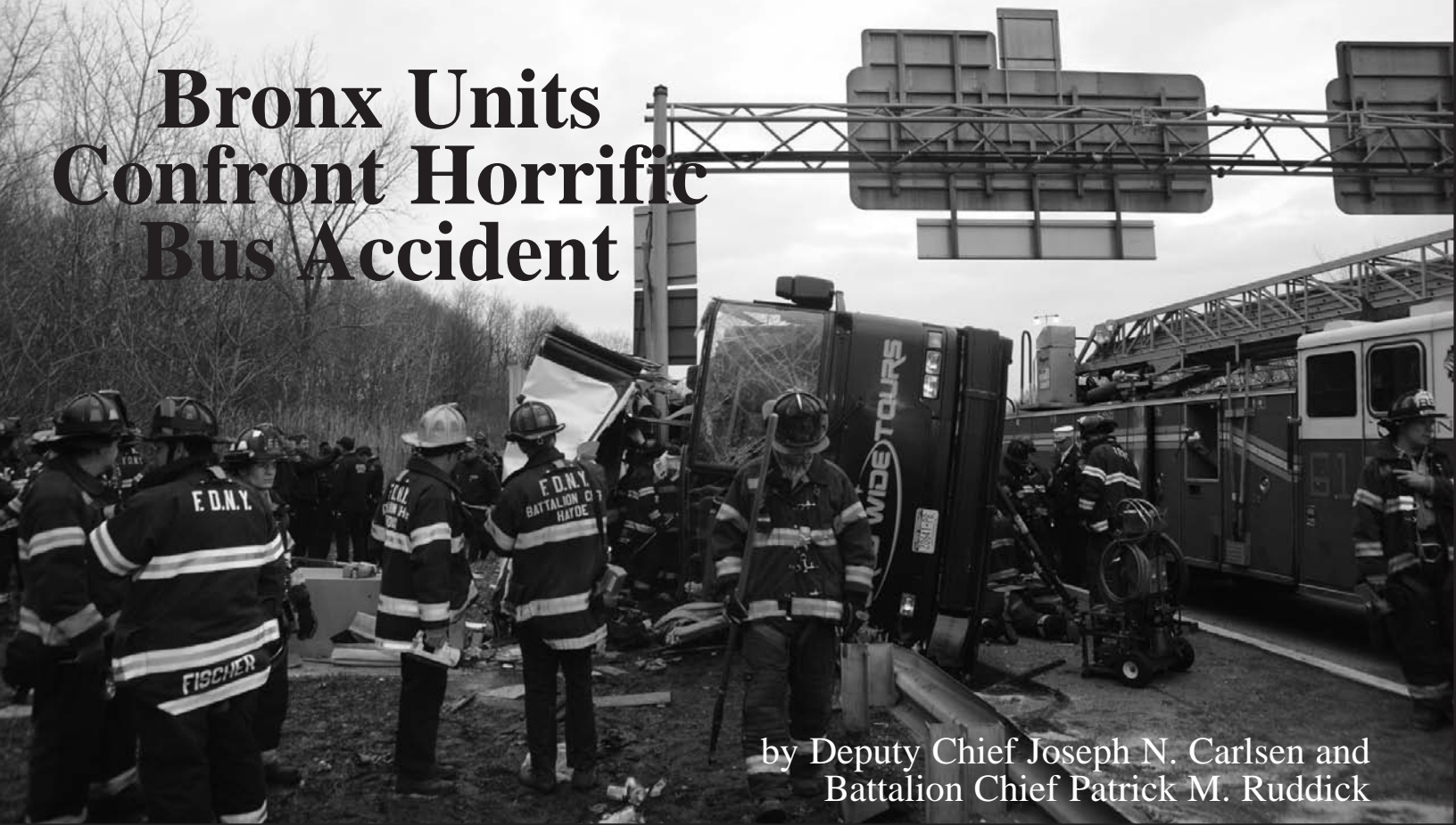


Bronx Units Confront Horrific Bus Accident



by Deputy Chief Joseph N. Carlsen and
Battalion Chief Patrick M. Ruddick

The Bruckner Expressway/southbound New England Thruway/Hutchinson River Parkway is the site of numerous and somewhat varied transportation responses for FDNY units in this section of the Bronx. Some of these runs are routine, while others are quite unusual and sometimes severe. Almost any type of payload can be expected to be moving through this section of what is most probably the heaviest traveled route from Maine to Florida.

