SURVIVAL FACTORS GROUP CHAIRMAN'S FACTUAL REPORT

Penwell, Texas

HWY15MH004

(28 pages)

NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF HIGHWAY SAFETY
WASHINGTON, D.C.

SURVIVAL FACTORS GROUP CHAIRMAN'S FACTUAL REPORT

A. CRASH INFORMATION

Location:	Interstate 20 (I-20) Ector County near Penwell, Texas
Vehicle #1:	2015 Bluebird bus
Operator #1:	Texas Department of Criminal Justice
Vehicle #2:	Union Pacific Train Q40927, consisting of 4 locomotives, 58 cars
Operator #2:	Union Pacific Railroad
Date:	January 14, 2015
Time:	Approximately at 07:49 a.m. CST
NTSB #:	**HWY15MH004**

B. SURVIVAL FACTORS GROUP

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NTSB Office of Highway Safety
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C. CRASH SUMMARY

For a summary of the crash, refer to the *Crash Summary Report* (or *Factual Report of the Investigation*, depending on investigation type) in the docket for this investigation.

D. DETAILS OF THE SURVIVAL FACTORS INVESTIGATION

The Survival Factors Group assessed the crashworthiness of the 2015 Bluebird bus; evaluated the emergency response of the responding agencies; and conducted interviews with numerous first responders and the surviving passengers of the bus.

1. 2015 Bluebird Bus

Examination of the exterior and interior of the Bluebird bus was conducted on January 16-17 at Crash Masters in Odessa, Texas.

1. 2015 Bluebird Bus Exterior Examination

The front end of the bus sustained three impacts (guardrail, embankment, and train car) that could not be separated out. The combined impacts caused catastrophic damage resulting in the bus separating into four pieces: 1) the bus body, 2) the entire section of the driving seating area including the loading stairwell, 3) the entire chassis frame rails and wheel assemblies, and 4) the engine itself.[1,2] The chassis frame rails were completely distorted.

The bus body, which was the largest piece, impacted Bent number 4 on the eastbound structure 23 overpass of Interstate 20. The one pillar impact was to the left side of the bus body at the roof line between windows 6 and 8. The second pillar impact to the bus body was at the rear above the rear exit door, extended to the roof. There was deformation to the rear emergency door and all the rear windows were broken out.

The bus had thirteen windows on each side. The windshield and driver's side window were missing and the front half of the loading door was torn out at the time of the inspection. The rear half of the door remained but the windows broken out. Windows 9 and 10 on the passenger side had large wood slivers jammed in between window frame (bottom halves). All the windows on the back emergency door were broken out as were the windows on either side of the door. **Table 1** contains a description of the damage to each side window.

Table 1 Window Damage

Window Number	Driver's side Window Panel	Observations	Passenger side Window Panel	Observations
1	Top half	Entire window frame torn out	Top half	Broken
	Bottom half		Bottom half	
2	Top half	Broken	Top half	Broken
	Bottom half		Bottom half	Intact
3	Top half	Broken	Top half	Broken
	Bottom half		Bottom half	
4	Top half	Broken	Top half	Intact
	Bottom half		Bottom half	
5	Top half	Intact	Top half	Intact
	Bottom half		Bottom half	Broken
6	Top half	Intact	Top half	Intact
	Bottom half		Bottom half	
7	Top half	Intact	Top half	Intact

[1] Survival Factors Photo 1. Frontal view of Bluebird bus with front end torn away.
[2] Survival Factors Photo 2. Left side angle view of Bluebird bus showing missing front end and deformation to side from pillar impacts.

	Bottom half		Bottom half	
8	Top half	Broken	Top half	Intact
	Bottom half		Bottom half	
9	Top half	Broken	Top half	Intact
	Bottom half		Bottom half	
10	Top half	Broken	Top half	Intact
	Bottom half		Bottom half	
11	Top half	Broken	Top half	Broken
	Bottom half		Bottom half	Intact
12	Top half	Broken	Top half	Intact
	Bottom half	Intact	Bottom half	
13	Top half	Broken	Top half	Intact
	Bottom half		Bottom half	Broken

1.2 2015 Bluebird Bus Interior Examination

After taking delivery of the Bluebird bus, the Texas Department of Criminal Justice (TDCJ) installed a "Security Package" dividing the interior into four separate areas: a driver's area, a segregation (SEG) area, a General Population (GP) area, and a rear guard area. The areas were separated by three grated iron cage walls. The cage walls between the driver's area and the SEG area and the GP area and the rear guard area had plexi-glass attached to better protect the driver and guards. The grated cage wall between the segregation (SEG[3]) seating area and the General Population (GP) area did not have plexi-glass. All the windows along both sides were covered by metal sheeting with oval holes measuring approximate 1 ½ inch.

As previously mentioned the section containing the driver seating area, entry stairwell and front jump seat had been torn away from the bus body and frame.

The half section of the grated iron cage wall behind the driver and front jump-seat remained partially attached. The majority of the plexi-glass was broken away. The door and passenger side section was damaged and was pulled out during the extrication of the passengers in back. The second grated iron cage wall between the SEG area and the GP area was partially torn away and was fully removed by first responders during the extrication process. The rear grated iron cage wall, between the GP and rear guard area, was bowed inward at the center in the door area.[4] Approximately half of the plexi-glass in that wall was broken out.

The driver, front jump-seat, and rear jump-seat were all CE White Maximum Driver Protection seats Model# OZ3720LDV001-02, an air suspension hi-back seat with dual arm rests and air adjustable lumbar support. All three were equipped with a 3-point lap and shoulder belt with an adjustable D-ring. The seat belts in the driver, front jump-seat, and rear seat had a tag that read Beams and a buckle with a part number of DSCH752B, lot #1496931, and a Date of

[3] "SEG" area for administrative segregation, separates those with high security risk from the general population
[4] Survival Factors Photo 3. View of rear caged wall showing bowing to center.

04/07/2014. There was also a tag on the seat belts stating the belt conforms to Federal Motor Vehicle Safety Standard 209 "Head Restraints" and Federal Motor Vehicle Safety Standard 302 "Flammability of Interior Materials". Examination of the driver's seat belt showed that the seat belt retractor was locked and the belt was in the stored position. There was stretching and cupping to the webbing at the D-ring location. The metal buckle stalk on the side of the seat cushion was bent down. The latch showed no visible markings. Examination of the front passenger jump-seat seat belt revealed that the seat belt retractor was locked and the seat belt was in the stored position. The metal buckle stalk on the side of the seat cushion was bent inward. The latch showed no visible markings. Examination of the rear jump-seat seat belt showed that the seat belt was in stored position and the retractor was not locked. Upon close inspection the D-ring showed some evidence of a webbing friction rub. The webbing showed no evidence of stretching.[5] There were three very small blood drops/splatter on the webbing near the base adjacent to where it attached to the seat pan.[6]

The bus driver's air-ride seat was still attached to the vehicle's wood floor base with four ½"-18 x 2.5" Hex Head Grade 8 bolts. The seatback was broken from its' attachment point to seat cushion but remained partially connected by the leather seat material.[7] The front jump-seat was originally oriented facing forward with the seatback against the grated iron cage wall on the right side. The jump-seat seatback was bent forward, and almost wrapped around the front edge of the seat cushion.[8] According to interviews with a DPS Trooper and a good samaritan, when they first entered the bus the front jump-seat attachment to the bus floor was hanging off the front end of the bus chassis floor and they pulled the rear floor attachment the rest of the way out of the floor in order to gain access to the passengers behind the grated cage wall. One floor attachment (5/16" -18 x 2" 6-lobe Flat Head Floorboard Thread Cutting screw) at the front right attachment point was still partially through the seat base hole, stuck in that position with the bottom sheared off. The rear jump seat remained in its original orientation, sideways with the seat back against the left side wall. The seat was still attached and relatively undamaged except for scratches to the leather surface cover. There was blood evidence on the front face of the seat cushion.

