS integration has a lot of value:
 - Incident detection increases (up to 88% of crash discovery in Virginia was through Virginia State Police CAD)
 - 34% reduction in clearance time on I-95 in Virginia
 - Better communication and awareness
 - Where data can be obtained:
 - Law enforcement responsibility is generally a patchwork as far as jurisdiction and roadway segments
 - Look for existing integrations and similar CAD vendors
 - How to get the data:
 - Understand cultural differences between organizations
 - Law enforcement focuses on operations, DOTs focus on analytics/engineering
 - Data sensitivity issues and personally identifying information (PII) – most CAD exports contain this and it needs to be filtered, even the freeform text fields
 - Reiterate that integration will not affect existing 911 operations – bring your own hardware/virtual machines, use strong encryption and use only outbound connections
 - Look for law enforcement individuals with traffic incident management training
 - Don't let your IT department take over the project
 - Consider institutional agreements
 - How to use the data:
 - Have appropriate expectations
 - Some of the data is unverified
 - 911 is unconcerned with traffic management (generally won't enter closed lanes into CAD)
 - Integration may be the best cost/benefit ratio for incident detection
 - Success Factors
 - Need a good balance of filters
 - Maintains security
 - Doesn't overwhelm the TMC but has all relevant data
 - Plan for maintenance/upgrades
 - Have a process for paying for it
 - During and following the presentation, the following questions were discussed:
 - Mike Juliano (NJDOT): Asked if filtering issues exist when combining CADs across state into one ATMS. *John Horner (Q-Free) noted that filtering was done at each CAD location so information doesn't leave that silo.*
 - Dave Wolfe (Drive Engineering): Asked how the CAD integration managed a 34% decrease in clearance time? *John Horner (Q-Free) noted that there*



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were likely two factors: it gives a better idea of incidents actually happening and quick-clearing incidents were now being logged for metrics.

- Earl Sharp (Virginia DOT): Asked whether or not there was integration efforts with next-generation 911. *John Horner (Q-Free) noted that he wasn't aware of any sustained efforts yet.*

- **Minnesota DOT & State Patrol CAD Integration for Traffic & Incident Management (John McClellan, Minnesota DOT):**
 - John McClellan presented on Minnesota DOT's CAD-ATMS integration. The highlights follow:
 - Incident management has been a major priority for MNDOT in the last 15 years, especially in metropolitan areas. They want awareness on every incident on the metropolitan freeway systems.
 - MNDOT first fully integrated TMC with CAD in 2008.
 - 72% of TMC events come from the state patrol (compared to 9% for TMC cameras) – this saves a lot of effort for TMC operators because CAD operators are already entering events
 - TMC operator workstations have an ATMS screen, a CAD screen, camera and radio stations. Training is easy because interfaces are point-and-click, drag-and-drop.
 - The TMC gets a linked copy of traffic related events created by the state patrol dispatcher, but the TMC is firewalled off from the criminal justice interface so they receive no PII.
 - TMC uses the CAD-ATMS integration for real-time incident management, awareness, less duplication of data, increased coordination with state police.
 - Building relationships with different stakeholders is the easiest way to move the integration along.
 - During and following the presentation, the following questions were discussed:
 - Denise Markow (I-95 CC): Asked if crowdsourced data is actually a better cost/benefit measure for incident detection. *John McClellan (MNDOT) noted that Waze data was better than nothing – but there is a lot of incident duplication and errors in classification. It helps with incidents that stop traffic but don't generate CAD events (slowdowns not related to crashes, etc.)*
 - Paul Keltner (WSDOT): Asked if landmarks were used for common name location? *John McClellan (MNDOT) noted that most locations were entered as a common place name which will then be snapped to a latitude/longitude (e.g. east I-94 at Cedar Ramp will snap to a specific latitude/longitude).*
 - Jeremy Borden (ALDOT): Asked whether or not there were legal concerns with recording TMC cameras. *John McClellan (MNDOT) said they make recordings public for four days – all requests are handled equally – and MNDOT gets about one to ten requests per day for the metropolitan area.*
 - Paul Krisavage (CTDOT): Asked if there were statewide GIS or basemaps. Robert Heller (SwRI) noted that FL and NH Compass used a single basemap provided by their respective DOT. *John McClellan (MNDOT) noted that they use TomTom as a basemap for CAD and the ATMS uses OpenStreets.*