On the morning of March 12, 2011, FDNY units responded to a reported bus accident, requiring extrication. This call turned out to be anything but routine. At approximately 0530 hours, a tour bus returning from Mohegan Sun with 32 passengers aboard lost control and flipped on its side. After the bus overturned near the Westchester border, it proceeded to slide along the guard rail for approximately 480 feet, over the county line, into the Bronx. As it slid, it struck head-on two cylindrical columns, about one foot in diameter and three feet apart, which supported an overhead sign that spanned the entire southbound lanes of the New England Thruway. (See Photos #1 and #2, above and below.) The bus collided with the steel support in the middle of the windshield and as it continued to slide on its side, ripped through the weakest part of the bus--the wind



Photo #2--Due to the impact of the accident, overhead luggage racks and bus seats became separated from the bus.

ow s - - j u s t below the overhead luggage racks and above the seats. When the bus finally came to a stop, the columns had traveled nearly the entire distance of the passenger compartment. Bronx Box 8998 was received at 0537

hours.

The first responding units were confronted with an overwhelming scene. There were bus passengers on the roadway (walking wounded), requiring medical treatment. Many more were still in the bus and required extraction. Some of these individuals were suffering with extensive physical injuries.

As Battalion Chief Patrick M. Ruddick, Battalion 20, was responding northbound on the New England Thruway, it was evident from across the highway that a bus had, in fact, overturned. Near the front of the bus was a group of about six people milling about; perhaps the occupants already had self-evacuated.

The Battalion made a u-turn across the highway and parked on the shoulder, near the group in front of the bus at 0547 hours. He proceeded to the bus and FF Robert Bentkowski, Battalion 20 Aide, approached the group, hoping to seek out the driver. Finding the driver and asking him how many people were onboard, FF Bentkowski, as directed by Chief Ruddick, immediately notified the dispatcher and confirmed that FDNY had an overturned tour bus with 32 people trapped and to send numerous ambulances.

As Chief Ruddick drew near the front of the bus, it became quite clear in the morning darkness that this was a horrific accident. The front of the bus was split wide open, with the roof area separated from the lower part of the bus. Muffled cries and hushed moans could be heard from within. Bodies were strewn about the forward part of the bus.

As Chief Ruddick began to assess the situation, Lieutenant Fred III, Ladder 50, arrived on the scene and was directed to start removing victims from the front part of the bus. Members of Ladder 50 placed a portable ladder against the bus to remove an ambulatory victim who was able to self-evacuate through one of the side windows.

Shortly after the first transmission to the dispatcher, a second Rescue Company and the Rescue Collapse Unit also were requested to respond to provide shoring to the unstable bus and assist with extrication of the numerous victims. Ladder 61 arrived a minute

after Ladder 50 and their members also entered the front, torn-open part of the bus. Members of both units put their Hurst Tools into operation and also used sawzalls to free entangled victims who were under seats, in the upper baggage area and on the steps.

In order to access live victims trapped beneath, many of the fatalities had to be removed first. Due to the severity of some of the injuries, Firefighters, as best they could, were given the gruesome task of matching severed limbs and other body parts with the victims who were removed. Engine 97, after stretching a 1³/₄-inch hand-line, assisted with the removals, forming an assembly line from this breached entrance to the bus.

Continuing the size up and moving to the rear of the bus, limbs were apparent, in different locations, protruding from under the roof area. Ladder 39, along with Squad 61, whose members now were on the scene, were ordered to use air bags to lift the roof and remove these victims. Lieutenant Tomas Batis, Ladder 39, entered the rear of the bus through the approximately 18- by 18-inch roof hatch. The rear roof hatch later was enlarged to about four by seven feet for victim removal by members of Squad 61, Ladder 39 and Rescue 3. Lieutenant Batis then was joined in the rear of the bus by members of Squad 61 and shortly thereafter, by members of Rescue 3. (See Photo #3.)

The rear of the bus was where the most devastating injuries were located. When the bus flipped on its side and collided with the sign post, victims were struck by the post and dragged to the back where they were piled up in the area of the next to last row of seats. Members of Rescue 3, Squad 61 and Ladder 39 operating in this section were required to disentangle bodies and body parts twisted around the sign post.

A lifting operation was conducted, along with the use of cutting tools, to extricate the live victims who also were trapped in a mass of dead bodies, seats, luggage racks and other structural parts of the bus. As the members operated in this section of the bus, diesel fuel was flowing underneath from the compromised fuel tanks and running down the highway. Although not an immediate concern, it was an issue that had to be addressed. Haz-Mat 1 and Squad 41 were special-called to the scene to over-pack the fuel that was on the ground, as well as the remaining fuel that was in the tank. Adding to the many hazards was an electrical conduit that ran along the sign post and was inside the bus. Engine 97 members, who initially had stretched a precautionary line, now had a foam line in place.

