

"DON'T GET DERAILED AT TRAIN WRECKS"

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This paper is a retrospective review of the operational components involved in the EMS response to a New Jersey Transit train accident. The intent is to identify the areas, which resulted in a less than optimal response, and to make recommendations for future change. Operational data was collected from dispatch tapes, log books, run reports, triage tags, critiques and anecdotal information in the form of written reports from members of the response team.

Premise - On 2/9/97, two NJ passenger trains collided in the marshes separating Jersey City and Secaucus. There were approximately 750 passengers aboard the two trains. The crash resulted in 91 EMS units and dozens of police and fire agencies responding to the scene and staging areas. Utilizing the S.T.A.R.T. system 400 people were triaged at the scene, 160 patients were treated and released from the scene, 71 patients were transported to local hospitals and three patients were pronounced dead at the crash site. An additional number of patients made their own way to local medical facilities.

There were several significant factors involved in the EMS portion of the response to this incident. During the initial response, the first due ambulance was involved in a head on collision with an NJ Transit bus, causing serious injuries to both EMTs. This caused resources to be diverted away from the initial event. Second, access to the accident site was restricted due to the remote location of the tracks. The scene was only accessible via a narrow unpaved, muddy access road that was $\frac{3}{4}$ of a mile from the staging area. These conditions worsened as responding units became stuck and blocked in by additional resources. Due to the terrain and overhead wires, the use of the regional aero-medical system was limited. Finally, the fuel tanks on one of the engines ruptured spilling 200+ gallons of diesel fuel, adding a hazardous materials component to the incident.

Another factor to be contended with was the location of the wreck. The response was multi-agency/multi-jurisdictional and included police, fire, EMS, OEM and med-evac helicopters from two states. This resulted in "turf wars" as NJ is a home-rule state.

Next, only the senior management staff for EMS had been trained in ICS. The supervisory personnel, all relatively new in their positions, had not yet received training. However, the supervisor's command vehicle had been equipped with ICS supplies, which included clipboards with instruction sheets.

EMS had a very modern communications system in place, which allowed the flexibility to use multiple frequencies and direct intra-radio communication. However, interagency radio communication was lacking, as none of the other responding agencies were on common frequencies. The communications center was able to cross patch some of the standard disaster frequencies onto our system. The field communications unit took more than an hour to arrive.

Several critiques were held, but they were all internal and not very critical; the standard pat on the back was the premise. Only a few field providers participated in the evaluation process, and EMS did not participate in any interagency critiques.

Many of these problems have been resolved, but some still exist 5 years later.

LESSONS LEARNED:

Command Post – During this incident, the Hudson County OEM delivered a mobile Command Post to the scene to provide a locale for command and coordination. The EMS department had never cross-trained in the CP, so we had certain expectations that went unmet. Several problems noted with the CP are as follows: No one used it. The command personnel never assembled there, most went to the crash site and this made interagency coordination difficult. The contents of the CP were sub-optimal. There were no extra radios, phones or fax machines. My expectations were that there would be large maps of the areas, white boards/markers and computers. Political reality prevented this. After about an hour New Jersey Transit provided their Command Post/communications vehicle, which was equipped with most of the necessary supplies. The only problem was it was a converted passenger bus and did not provide enough room for everybody.

Recommendation – Periodically have inter-agency meetings that take place with the objective of inventorying the contents and capabilities of the specialty vehicles that will be used during special operations. Make a wish list and distribute it amongst the various agencies in your jurisdiction. Someone may have what you are looking for and might be willing to swap.

Press - At any large scale event a primary goal of the Incident Management team should be the prevention of a “media circus.” This often occurs when the press is not provided with timely and accurate information as well as access to the scene. There were three issues that surfaced during this event: 1) Due to poor interagency coordination, there was no single Public Information Officer (PIO), the Fire Department utilized the PIO from the Office of Emergency Management but the EMS system relied on the Hospitals’ spokesperson. 2) A hospital policy did not allow employees to speak with the press. New Jersey is a small state and there are three main papers that cover events throughout the state. They like to provide human-interest stories in addition to the regular news and they kept requesting access to responders for such stories. 3) There were numerous press helicopters flying overhead which had the potential to interfere with the air-medical operations.

Recommendation - Ensure that someone from your agency has had the appropriate training as a PIO and that the agency’s policy allows for the interaction with the press. Make sure that there is a designated PIO for the incident and that the press knows whom it is. The press will generally agree to follow the rules set forth by the PIO provided they have access to photos and press briefings. The PIO needs to understand that the press has a function at the scene as well as having deadlines for submitting stories. It makes no sense to schedule a press briefing at 5:45pm when the news broadcast will be at 6:00pm.