The driver's steering wheel was severely deformed and measured 22 inches wide and 14 inches in height.[9]

The interior inspection revealed that the offender seats were manufactured by Freedman Seating Company, Chicago, Illinois. On the underside of the seats was a sticker with a manufacturing date of 5/14 and a Model number of 640206. A separate sticker attached to the seats had a date of April 2014. According to a brochure provided by the TDCJ representatives, this seat is called the CitiShell Seat and is part of Freedman's Prison Collection. In addition, a letter Faxed and signed by the Vice-President of Freedman Seating to TXDCJ on March 25,

[5] Survival Factors Photo 4. View of rear jump-seat with seat belt webbing pulled out showing lack of blood.
[6] Survival Factors Photo 5. View of three minute blood spots on rear jump-seat seat belt webbing.
[7] Survival Factors Photo 6. Overhead view of destroyed driver seat.
[8] Survival Factors Photo 7. Overhead view of deformed front jump-seat.
[9] Survival Factors Photo 8. View of deformed driver steering wheel.

2015 confirmed that Freedman CitiShell seats are designed, tested, and built to comply with FMVSS's 202[10], 207[11], 208[12], 210[13], and 302[14] when properly installed.[15]

At the time of inspection only the set of seats in row 8 on the left side remained fully attached to the floor. The set of seats in row 8 on the right side and both sets of seats in row 9 were partially attached or not attached at all. **Table 2** describes the seats that remained upright in the bus.

Table 2 Seat Attachments

Row	DRIVER SIDE	PASSENGER SIDE
9	Seat row was not attached at all and was jammed between the intruding rear cage wall and the seatbacks on row 8.	The seat row was attached to the sidewall; only the front screw was attached at the floor due to intrusion from the rear cage pushing it up against the seatbacks of row 8.
8	The front screw in the aisle attachment was torn out of the floor but the rear one was still attached.	The rear attachment to the sidewall in seat row 8 on the passenger side was still attached but the front one was not.

The attachment points for the remaining seventeen pairs of seats were all torn out from the floor and sidewall. According to TDCJ representatives, the Bluebird Bus vendor (Rush Bus Center) and Freedman seat vendor did not provide the seat fasteners as stated in the Request for Proposal (RFP). The TDCJ Manufacturing and Logistics Division Plant Manager purchased what he thought were the appropriate fasteners to install the seats. The seats were attached to the floor using Fastenal #12-14 x 1-1/4" unslotted hex washer head self-drilling zinc plated screws with a #3 point. In comparison, according to the Bluebird representative, when they are responsible for installing similar seats, they bolt the seats to the floor using 3/8-16 x 2.00" Grade 8 hex head capscrews and bolt the seats to the gusset/sidewall using 3/8-16 x 1.50" Grade 8 hex head capscrews along with washers and nuts.

[10] **§ 571.202 Standard No. 202; Head restraints**; this standard specifies requirements for head restraints to reduce the frequency and severity of neck injury in rear-end and other collisions. This standard applies to passenger cars, multipurpose passenger vehicles, trucks and buses with a GVWR of 4,536 kg or less, manufactured on or after September 1, 2009.

[11] **§ 571.207 Standard No. 207; Seating systems**; This standard establishes requirements for seats, their attachment assemblies, and their installation to minimize the possibility of their failure by forces acting on them as a result of vehicle impact.

[12] **§ 571.208 Standard No. 208; Occupant crash protection**; this standard specifies performance requirements for the protection of vehicle occupants in crashes. The purpose of this standard is to reduce the number of deaths of vehicle occupants, and the severity of injuries, by specifying vehicle crashworthiness requirements in terms of forces and accelerations measured on anthropomorphic dummies in test crashes, and by specifying equipment requirements for active and passive restraint systems.

[13] **§ 571.210 Standard No. 210; Seat belt assembly anchorages**. This standard establishes requirements for seat belt assembly anchorages to insure their proper location for effective occupant restraint and to reduce the likelihood of their failure.

[14] **§ 571.302 Standard No. 302 Flammability of Interior Materials;** addresses the burn resistance requirements for materials in all motor vehicles.

[15] Refer to Survival Factors Attachment 1. Freedman Manufacturing letter to TDCJ

Examination of the torn out seat pans and seatbacks showed numerous areas of damage. Due to all the seats being displaced, the exact position of any of the seats inside the bus was unknown. It should be noted that first responders threw some of the seats out of the bus in order to gain access to victims inside. Subsequently, these same seats were thrown back inside the bus prior to it being towed from the scene. **Table 3** describes the damage to the seats.

Table 3. Seat Damage

1	Plastic seatback on aisle seat is broken off.
2	Seat pan on window seat is cracked all the way thru but not separated
3	Seatback in an aisle seat has a hole 6 x 3 inches; the rest of the seatback is cracked. Forward seat pan edge is broken off across whole seat
4	Seatback in a window seat has a 3 inch deep indentation from the backside.[16]
5	Seatback on a window seat is cracked along the interior side (adjacent to other seatback)
6	Outside corner on a seat pan on an aisle seat is broken out and there is a crack that radiates to center of seat pan.
7	Seatback on a window seat is partially holed.
8	The seat bight on an aisle seat is broken out.[17]
9	Aisle seat, the seat bight is pulled away from its frame anchorage.
10	Plastic seatback on aisle seat is about 90% broken off.
11	The seatback on an aisle seat is cracked.

The bus was not equipped with emergency roof hatches nor were there any emergency exit windows available for use. Prison buses are currently excluded from emergency exit and other requirements of FMVSS No. 217, ‘‘Bus emergency exits and window retention and release.’’ [18]

The interior examination found blood evidence in an 8-foot area against the front left side wall at the forward most grated cage wall. Numerous other areas within the passenger seating area (floor and sidewalls) had blood evidence as well.

1.3 Exemplar Bluebird Bus Inspection

The TDCJ supplied an exemplar bus on January 16, 2015 that was ordered from Bluebird in the same batch of 20 buses as the bus involved in the crash.

An interior inspection of that exemplar TDCJ Bluebird bus showed that it was also configured with a “Security Package” consisting of four discrete seating areas separated by three grated wrought iron cage walls. The grated cage wall between the driver area and the rear jump–seat area had plexi-glass attached to it. The grated cage between the SEG seating area and the GP seating area did not have plexi-glass. The rear most grated cage area separating the GP and rear guard area also had plexi-glass attached to the grated cage wall. All the windows along both sides of the bus were covered by metal sheeting with oval holes measuring approximate 1 ½ inch.

[16] Survival Factors Photo 9. View of indentation to back of seatback.
[17] *Seat bight* is the area close to and including the intersection of the surfaces of the vehicle seatpan and the seatback.
[18] 49 CFR 393 62 (f) – Exempts vehicles used for the transport of prisoners from emergency exit requirements.

The driver seat in the exemplar was the same model as the one in the accident. The seat was attached to the wooden floor by two 5/16"-18 x 2" 6-lobe Flat Head Floorboard Thread Cutting screws at the front and at the back. In contrast, according to Bluebird, they use Grade 5 - 5/16-18 x 2.00" floor bolts to secure the driver seat to the floor when they are responsible for its installation.