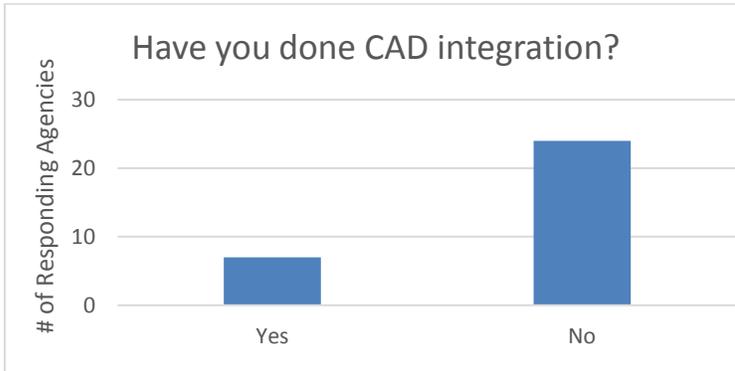
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Polling:

The audience was polled with the following questions. The responses are provided.

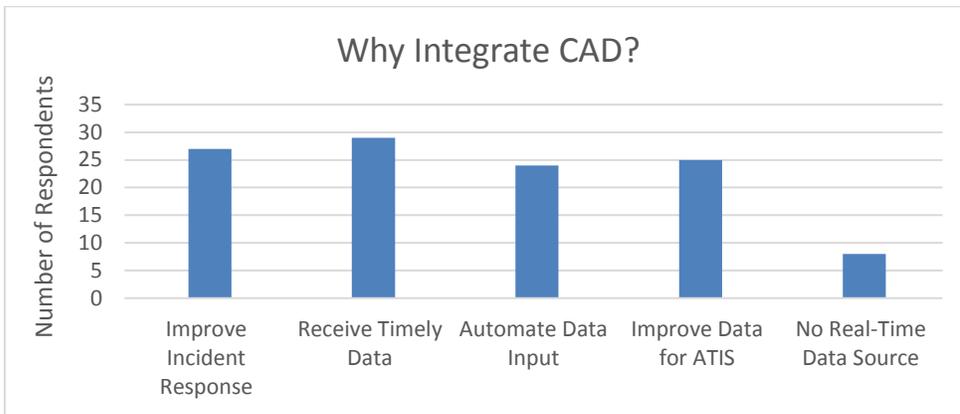
Question 1 - Have you done CAD integration with your ATMS or TMC systems?

77% - No
23% - Yes



Question 2 - Why integrate CAD into your system? (Check all that apply)

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



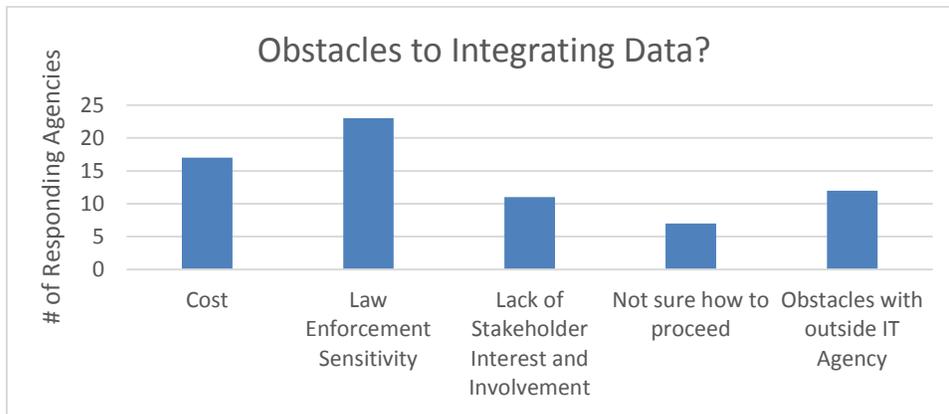


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Question 3 - What have you encountered as, or feel are, the obstacles to integrating the data?