Directions – Locating the accident site was problematic as we have miles of tracks in our coverage area, and we did not have detailed maps of the rail areas. We also had conflicting reports of the accident site mostly from passengers calling from cell phones.

Once on scene, the collision site was only accessible via a narrow unpaved utility road that was ½ to ¾ of a mile from the staging area. This road was also muddy due to a recent thaw. These conditions became apparent as first responding units became stuck and blocked in by additional resources. Due to the terrain and overhead wires, the use of the regional aero-medical system was limited. As a result the majority of our patient who were immobilized on a backboard had to be carried down the road to the treatment areas. This took an enormous amount of manpower and was a substantial drain on our resources.

In any disaster situation you will have resources responding from numerous localities and they may not have knowledge of the best approach to the scene. It is imperative to have these units report to a staging area and to have a person familiar with the locale act as the Staging Manager. In our situation we utilized the Vince Lombardi

rest stop on the New Jersey Turnpike and brought ambulances into the area in groups of twenty-five. The second problem with directions occurred when the ambulances began transporting the victims to area hospitals. Once again they needed directions. We did not have the capability to produce maps in the Command Post.

Recommendation - We had the Jersey City Police Department act as a traffic control unit and provide point-to-point guidance from the scene to the destination hospitals. Have the ability to copy maps in a timely fashion. If not, have a person who is familiar with the area in the lead vehicle and send the ambulances in groups of five to ten, similar to the strike team concept.

Logistics - New Jersey Transit provided us with a "Rescue Train." This train turned out to be a series of rail cars that were specially designed for easy access from ground level. Despite the misnomer of Rescue Train, it was not equipped with any sort of medical supplies. It was used to move the walking wounded out of the crash site to a triage area.

Recommendation - This train should be equipped with medical supplies and pallets of disposable backboards. Through coordination with New Jersey Transit, we should have been able to transport the minor injured patients to other towns so as not to drain the resources of the local hospitals. Every town/city that has a commuter rail passing through it has the potential for a derailment or crash. Equipment caches should be created and positioned for rapid mobilization to a crash site. If the expense is too great for a community, mutual aid agreements need to be adopted.

Inter-agency coordination - The train wreck resulted in a multi-agency/multi-jurisdictional response from the two cities involved. A brief list of the responding agencies include: JCPD, JCFD, JCMC EMS, JC OEM, NJ State Police OEM, Secaucus FD and PD, North Hudson Volunteer EMS agencies, NJ First Aid Council – 3rd District, NJ Transit Police and several med-evac helicopters. The Governor eventually responded to the scene for a face-to-face briefing, and additional information to support disaster declaration.

Recommendation – With such a large gathering of diverse agencies, there was very little coordination between the different services. We need to start having inter-agency drills. We need to enforce many of the concepts of the Incident Command program: common terminology, clear identification of roles and responsibilities. Informally, we need to meet face to face, prior to a disaster, with our counterparts to know them and understand their capabilities.

Communications - We had a very modern and complex radio system in place that used was a 900mhz trunked system that allowed us the flexibility to use multiple frequencies and direct radio-to-radio communication. However, interagency radio communication was lacking, as none of the other responding agencies were on our frequency. We were able to pass out some portable radios, but we did not have enough for every agency and functional area. The communications center was able to cross patch some of the standard disaster frequencies onto our system. The primary deficiency identified by the EMS review process focused on communications, both radio and interagency. The lead EMS agency operates on a 900MHz trunked system with multiple channels available. Other agencies responding to the scene operate various other frequencies. There are dedicated radio channels (155.280mHz) for disaster operations but these quickly become clogged and unusable. A field communications unit responded as mutual aid from the next county. Once onscene, they took control of scene communication from the regional dispatch center, which still provided the communications for the city. Although the EMS agencies were communicating, onscene communications were still hampered, because we had no capability to communicate with the fire and police departments.

Recommendation – All major agencies involved in a disaster response should have a communication plan in place before an incident occurs. This plan should have redundancies built into it, so that if primary communications

fail, as they usually do, there is a back up plan in place. The plan should include various radio nets for different levels or activities, location of spare batteries and chargers, method for assigning and tracking equipment loaned to other agencies. This plan should be tested periodically under a variety of circumstances and locations. If you have an underground transportation system, does your communication system function in the tunnels?