In front of the driver was the dashboard with speedometer and other gauges and buttons used for heating and air-conditioning as well as the steering wheel with intermittent wipers and headlight knobs. Above the driver seating position was a Nemar[19] Intercom system, Model# PI-2, 12 volt standalone, for communication between driver and rear co-rider. Adjacent to the phone intercom system was a Midland CB radio. On the center dash pointed towards the driver was a 6 inch Napa fan. Just behind the driver to his left is an Amerex, 10 pound ABC fire extinguisher.

The driver's seat position in the exemplar bus was equipped with a 3-point lap and shoulder belt. The seat belt had a tag reading Beams seat belt manufacturing from Elkhart, Indiana. The buckle had a part number of DSCH752B with lot #1496931 and a Date of 04/07/2014. There was a tag on the seat belt indicating the belt conforms to FMVSS 209 and FMVSS 302.

Behind the loading door and stairwell was the courtesy panel and front jump-seat. The jump-seat was faced forward and was another CE White Maximum Driver Protection seat Model #OZ3720LDV001-02, air suspension hi-back seat with dual arm rests and air adjustable lumbar support. The seat was also attached to the floor by the same four 5/16"-18 x 2" 6-lobe Flat Head Floorboard Thread Cutting screws.

The front jump-seat position was equipped with a 3-point lap and shoulder belt. The seat belt had a tag that said Beams seat belt manufacturing from Elkhart, Indiana. The tag had a part number on the buckle of DSCH752B with a lot #1496931 and a Date of 04/07/2014. Behind the driver attached to the grated cage wall was a 15-inch fan manufactured by Hayden Model# P-N4003700; Date of Manufacturer: 2/2014.

Behind the driver and jump-seat area was the first grated iron cage wall with plexi-glass and a door equipped with a heavy duty lock. The SEG section was comprised of three 2-person rows of ABS[20] plastic Freedman seats on the driver's side. The first and second seat rows faced rearward and the third row faced forward. The passenger side had one rearward facing 2-person row of Freedman seats next to a metal latrine.

The SEG section was separated from the GP area by another grated iron cage wall with a door that's equipped with a heavy duty lock. Attached to the door on the SEG side was a circular metal frame used to hold a large plastic water dispenser. Adjacent to the grated iron cage wall was another metal latrine The GP section had nine rows of 2-person plastic seats made by Freedman seating located on each side of the aisle. Rows 1, 2, 3, and 5 were rear-facing with rows 4, 6, 7, 8, and 9 being forward-facing on the driver's side. Rows 1 and 5 were rear facing with rows 2, 3, 4, 6-9 being forward facing on the passenger side. All the seats were attached

[19] Brand name
[20] Acrylonitrile Butadiene Styrene (ABS) - a common thermoplastic polymer.

with two wood screws to the floor and two metal screws to the sidewall. The spacing between the seats is not uniform. The base of the seat pans were 16 inches off the floor and the top of the seatbacks are 36½ inches off the floor. Each seat pan was 17 inches wide. The aisle width was measured as 19½ inches. There was a climate control unit manufactured by ACC surrounded by a metal cage attached to the ceiling of the bus between rows 3 and 4 on the driver's side.

At the back of the GP section was another grated iron cage wall equipped with a door and heavy duty lock. Attached to the door is another circular metal frame used to hold a large plastic water dispenser. Another grated iron wall separated the GP section from the rear guard section. On the backside of the grated iron cage were two 15-inch fans on each side manufactured by Hayden (Model# P-N4003700; Date of Manufacturer: 2/2014).

The rear jump-seat was also a CE White Maximum Driver Protection seat Model #OZ3720LDV001-02, air suspension hi-back seat with dual arm rests and air adjustable lumbar support attached to the wooden floor by four 5/16"-18 x 2" 6-lobe Flat Head Floorboard Thread Cutting screws near the corners.

The rear jump-seat position was equipped with a 3-point seat belt with a tag that read Beams seat belt manufacturing from Elkhart, Indiana. The tag had a part number on the buckle of DSCH752B with a lot #1496931 and a Date of 04/07/2014. There was also a tag on the seat belt that said it conformed to FMVSS No. 209 and 302.

2. Emergency Response

A Texas Department of Public Safety (DPS) officer was already on scene working a previous crash that occurred at approximately 7:35 a.m. and was parked on the north shoulder of the I-20 talking to the driver of the previous crash. [21] The DPS officer heard his passenger in the back seat say, "whoa look at that" and when the DPS officer looked up he saw the bus in the median then disappear between the overpasses. He called his dispatch at 7:49 a.m. reporting the bus crash and requested that other units be sent. After releasing the driver from the previous crash from the back of the squad car, the DPS officer proceeded to the overpass and parked in front of the guardrail that was blocking the inside westbound lane of I-20.

The DPS officer proceeded down between the overpasses and ran several hundred feet south to where the bus ended up on its left side next to the railroad tracks. The DPS officer then asked dispatch to do the following: notify Union Pacific Railroad of the crash, request more EMS units, and request that the Ector County Sheriff's deputies and Texas Department of Transportation (TxDOT) respond to shut down I-20. The DPS officer was joined by a good samaritan and together they tore off the front jump-seat that was still partially attached to the floor and proceeded to climb into the front of the bus through a small opening in the grated cage wall. Once inside the DPS officer started to unlock several pairs of handcuffs with his key prior to the arrival of the Odessa Fire Departments (OFD).

The OFD had already been dispatched at 7:37 a.m. to the same crash the DPS trooper was working prior to witnessing this crash.[22] The Incident Commander (IC) was the first responder

[21] Survival Factors Attachment 2. Texas Department of Public Safety Dispatch Logs.
[22] Survival Factors Attachment 3. Odessa Fire Department Dispatch Logs

from the OFD to arrive on scene at 7:51 followed by an OFD ambulance. The first OFD engine unit arrived at 7:54 a.m.

After arriving on the scene the OFD IC did not see anything but noticed a good samaritan standing in the median waving his arms at the OFD IC. The OFD IC approached the good samaritan and was told that the crash was down between the railroad tracks. The OFD IC saw the debris alongside the railroad tracks and proceeded to traverse the incline and ran to the bus. After seeing all the victims inside and the two outside, he called dispatch and declared a Mass Casualty Incident (MCI) at 8:05 a.m. and requested three additional engines and three additional medic units.

Emergency responders that went inside the bus stated how difficult it was assessing the injured due to the victims being tangled up, handcuffed to each other (right wrist to left wrist) and intertwined with broken seats near the front of the bus against the grated cage wall. Compounding their difficulties in removing the passengers from the bus was the damaged grated cage wall that was partially hanging over the injured. The IC instructed his engine unit to get a K-12 circular saw and cut a hole in the roof in order to have better access to the victims. After removing more injured victims, they cut open and removed the passenger side of the grated cage wall and threw out the loose rows of seats making sure no other survivors were underneath them. With the bus lying on its driver side, the IC got up on top of the bus to oversee what was going on inside.[23]

While first responders were removing victims from the front of the bus another good samaritan and a firefighter went around the back of the bus and opened the rear door. They found the injured rear guard sitting on top of the front edge of his seat with the rear A/C unit on top of him. The guard was extricated, put in an ambulance, and was transported along with another injured victim at 8:07 a.m. to Medical Center hospital in Odessa arriving at 8:25 a.m. After extrication, the remaining three victims arrived at Medical Center hospital at 9:14 a.m. and at 9:15 a.m.

As more DPS and sheriffs arrived the IC asked a sheriff's deputy to get a count of the injured and asked another OFD chief to walk down the railroad tracks to make sure no others victims were ejected.