Captain Thomas Luby, EMS Bronx Duty Captain, arrived on the scene and conferred with Chief Ruddick. Some of the passengers with obvious mortal injuries already had been placed at a Casualty Collection Point (CCP) on the grass, near the fence and away from the bus. Captain Luby set up a triage area with two EMS supervisors where Firefighters were directed to bring the victims. From the triage area, patients were tagged and, depending on their injuries, were sent directly to waiting ambulances or brought to a CCP. Coordination between Fire and EMS was outstanding.

On arrival at 0601 hours, Deputy Chief Joseph N. Carlsen, Division 7, conferred with Chief Ruddick, who apprised him of the situation and the actions that already had been taken. At this time, all units on the scene were being used, so two additional trucks above the *All Hands* were special-called. Chief Carlsen then made contact with EMS Captain Luby (Medical Branch Director) and asked what he needed. He responded manpower.

At this time, the third- and fourth-due engines were assigned to assist with the transport of patients to the triage area or CCP, as requested by the Medical Branch Supervisor. Two additional CFR-D Engines were special-called. On arrival, these units were assigned directly to the Medical Branch Supervisor. Prior to designating Chief Ruddick in charge of operations at the bus, Chief Carlsen walked around the bus. During this time, a second foam

line was ordered stretched to the front of the bus.

Shortly thereafter, Battalion Chief Donald Hayde, Rescue Battalion, arrived and was designated the Rescue Group Supervisor. Chief Hayde conferred with Chiefs Ruddick and Carlsen and also coordinated the shoring operation performed by Rescue 4 and Ladder 27 members, who now were on-scene with Rescue 3's second piece. (See Photo #4.)

To ensure that no walking wounded victims had wandered off and ascertain that no victims were ejected from the bus and lying in the surrounding area, a search was conducted for a reasonable distance. Once all personnel were removed from the bus, a secondary search of the bus was conducted.

Lessons learned/reinforced

- Bus operators typically maintain a count of the number of passengers on the bus. When arriving at the scene, if possible, ask the bus operator for this number. When obtaining this information, the operator may provide only the number of passengers and not include bus personnel. FDNY members need to determine the total number of people on the bus. In this case, there were a total of 32 people on the bus, including the operator.
- An early and accurate report to the dispatcher will assist incoming units with their size-up.
- FDNY must reach possible survivors as soon as possible and provide immediate medical care. In this case, it was necessary to remove black-tag patients to the CCP in order to reach survivors.
- Once all passengers are removed and the scene is rendered safe, the scene is turned over to law enforcement for their investigation.
- The Incident Command System (ICS) should be used as necessary. Although ICS terms were not used exclusively (the term Operations Section Chief was not used), the ICS was. Chief Ruddick (who effectively performed as the Operations Section Chief), Chief Hayde (Rescue Group Supervisor) and EMS Captain Luby (Medical Branch Director) were assigned to the noted positions, which ensured the proper span of control, promoted efficiency and avoided duplication of effort.
- In addition to fire operations, FDNY members must constantly train on the various emergencies to which they respond. Mass Casualty Incident (MCI) training and drills will ensure that members are prepared for these kinds of events. Although somewhat larger in scale, this incident was similar to the bus bomb drill, which was recently conducted at the Bureau of Training.
- Incident Commanders should special-call resources as needed. Although not typically done, Battalion 20 called for a second Rescue Company, along with their Collapse Truck for the necessary shoring equipment.
- When operating at motor vehicle accidents, the surrounding area should always be checked. A secondary search of the bus was conducted. As with a structural fire, it was conducted by a unit other than the units that performed the extrication/primary search.
- The Office of Emergency Management (OEM) should be used to expedite the required services needed from other agencies.
- Members who responded to this incident were confronted with seemingly over-



Photo #3--Enlarging the bus' roof hatch to four by seven feet facilitated removal of victims by Firefighters.

EMS Operations at Bronx Box 75-8998, March 12, 2011

by EMS Captain Thomas Luby

Arriving at the Box at 0550 hours, a scene size-up was conducted. A tourist bus was lying on its side with a highway stanchion in the middle, dividing the vehicle in half. There were 32 patients who were trapped, severely injured or deceased, the first two groups of which required Basic or Advanced Life Support (BLS or ALS) intervention.

Initial strategies were identified with Chief Ruddick, establishing objectives for this incident. The ICS organizational structure was employed and responding EMS units were notified that mass casualty protocols were in effect.

Normally, when EMS crews interact with patients, they capture respective information on a patient care report (PCR), which includes patient assessment and any treatment rendered when there is no emphasis, per say, placed on time in performing this task. However, during an MCI, each patient is tracked with a unique tag while on-scene.