Triage – To facilitate any incident that generates a large patient count you must also implement a management system geared to medical treatment. This system is referred to as Triage. Within the world of EMS, everybody is aware of this concept, however the reality of it is that very few systems train in triage. Ours was such a system. We had the State mandated triage tags pre-bundled in packs of fifty on every ambulance, yet we rarely had a drill in which we used them. Most of our staff was unfamiliar with the tags and the process of triage. After the train wreck, we began teach the START system of patient sorting. The START plan (Simple Triage and Rapid Treatment) was developed by the Los Angeles County Fire Chiefs to be used in the event of a multiple causality incident (MCI). The plan is based on three observations: Respirations, Circulation and Mental Status and allows EMTs and Paramedics to triage a patient at an MCI in 60 seconds or less. Local hospitals are not familiar with triage tags.

Recommendation – Triage at a disaster scene is a function of EMS, therefore everyone in EMS should be well versed in whatever method is going to be used. A priority of the EMS department should be to implement a training program that includes hospital personnel. This program ought to include a triage day, where at least once a month every patient that EMS transports receives a triage tag. At the end of the 24-hour period all the tags are collected and accounted for. This will enable all personnel, both hospital and Prehospital to become familiar with the process of triage and tagging.

ICS supplies / training – Only the senior management staff for EMS had been trained in ICS. The supervisory personnel, all relatively new in their positions, due to an organizational change, had not yet received training. However, the supervisor's command vehicle had been equipped with ICS supplies, which included clipboards with instruction sheets. Unfortunately, this unit; one of the first onscene, was blocked in by other responding apparatus and the equipment was made inaccessible.

Recommendation – All personnel who have the potential to be in a command position should receive at a minimum ICS-200 training. This is a twelve-hour course that is nationally recognized and covers the basics of scene and operations management. Staff members should all be trained in ICS-100, the basic course, which is now a self-study program that takes four hours. Additionally, the equipment should be packaged in such a way as to allow a novice user to be somewhat comfortable with an assigned function such as Transport Officer. To meet this requirement, a clipboard with a position checklist, instructions, a copy of the organizational structure and identification vest should be bundled together so it can be handed out as needed. Since multiple agencies respond to disasters, a record should be maintained as to what personnel is proficient in each titled position. This is called red carding. Additionally, there should be only one identity vest per title in use at any given time, with the exception of Safety Officer.

Safety – In systems where EMS is a third service, the position of safety officer does not typically exist. EMS training includes a 10-second scene survey upon our arrival at the call location. There is no requirement for us to repeat this during the call, because we are typically not called into dynamically unstable situations. The Fire Department tends to remove the victim from the danger zone and brings them to EMS. We had many hazards at this scene including hazardous materials, potential collapse zones and med-evac operations in close proximity. We did not have a designated EMS Safety Officer.

Recommendation – Every scene must have a designated Safety Officer for the protection of the responders. In some cases such as a hazardous materials incident it is often a legal requirement. This person or persons must be familiar with the type of operation being performed and has to have the authority to stop unsafe acts. All personnel

operating onscene must be made aware of evacuation signals. Each agency involved in the rescue efforts should supply a deputy Safety Officer. The National Fire Academy has a course titled Incident Safety Officer.

Follow up - Our department held several critiques, but they were all internal. We were not critical of ourselves; the standard pat on the back was the premise. Few field providers were included in the evaluation process; it mainly consisted of management and supervisory personnel. We did not participate in any interagency critiques.

Recommendation – We should have had more critiques and included all responding agencies. We should have generated more after action reports from our field providers instead of relying on just the management staff. We did not create a plan for implementation of the recommendations that were generated during the review process. This is a must; otherwise they will not get done. Maintain the sense of urgency, do not allow the personnel and management to believe the disaster is over, remind them that this is the time for mitigation and preparedness.

Profile:

Peter has been involved in many aspects of emergency management for the past 17 years. During that time frame he has worked as a paramedic at St. Clare's Hospital in New York City and was the Paramedic Director at Jersey City Medical Center. He is currently employed at St Barnabas Health Care system in two capacities, the first as a staff paramedic and the second as the senior disaster management instructor at their EMS academy.

He received a BS in EMS Management from Hahnemann University in 1992, and in 1997, completed his Master's Degree in Public Health, with a concentration in health systems administration at New York Medical College. He is in the process of completing the requirements to become Board Certified in Emergency Management by the International Association of Emergency Managers. He is New Jersey State Police ICS Instructor.

He has written numerous articles on disaster management and EMS operations. He has also given several presentations at various local and national conferences.

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