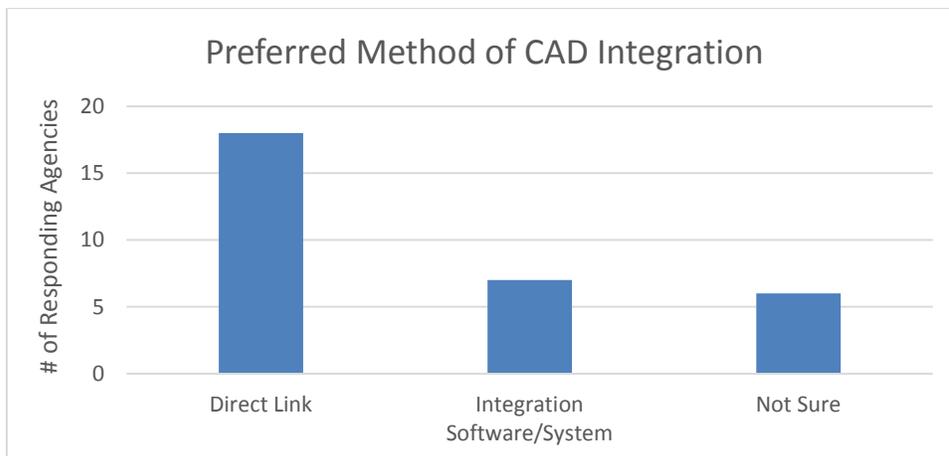
(Check all that apply)

- 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



Question 4 - What is your preferred method of CAD integration?

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

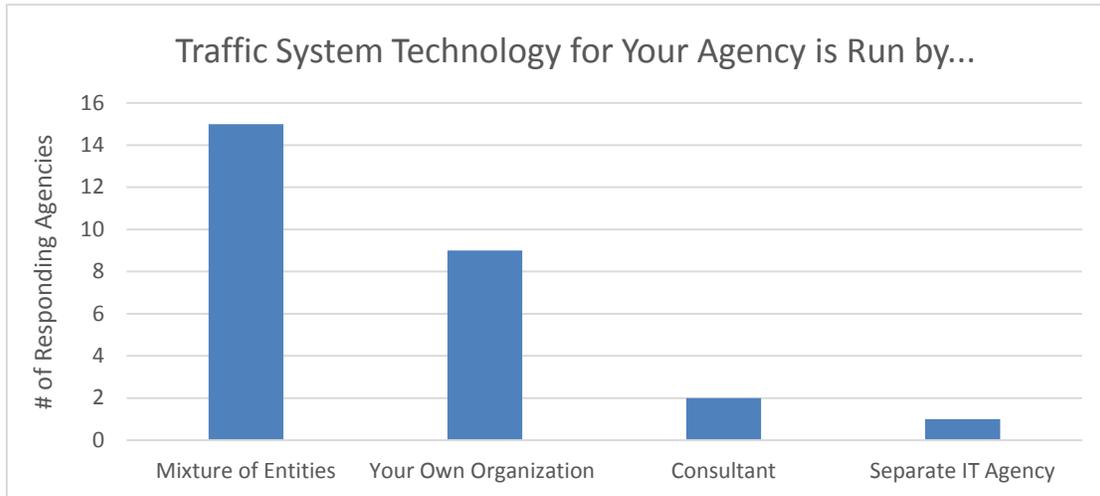




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Question 5 - The traffic system technology for your agency is...

- 56% - run by a mixture of several entities
- 33% - run by your organization completely
- 7% - run by a consultant
- 4% - run by a separate state IT agency



Wrap Up:

Denise thanked all participants and speakers for their participation.

Questions/Contacts:

General Questions regarding the webinar or the I-95 Corridor Coalition –
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John McClellan, Freeway Operations Supervisor, MNDOT RTMC

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Agencies and Organizations in Attendance	
Ada County TMC	Michigan DOT
AECOM	Minnesota DOT
Aemcorp	Missouri DOT
Alabama DOT	NC State Highway Patrol
Arizona DOT	New Jersey DOT
Arkansas DOT	New York State DOT
Baltimore Metropolitan Council	New York State Thruway Authority
Broome County EMS	NJTPA
CDM Smith	Pennsylvania DOT
City of Stamford, CT	Q-Free
Connecticut DOT	Richmond Regional Planning District Commission
District DOT	South Carolina DOT
Drive Engineering	SunGuide TMC
DVRPC	SwRI
FHWA	Tennessee DOT
Florida International University	UMD CATT Lab
GEWI NA	University of Washington
I-95 Corridor Coalition	USDOT/FHWA
Jacobs Engineering	Virginia DOT
Maryland DOT SHA	Virginia Tech Transportation Institute
Maryland Transportation Authority	Wisconsin DOT