The Ector County Sheriff's Department responded to the scene with four units, with the first Deputy arriving on scene at 7:55 a.m.[24] The deputies assisted with traffic control for DPS and rode in ambulances with injured victims as they were transported to the hospital.

I-20 was closed down in both directions following the crash. The eastbound traffic was redirected off I-20 onto the frontage road located just west of the overpass.

In summary, four local emergency service agencies responded to the scene of the crash including the Texas Department of Public Safety; Ector County Sheriff; Odessa Fire Department; and the Odessa Police Department. Five ambulance units responded and they all transported injured victims.

[23] Refer to Survival Factors Attachment 4. Odessa Fire Department Incident Reports
[24] Refer to Survival Factors Attachment 5. Ector County Sherriff's Office Radio Log

2.1 Ector County Emergency Management

Investigators obtained Ector County's Health and Medical Annex for handling MCI's and the Odessa Fire Department's Standard Operating Guidelines (SOG) for handling MCI's.[25] The latter will be discussed since OFD was the primary responding agency and declared the MCI.

The OFD defines an MCI as an incident with three or more critical patients. When EMS is the first to arrive on scene they shall follow these procedures;

A) The first arriving Rescue/Squad will assess the incident and determine the number of critical patients involved. If there are three or more critical patients, an MCI should be declared. To declare an MCI, the first arriving unit will notify dispatch of the situation, request additional Rescue/Squads, rescue/fire equipment, law enforcement, or any agency needed to manage the incident. The dispatcher will then dispatch all requested equipment, notify the Battalion Chief, the E.M.S. Chief, and Medical Center Hospital. Medical Center Hospital should be notified of the number of patients to expect and the extent of injuries as soon as possible.

B) The first Rescue/Squad will become the command post and equipment unit. This unit will be the last Rescue/Squad to leave the scene and transport the least critical patient.

C) The driver will be the triage officer, who will determine the most critical, to the least critical patient. The driver's partner will be the transport officer. Patients will be triaged where they lie, unless the patient and/or rescuer are in danger from an unstable situation.

D) Additional arriving units will report to the command post where the transport officer will direct them to their patients, beginning with the most critical, unless that patient is pinned in. If the most critical patient is pinned in, the next arriving Rescue/Squads should be directed to the next critical patients, until the most critical patient is removed from the vehicle and is capable of being transported.

E) Initial patient treatment shall consist of: opening airways, assisting ventilations, controlling hemorrhaging, taking spinal precautions.

F) Equipment or supplies which may be needed at the scene (such as splints, backboards, etc.) should be removed from each Rescue/Squad before they transport their patient, if such equipment may be needed for the remaining patients.

When an Engine or Truck company is first to arrive on scene they will do the following;

A) The Captain of the first engine on the scene will assume command of the scene and the command post. The Incident Commander will request all responding units to report to him for assignments, request additional staff or equipment as needed, notify Medical Center of the number of patients and the extent of injuries.

[25] Refer to Survival Factors Attachment 6. Odessa Fire Departments SOG for MCI's

(B) In the event the Battalion Chief assumes command of the scene, the Captain will assist the transport officer in directing in coming medics to the appropriate patients.

(C) The Captain will assist in keeping track of the patients and their destinations, and communicate to the receiving hospital the number of patients currently in route to them.

(D) The Incident Commander shall be responsible for scene safety.

(E) Engineer from the engine will assist the Captain and the firefighter in the event of fire, or the threat of a fire due to fuel leaking, downed power lines, etc. If no fire or fire threat, the engineer will assist triage officer in patient care and/or loading of patients.

(F) Firefighter's may advance a charged line to protect the scene.

(G) In the event of a pin-in, all personnel from the Engine/Truck Co. should be involved with the rescue.

(H) If no rescue is required, the Engine/Truck Co. will assist the operation, as directed by the incident commander.

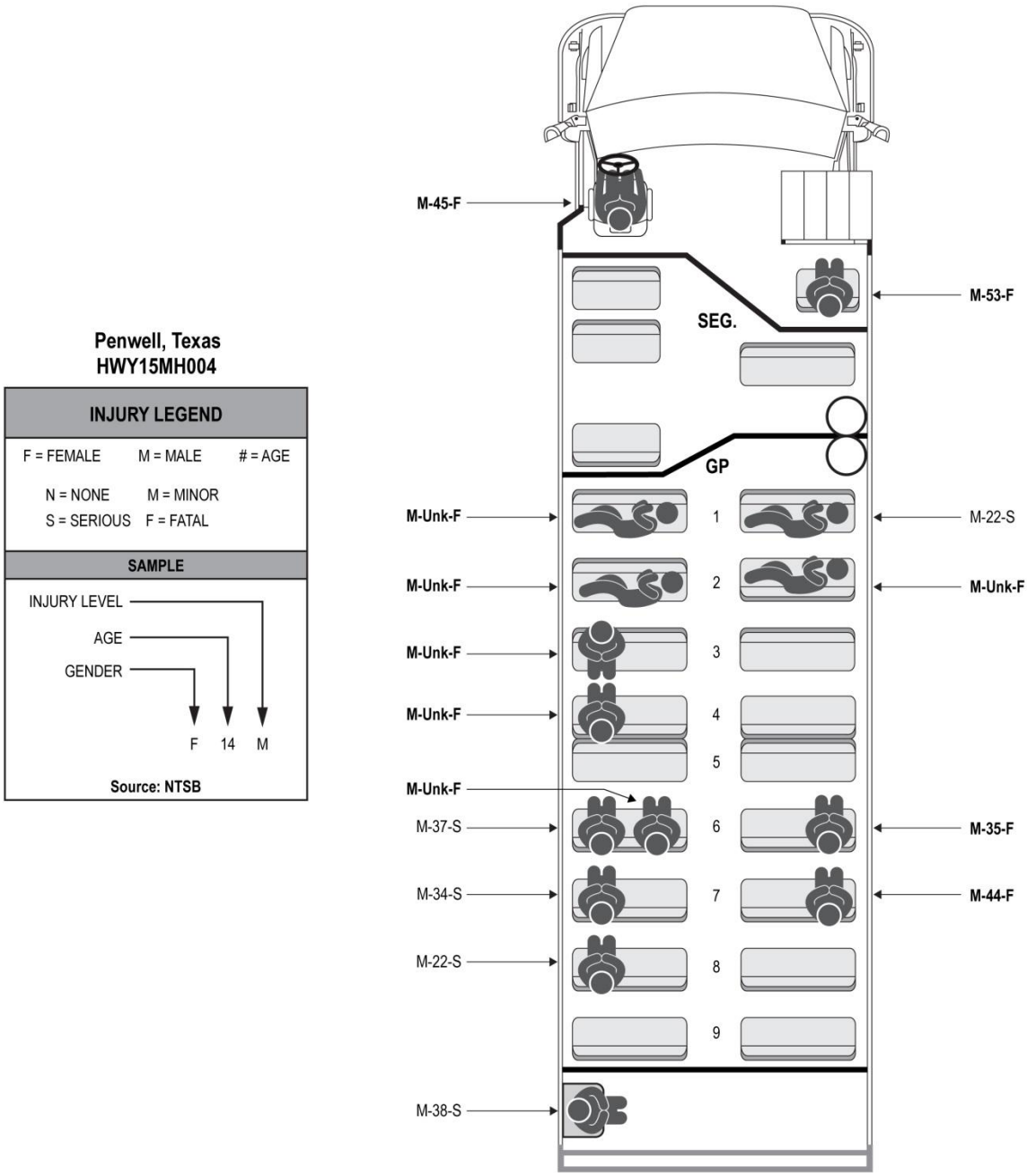
2.2 Occupant Seating Chart

The seating chart is based on interviews with four of the five surviving occupants (See Section 4.2 for synopsis of offender interviews).[26] The seating positions of the ten fatally injured and five seriously injured are shown in the seating chart shown in **Figure 2 below**. The four interviewees could identify all but nine victims in the bus. Interviewees were able to place victims in the bus but did not know all their names.