Since the goal at an MCI is to reach each patient quickly, conduct a rapid assessment and then categorize each one accordingly--based on priority and need for treatment--the triage tag replaces a PCR. Once the patient is tagged or categorized, the tag provides other responders with a colored mechanism for easy identification so they can provide necessary treatment. Based on the specific color identifier, it is used to determine which patient(s) require(s) prompt transport. Those who have life-threatening conditions (Red Tag) will be transported first.

Triage is structured based on START (simple triage and rapid treatment) that allows patients to be grouped or sorted by maximizing resource capabilities. START comprises four categories, based on a quick evaluation of a patient's respiration, circulation and mental status. The breakdown follows:

- **Red Tags--Immediate.** Presents with one of the following: After repositioning the airway of a patient without respirations (apneic) once, respirations resume; a respiratory rate greater than 30 breaths per minute; an absent radial pulse; unconscious or unable to follow simple commands.
- **Yellow Tags--Delayed.** Presents with all of the following: Non-ambulatory patients (the injury prevents them from walking or walking complicates their presenting problem); a respiratory rate less than 30 breaths per minute; radial pulse is present; can follow simple commands.
- **Green Tags--Minor.** Ambulatory patients with minor injuries.
- **Black Tags--Deceased/non-salvageable.**

After the patients were removed from the bus, they were triaged and then taken to the treatment area via the patient corridor. Two CFR-D companies were assigned to remove the patients either from triage to treatment or treatment to transport. The initial Red Tag patients were removed and transported by a BLS unit to Jacobi Hospital; additional Yellow Tags were taken to St. Barnabas Hospital.

In conclusion, 32 triage tags--13 Black, eight Red, five Yellow and six Green--were used. All patients encountered were properly tracked, handled and transported, as required.

whelming conditions. There were extensive physical injuries requiring medical treatment, numerous extrications that had to be performed, leaking fuel and stability issues. It is apparent that prior training led to the rapid removals. The coordination between Fire and EMS units led to the quick medical treatment needed by many critically injured victims.

- At this complicated incident, all 32 people were removed approximately 50 minutes after FDNY arrival. Although there were some walking wounded, there were also many complicated removals. Keeping this in mind, the removal rate was about 90 seconds per victim.
- Although 13 people died at the scene and two others died a short time later, 17 people were removed, treated and transported in a quick, coordinated and efficient way. There is no doubt that this coordination and efficiency saved many lives.
- As long as a hazard exists, the proper type and number of units need to remain on the scene. While Haz-Mat 1 and Squad 41 over-packed the leaking fuel, a foam hand-line was in place to protect members.



Photo #4--Members of Rescue 4 and Ladder 27 provided the shoring to keep the bus safely on its side. This operation was coordinated by Battalion Chief Donald Hayde, Rescue Battalion.

- Members should be aware that the Counseling Services Unit is available to assist members after incidents such as this. Members also should refer to AUC 308 for Crisis Team Response and Critical Stress Debriefing Program.
- Fire-resistant, dual-certified ANSI 107- and 207-compliant, Class II, high-visibility safety vests are required by the Federal Worker Visibility Act, 23 CFR 634. Members are required to wear these high-visibility safety vests when working within the right of way of a Federal-aid highway. (See *Safety Bulletin 88*, dated July 6, 2009, High Visibility Safety Vests.)

Conclusion

This MCI was a well-coordinated FDNY operation, dependent on teamwork and cooperation, as opposed to just a well-coordinated operation among fire companies. On arrival, units were confronted with an overwhelming scene, consisting of massive physical injuries and numerous trapped passengers requiring extrication and medical treatment. These units called upon their training and completed the necessary tasks to extricate and treat these victims in a timely, efficient and coordinated manner.

Many tasks were conducted simultaneously and coordinated not only within each unit, but also between units and FDNY EMS. Extrications, removals, medical treatment, stabilizing the bus, addressing leaking diesel fuel and operating various types of power tools and equipment were conducted simultaneously. In order to operate efficiently at an incident of this type, units must prepare and train for them. This will ensure that when the need arises, members will be ready to operate at them.



About the Authors...

Deputy Chief Joseph N. Carlsen (top) is a 20-year veteran of the FDNY. He is assigned to Division 3. Previous assignments include Battalion 43 as a Battalion Chief; Division 15 as a Captain; Ladder 131 as a Lieutenant; and Engine 318 and Ladder 166 as a Firefighter. He holds a BS degree in Fire Science from Columbia Southern University. This is his third article for WNYF. **Battalion Chief Patrick M. Ruddick** (bottom) is a 34-year veteran of the FDNY. He is assigned to Battalion 20. Prior assignments include Battalion 54 as a Battalion Chief; Division 13 and Ladder 5 as a Captain; Battalion 57 and Ladder 5 as a Lieutenant; and Ladder 176 as a Firefighter. This is his first article for WNYF.