At least four victims were lying down across the two seats in both the first two rows with their handcuffed wrist and arms between the double seatbacks. The direction they faced and exact lying down position is unknown prior to the crash. Interviewed victims stated that one handcuffed pair of victims in row 6 sat next to each other; another handcuffed pair sat facing each other in rows 3-4, and the other victims sat behind each other with their handcuffed wrist and arm between the two seatbacks

[26] The fifth surviving victim gave a written statement that he could not recall anything regarding the crash.

Figure 2. Seating Chart



2.3 Injuries and Fatalities

The five injured victims were transported from the scene to Medical Center hospital in Odessa by ground ambulances. The guard seated in the rear jump-seat of the bus was later transported by helicopter to University hospital in Lubbock, Texas. The ten fatalities were initially taken to the Medical Center hospital and later transported to the Tarrant County Medical Examiner where autopsies were conducted.

2.4 Injury Summary

This crash resulted in ten fatalities and five seriously injured victims from the bus. The injuries are summarized in **Table 4**.

Table 4. ICAO[27] Injury Codes[28]

Vehicle and Occupants (15 Total)	**Injury Information***		
	Minor	**Serious**	**Fatal**
2015 Bluebird Bus			
Driver (1)	0	0	1
Passengers (14)	0	5	9
TOTAL	**0**	**5**	**10**

* The injury levels were evaluated according to 49 *Code of Federal Regulations* (CFR) 830.2, which defines fatal injury as "any injury which results in death within 30 days of the accident" and serious injury as "any injury which: (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, or tendon damage; (4) involves any internal organ; or (5) involves second- or third-degree burns, or any burn affecting more than 5 percent of the body surface."

The fatally injured 45-year-old bus driver was ejected and sustained diffuse skull and facial fractures with fragmentation and avulsion of brain and portion of left face, diffuse rib fractures 1-12 bilateral, including posterior, lateral and anterior and sternal fracture, thoracic spine fracture T4-T6, fracture of the left clavicle, pelvic fractures, transection of the thoracic aorta, lacerations of heart, lungs and liver, laceration of pelvis with extravasation of stomach, spleen and portions of bowel, laceration of spleen, near complete transection of left arm, fractures of left humerus, right humerus, right radius, right ulna and right femur, comminuted compound fractures of left femur, tibia and fibula, fractures of right phalanges and metacarpals, and multiple contusions, abrasions and lacerations of the head, torso and extremities.

[27] International Civil Aviation Organization

[28] 49 CFR 830.2 defines a fatal injury as: any injury that results in death within 30 days of the accident. A serious injury as: an injury which requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; results in a fracture of any bone (except simple fractures of the fingers, toes, or nose); causes severe hemorrhages, nerve, muscle, or tendon damage; involves any internal organ; or involves second or third degree burns, or any burns affecting more than 5 percent of the body surface.

The fatally injured 53-year-old front jump seat passenger was also ejected and sustained a skull fracture of sphenoid, fractures to left and right temporal and parietal bones (hinge type), diffuse subarachnoid hemorrhage, left rib fractures 4-7, left humerus fracture, left ulna fracture, dislocated left radius, and multiple contusions, abrasions and lacerations of the head, torso and extremities.

The fatally injured 35-year-old passenger that was seated on the passenger side in row 6 in the GP section next to the window sustained a large scalp laceration, basilar and cerebral vault skull fractures with subgaleal and subarachnoid hemorrhages, left 5th rib fracture, and numerous areas of purplish to reddish discolorations to extremities and torso.

The fatally injured 44-year-old passenger that was seated on the passenger side in row 7 in the GP section next to the window sustained facial and scalp abrasions, lacerations and contusions, atlanta-occipital dislocation with adjacent hemorrhage, subgaleal, subarachnoid, and subdural hemorrhages, fracture of the manubrium of the sternum, fractures of the right posterior ribs 9, 10 and 11, additional scattered abrasions, lacerations and contusions on the body.

The seating location for the other six fatally injured passengers is unknown. Their injuries are as follows;

The fatally injured 31-year-old passenger sustained an anterior fossa skull fracture; subarachnoid hemorrhage with faint cerebral white matter petechiae, right atrial and atrial septal laceration, superficial hepatic laceration, multiple splenic lacerations; hemo-peritoneum, multiple rib fractures with pulmonary contusions and hemo-thorax, open fracture to left humeral and comminuted fracture to left femur.

The fatally injured 25-year-old passenger sustained a depressed skull fracture left temporal bone, subarachnoid hemorrhage left temporal lobe, laceration of head with scalping-type injury, multiple rib fractures left anterior rib fractures 2-7 left posterior rib fractures 1-9 right lateral rib fractures 6-8 and right posterior rib fractures 1-10, cervical C-5 and thoracic T3-5 spine fractures, left clavicle fracture, sternal fracture, bilateral hemothoraces, hemoperitoneum , lung contusions, liver laceration, multiple contusions, abrasions and lacerations of the head, torso and extremities.

The fatally injured 32-year-old passenger sustained faint cerebral white matter petechiae with minimal subarachnoid hemorrhage, fractures of right 5th and left 6th ribs, open and comminuted fractures of right forearm, patterned abrasions and lacerations on frontal scalp, face and left ear with subgaleal hemorrhage, and contusions and abrasions on anterior torso and extremities.

The fatally injured 34-year-old passenger sustained simple fractures of right distal radius and ulna, multiple rib fractures including right posterior 7th through 10th with intercostal hemorrhage, bilateral pulmonary contusions with prominent congestion and edema, right hemothorax.

The fatally injured 22-year-old passenger sustained frontal contusions with subgaleal hemorrhage, prominent bilateral subarachnoid hemorrhage, gliding contusions of inferior temporal lobes, acute cerebral edema, bilateral, severe, with lepto-meningeal congestion,

multiple rib fractures including right anterior 2nd through 6th with intercostal hemorrhage, pulmonary contusions, bilateral, with prominent congestion and edema, right hemothorax, numerous lacerations, contusions and abrasions on anterior torso and extremities which of interest include; laceration of left posterior parietal scalp with subgaleal hemorrhage, two lacerations of right side of face with patchy contusions and abrasions, two lacerations of left side of face with prominent deep parallel abrasions, laceration of anterior chin along abrasion along left mandibular rim, abrasion along left post-auricular surface, cuff mark along left wrist with surrounding patchy abrasions and contusions, and laceration of dorsal right forearm and hand with multiple, linear and irregular abrasions of dorsal forearm and hand, linear abrasions with patchy contusions of right knee, large jagged gaping laceration of left knee, deep laceration of left posterior shoulder and back and multiple linear deep abrasions.

The fatally injured 29-year-old passenger sustained a fracture/dislocation of atlanto-occipital joint, transection of brainstem at ponto-medullary junction, subarachnoid hemorrhage, base of brain, fractures of left clavicle and 1st rib, bilateral pulmonary contusions to upper lobes of lungs, separation of pubic symphysis and left sacroiliac joint, fractures of right distal tibia and fibula.

The seating locations for the five seriously injured passengers and their injuries are as follows;

The seriously injured 38-year-old rear jump-seat guard sustained a complex fracture of the anterior and left lateral ring of C-2, left humerus mid-shaft fracture, left anterior cortex of sacrum fracture, grade#2 splenic contusion, left hemo-neumo-thorax, bilateral parenchymal contusions, peritoneum, subarachnoid hemorrhage, right lung contusion, left rib fractures #4-5,7-8, multiple scalp and facial lacerations.

The seriously injured 37-year-old passenger that was seated on the driver's side in row 6 in the GP section next to the window sustained a large laceration posterior scalp, multiple right rib fractures 8-11, sternum fracture, right pulmonary contusion, multiple scalp lacerations, left thigh full thickness laceration, left shoulder full thickness laceration to deltoid muscle with significant tissue loss, and bilateral forearm lacerations and contusions.

The seriously injured 22-year-old passenger that was seated on the passenger side in row 1 in the GP section next to the window sustained post temporal scalp avulsion, left eye hematoma, diffuse axonal brain injury, closed fracture right scapula, right humerus fracture, multiple scalp lacerations.

The seriously injured 34-year-old passenger that was seated on the driver's side in row 7 in the GP section next to the window sustained fractures L3-4 transverse process, fractured sternum, comminuted left scapula fracture, bilateral rib fractures, open left thumb CMC fracture/dislocation, lung contusion, fracture left fifth metatarsal laceration right arm, chest and bilateral knee abrasions, and multiple contusions.

The seriously injured 22-year-old passenger that was seated on the driver's side in row 8 in the GP section next to the window sustained left rib fractures #4-7, left hemothorax, acute

right pneumothorax, fracture transverse process T1-T3, bilateral pulmonary contusions, L5 spinous fracture, and multiple contusions.

2.5 Egress

Due to the extent of their injuries sustained in the crash, none of the passengers were capable of evacuating the bus after it came to rest.

2.6 Ejections

The driver of the bus and the front jump-seat passenger were both totally ejected during the crash sequence. They were found lying adjacent to the east edge of the railroad tracks near the front portion of the bus that was torn off.

2.7 Seat Belts on Prison Transport Buses

The NHTSA seat belt final ruling amending FMVSS No. 208, ‘‘Occupant Crash Protection’’ and FMVSS No. 210 “Seat Belt Assembly Anchorages” was published in November 2013. The amendment requires lap and shoulder seat belts for each passenger seating position in all new over-the-road buses, and in new buses other than over-the-road buses with a gross vehicle weight rating (GVWR) greater than 11,793 kilograms (26,000 pounds), with certain exemptions. One of the exemptions is that prison transport buses are not included in this new requirement. According to the NHTSA for sound practical reasons, including the safety of prison guards, this regulation does not require designated seating positions for prisoners on “prison buses” to have seat belts.

3. Prisoner Transport

According to the Bureau of Justice statistics, as of December 31, 2013, the United States imprisoned an estimated 1,574,700 persons in over 7,400 facilities in U.S. territories. The exact number is unknown due to the U.S. systems of federal, state, local, and other types of confinement and due to the fact that people are being released and imprisoned almost every day.

According to a Texas Department of Criminal Justice (TDCJ) representative they have 124 buses, 61 passenger vans, and 7 wheelchair vans or handicap vehicles to transport offenders throughout the state. The vehicles are kept at seven different locations throughout the state and are moved from location to location daily. This fleet of vehicles travel approximately 4.5 million miles a year and transports over 550,000 offenders each year.

The U.S. Marshals Service is responsible for the safe and secure confinement, care and transportation of federal prisoners from the time of court-ordered custody until either their acquittal or their conviction and delivery to the Federal Bureau of Prisons (BOP) to serve their sentence.

In 1995, the air fleets of the Marshals Service and the Bureau of Immigration and Customs Enforcement (ICE) merged to create the Justice Prisoner and Alien Transportation System (JPATS). The merger created a more efficient and effective system for transporting prisoners and criminal aliens. Managed by the Marshals Service, JPATS is one of the largest

transporters of prisoners in the world - handling about 804 requests every day to move prisoners between judicial districts, correctional institutions and foreign countries. In fiscal year 2014 JPATS transported a total of 275,468 prisoners: 96,985 by air and 178,483 by ground.[29]

A network of aircraft, cars, vans and buses accomplishes these coordinated movements. JPATS operates a fleet of aircraft which moves prisoners over long distances more economically and with higher security than commercial airlines. Nearly all air movements are done aboard large and small jets that JPATS owns or leases. Ground transportation is usually provided by the Marshals Service and the BOP.

3.1 Offender Transportation

According to a Bluebird representative, over the last two years Bluebird has manufactured about 170 Bluebird non-school type Vision Conventional CBE units for use in the U.S.[30] Since their dealers order these buses it is difficult for Bluebird to know which buses are going to be used as a prisoner transport by the end customer. However, according to the Bluebird representative, wording in the build sheets suggest approximately 23 of those 170 units are associated with law enforcement listed on the build sheets. Of these 23 units, 20 were ordered by the TDCJ with the other 3 going to three Florida County Sheriff's departments. Bluebird stated that their largest customer for these types of non-school type Vision units is the Government Services Administration (GSA) at around 100 of the 170 units.

According to the Bluebird representative, even though the bus was not built to be used as a school bus it still would have met FMVSS No. 220 "School Bus Rollover Protection" and FMVSS No. 221 "School Bus Body Joint Strength".

According to TDCJ representatives, when they take delivery of the bus from Rush Bus Center in Selma, Texas, there is nothing inside of the bus except the driver's seat. Upon delivery, even the driver's seat is removed and replaced with a CE White Maximum Driver Protection seat Model #OZ3720LDV001-02 that the TDCJ orders specifically for the driver and the two jump-seat positions for the guards. The bus is basically an open shell with nothing fastened inside when they start the interior build out process.

According to TDCJ representatives, they have offenders install the window security, which are the panels that cover the actual windows. Those window panels are made in house by offenders and then they are attached to the interior of the bus covering the windows. The offenders also build and install the partition panels (grated cage walls with doors and plexi-glass) dividing the guard and inmate sections. The offenders then assemble and install Freedman seats. According to the purchase order, the seats are not to be installed prior to delivery and the contractor (Freedman Seating) is supposed to supply the hardware used to install the seats. According to TDCJ, the Manufacturing and Logistics Division Plant Manager purchased what he thought was the appropriate fasteners to install the offender seats. The entire process from

[29] USMS Facts and Figures 2015 http://www.usmarshals.gov/duties/factsheets/index.html
[30] CBE – Cab- Behind -Engine

delivery to build completion is 4-6 weeks. There is no template used or directions for the offenders to follow when building out the interior of the bus making each bus a custom project.

Contact was made with the three Florida County Sheriff's departments (Hillsborough, Okaloosa, and Manatee counties) that ordered transport buses from Bluebird in 2014. All three jurisdictions ordered their bus through Florida Transportation Services (FTS) in Tampa, Florida. According to a representative with FTS, they order the buses from Bluebird exactly as what the jurisdiction/customer request. FTS does not make any alterations regarding seats but will add interior or exterior lights as well as video cameras and recording devices if the jurisdiction requests these aftermarket options.

4. Interviews

Interviews were obtained with the IC for the Odessa Fire Department; the Texas DPS officer that was already on scene when the crash occurred; the first ambulance crew to arrive on-scene and start triage, several firefighters/paramedics that arrived to help extricate the bus victims; a witnesses that saw the crash and went down to assist, three other good Samaritans that went down to the scene to assist; a witness that saw the guardrail out in the left lane, and four surviving offenders that were on the bus. The following are highlights from each interview. The interviews in their entirety can be found in Survival Factors Attachments 7-9. Interviews.

4.1 First Responders[31]

Battalion Chief, Incident Commander

- We were sent to the 17,000 block on I-20 for a rollover at 7:37.
- I got to that location and there was nothing there so I kept going westbound.
- While still en route DPS had another crash and there was a vehicle on the railroad tracks.
- Got to the scene and saw vehicle rolled over on the north side I pulled around to the north side thinking that was it.
- Cars were sliding all over on the eastbound lanes.
- After getting on scene an individual between the bridges was waving me over.
- I went over and saw all these boxes down by the railroad tracks.
- I went down the embankment and saw what we had.
- I ran down to the DPS officer and then went down to the bus and saw two guards lying out next to the bus.
- I looked inside and saw all the passengers so I called dispatch and said we had an MCI and asked for another three units.

[31] Refer to Survival Factors Attachment 7. First Responder Interviews

- Our medic heard my call out so they drove past the overpass and came down the service road near the railroad tracks and the bus.
- A firefighter/EMT went inside the bus and saw the inmates.
- The firefighter pulled one offender out that wasn't cuffed.
- Someone yelled that we have another victim in the back. It ended up being the rear guard.
- We picked the guard up and put them on a board.
- We initially laid everyone out on the tracks and performed triage.
- We couldn't get others out because there was not enough room from the front of the bus because of the security cage being in the way.
- We cut a hole in the roof behind the cage in order to gain access to the offenders.
- We pulled a couple more deceased out to get to a live one.
- We kept pulling them out and finally cut the cage out of the way.
- It took time to get the offenders out because we had to cut their handcuffs off with bolt cutters.
- More DPS and sheriffs arrived and I asked the sheriff to get a count of the injured. I asked another one of our chiefs to walk down the railroad and check the tracks to make sure no one else was ejected.
- After we were on scene and pulled out the initial two people, another rollover wreck occurred on the eastbound side of the bridge so we had to send some guys up there.

Odessa Fire Department Division Captain

- We received a call of a single vehicle rollover accident and there was no report of injuries.
- We saw on the way that the roads are very icy.
- We got on I-20 and got reports of the accident on the train tracks.
- When we arrived we saw the guardrail was blocking both lanes and traffic was going around it on the shoulder.
- We parked on the inside lane about 75 yards behind the guardrail.
- I went to check on injuries on another rollover on the north side of I-20.
- The chief asked me where I was because he was at the bus that hit the train.
- I went down and saw all the boxes and as I got to the bottom I saw what we had.
- When I got down there a firefighter was already inside the bus along the railroad tracks along with a truck driver and a Good Samaritan.
- They had a lot of problems with the cage lying on top of the area where all the passengers had been thrown in.
- They got the first DOA out and got the first one live one out on a spine board.
- The chief said we had another victim in the back of the bus.

- We had trouble getting the injured offenders out through the small area in front so we got a K-12 circular saw and cut through several layers of the bus roof.
- We got everyone out through the cut hole.
- We didn't remove the cage until everyone was out.
- All the seats had already been pulled or were torn out of the floor.
- We had to throw seats in the back in order to get to the patient's.
- Bodies were intertwined plus they were handcuffed to each other.
- We cut part of the one cage wall off that was hanging over the patient's.
- It was hard to get leverage due to the position of the bus and slick stuff from the toilets that had spilled over.
- When we got to the rear guard in the jump-seat area he was not belted.

Odessa Fire Department Acting Captain

- We were on our way to go to training in an oil drill field and heard that the chief got sent out to wreck on I- 20 near Penwell.
- The chief said it was an MCI and needed help.
- I notified the training captain and told him that we're going to help him.
- While in route the chief said there were possibly 12 patients.
- There was some confusion on where to go due to the train blocking the crossing.
- We ended up having to go around but it was no problem getting there.
- We were the second engine on scene.
- We parked on the service road and as I got there I thought the front was the back of the bus.
- The captain instructed me to get the K-12 circular saw.
- We had to cut on the passenger side roof due to the driver side being up against the embankment.
- Had some difficulty cutting through the roof because we had to go through two layers.
- After cutting and peeling back the roof with the jaws we were able to see and get some backboards in to get the patients out.
- The chief instructed us to cut the cage out to get more room for the patients.
- A truck driver was there helping us.
- We got webbing and used it to hold up the cage that was above the passengers.
- We secured the patient's prior to lifting them out through the hole and then removed the DOA in order to get to the live victims.
- We had to move another DOA prior to getting to a second living victim. After that we took four more DOA’s out.

- Had to untangle many of the passengers do to them being handcuffed. Bodies were intertwined.
- Eventually we got handcuff keys instead of having to cut the cuffs off with bolt cutters.
- Lots of seats were broken away.
- We threw the seats out to make sure there were no other passengers underneath.

Odessa Fire Department Firefighter/Paramedic - Station 7

- We dispatched to a rollover accident.
- We got on scene and saw a tow truck pulling a pick-up away.
- While on scene we saw another pick-up rollover. I asked them how they were and they said they were fine but the ones down there aren't, pointing to the underpass and the train tracks.
- We heard the chief call out about the bus crash so we proceeded west across the median across the eastbound lanes onto a frontage road.
- A Mississippi truck driver was already in the bus and had a key and had uncuffed one guy.
- The truck driver got out and I got in while my partner went to the officer at the back of the bus.
- I found two victims that were viable.
- I yelled into the bus for survivors to call out.
- Victims were in a pile, all intertwined with seats on top of the bodies.
- We got one DOA out and one live one out through the small opening in front.
- Told the chief that we needed to cut out the cage wall that was inside because another guy was under a bigger man.
- The truck driver continued to help us.
- We removed a third inmate out through the cut hole.
- We used large bolt cutters to cut the handcuffs.
- The last viable patient was bent in half at the bottom of the pile I checked others before I was asked to get out.
- We found no other viable ones.

Odessa Fire Department Firefighter/Paramedic - Station 7

- We got the call for a rollover on I- 20.
- I read the notes on the computer on the way about the rollover.
- We got to the location and didn't see anything so he went farther west.
- As we approached we saw damage to the guard rail and saw a tow truck carrying a pick-up truck.

- Saw the notes on the bus versus a train crash and a guy in the median ran up and said they needed help down under the overpass.
- We went further west to a service road crossed the median and drove back to the railroad tracks.
- Grabbed my bag and got together with the chief and he told us to start triage.
- My partner went to the front I went to the back.
- I saw two bodies on the ground towards the front of the bus. My partner asked if I had straps so I went back to our rig to get straps and C-collars and gave them to her.
- Bystanders waved me over to the back of the bus. I open the door there was an AC unit on top of the guard.
- I lifted it up and got a KED[32] from the rig and came back and fitted that on the guard in the back I got him on the stretcher and we took him to the ambulance.
- When we opened the back door, we saw that the rear guard was not wearing a seat belt.
- I went back to the front and jumped in through the opening to help out.
- After trying to pull out several arms and legs nothing was moving then I saw that they were handcuffed.
- They had already removed two patients prior to me getting in the bus.

Odessa Fire Department Captain – Station7

- I was dispatched to rollover on I-20 near the top of the CapRock.
- That area seems like a bad place for wrecks.
- I got info on the bus versus a train crash we got around but the train blocked us so we had to find another way around.
- We got up to the bus and asked another firefighter to get the K-12 circular saw.
- We finally cut through the roof and pulled two more bodies out.
- I went in cut the cage wall out and we got five or six more fatals out.
- After cutting the cage wall we moved the chairs making sure that no other bodies underneath them or in the back.

DPS Trooper
DPS Officer on-scene and witnessed the crash

- I was called out to rollover at the accident at the same location where the bus crash occurred.
- I got the driver out of the rollover put them in the back of my squad when the guy said, “whoa, look at that”. I looked up and saw the bus appear to lost control due to the icy conditions, went off to the left, through the guardrail, and all of a sudden hit the center barrier and down the ramp towards the train tracks. I gave the driver his license back and let him out.
- I called dispatch and reported the crash. I then put lights and sirens on and drove to the bus exit location in front of the guardrail.
- Three other civilians came up and we went down to the bus.

[32] Kendrick Extrication Device

- When I got to the bus I heard people yelling for help.
- I noticed two front passengers were lying out on the ground. One was deceased and the other appeared to be barely breathing.
- We tried to open the gates of the bus.
- I called communication to have them send other units over to the accident.
- It was very hard to enter the bus.
- We heard another one yell from inside the bus and asked the others to go check on the back passenger.
- A female fireman appeared and we opened the front of a bus and tore the jump seat out that was barely attached in order to get in.
- There was a big pile of bodies was inside at the front.
- We used body straps trying to get them out from the pile but it was hard to move the people out through the small opening in front.
- The fireman opened up the roof to get to the rest of the viable passengers out.
- A Sgt. arrived and we had troopers get information from the train crew.
- There were at least three other accidents that happened at that same location that morning.

4.2 Offender Interviews[33]

Offender
DOB 5/00/80 6' 198 lbs.

- It felt like we had a blowout at first and then we hit the guardrail two times.
- Next thing I remember is hearing sirens and heard people talking.
- My partner kept telling me we will be okay.
- I was at the bottom of the pile and I started kicking my feet to let them know that I was okay.
- On the trip from Abilene we stopped at an Allsups in Midland that's on Industrial Road where they changed drivers.
- The first driver went to the back seat.
- I was sitting in the window seat in row 7 on the driver side. My partner that was connected to me moved behind me in row 8 in the window seat. I had my arm between the seats.
- There was a passenger in row 7 I think his name is Reyna and his partner who is from Dallas was in the aisle seat.
- In row 6 on the passenger side was Rodriguez.
- In row 6 on the driver side were two black guys.
- In row 1 on the passenger side another guy named Rodriguez was in the window seat and his partner and he were facing each other lying down.
- In row 1 on the driver side there was somebody in the window seat with his partner in row 2.
- There was somebody in row 3 and 4 on the driver side.

[33] Refer to Survival Factors Attachment 8. Offender Interviews

- This is the first time I drove in this bus. The other ones are not like this.
- I have a left shoulder blade and wrist fracture, a left thumb fracture with pins, my left foot heel is fractured and I have a right knee injury.

Offender
DOB 3/00/77 5'9" 200 lbs.

- I was in row 7 next to the window on passenger side and my partner was in the aisle seat.
- The bus flipped over. There was sleet on the road. I remember hitting the guardrail. We landed on top of the train.
- They started chopping bodies up to get to the live ones.
- Everyone was locked up in handcuffs.
- A police officer showed up and I asked him to please give me the key and he said to hold on.
- I have a fractured skull, a broken back, my left arm was almost torn off, fractures to my ribs in the back, and stitches to my right hand.

Offender
DOB 8/00/92 5'9" unknown weight

- I was in row 1 on the passenger side next to the window and my partner was in row 2 next to the window. We were facing each other.
- I felt a big bump and after that I don't remember anything.
- I have a concussion, fracture of my right shoulder blade, and an injury to my back.

Offender
DOB 3/00/92 5'5" 155 lbs.

- I was seated row 8 on the driver side and my partner was in row 7.
- Two more guys were seated across from us.
- I don't remember anything about the crash.
- I have scrapes and bumps and bruise from my toes to my head, some type of lung injury, ribs are bruised, unknown head injury.

4.3 Witnesses and Good Samaritans[34]

Good Samaritan

- I was heading westbound on I-20 and I saw the guard rail in the middle-of-the-road and knew an accident had happened. I pulled in behind the trooper.
- When I got down there I saw two people, a driver and a copilot outside. One was deceased the other was barely breathing.
- Being I'm a retired firefighter/paramedic, I went back to my vehicle to get my medic bag but by the time I came back the one guy had stopped breathing.

[34] Refer to Survival Factors Attachment 9. Witness and Good Samaritan Interviews

- I heard a scream from the back so I went to the back door and saw an officer there and I started treating him. He didn't appear to be in his seat and was not belted.
- We put a C-Collar on him. He had a fractured humerus that I could see and lacerations to his head.
- We got help and we removed him.
- The battalion chief asked if I could walk down the tracks and look for any other passengers that may have been thrown out so I did that but didn't find any others.

Witnessed crash

- I was going westbound on I-20 in the left lane.
- I heard a big boom and the bus like hopped up and then swerved and then went through the guard rail. I pulled to the right shoulder, stopped and put on my four-way flashers.
- Being familiar with driving a truck the boom noise sounded like a tire blow-out but I don't know.
- I was going about 55-60 m.p.h. with a 57,000 load and I was able to hit my brakes hard and get over to the right lane without any traction or control problems.
- After I got into the right lane I noticed a car that hit the guardrail after the crash had a flat tire and left front quarter panel damage.
- I went down and saw the packages strewn everywhere. I went to the bus and saw two gentlemen outside the bus one was dead and the other one was barely breathing.
- I yelled inside the bus to see if anyone was alive and heard some voices inside.
- A DPS trooper was there we got a jump-seat out-of-the-way and got two guys out.
- There was a mass of bodies piled up towards the front.
- The trooper gave me keys to unlock the cuffs. I unlocked one or two of the victims.
- The road didn't seem icy but I noticed there was ice on my rearview mirrors when I stopped.

Good Samaritan

- I got onto the freeway and while on the freeway going westbound I saw the debris field so I pulled over.
- I went down to the rear of the bus and initially I didn't see anything so I went to the front and saw two people outside on the ground.
- A trooper was already at the front of the bus.
- A trucker got handcuff keys from the trooper and unlocked some cuffs and they got one guy out.
- I went around to the back again and saw a hand. I open the door and got the guard out. We carried him up to an ambulance.

Witnessed guardrail in roadway prior to crash

- I was driving westbound on I-20 in the left lane.
- I was using my wipers intermittently and was going about 65 m.p.h.

- As I approached the overpass I saw the DPS trooper off the north shoulder with his lights on working a crash.
- As I got up to the overpass I noticed a guardrail in the left passing lane. It was sticking out about 2 feet into the lane. It was peeled back towards the west.
- I swerved to the right lane and barely missed hitting it.
- A semi behind me also was able to avoid it and swerved into the right lane.
- After going past the overpass I was looking in my left outside mirror and saw what I thought was a trailer, go off the overpass.
- I later found out it was the bus so I later called DPS and told them what I saw.

Witnessed guardrail in roadway prior to crash

- I was traveling westbound on I-20 in the left hand lane on my way to Wink, TX.
- I was in a Nissan Frontier pick-up truck.
- I had moved over to left lane to let a semi in that was merging on prior to the bridge.
- My lights hit the guardrail and I had to swerve over between the guardrail and the semi in order to miss it.
- I was about 3-5 minutes ahead of the bus based on the time they said the crash occurred.
- I would say the guardrail was blocking three-quarters of the lane.
- I noticed a couple of vehicles off to the shoulder near the guardrail. I didn't know if one of them hit it or what. One vehicle was facing east in the shoulder the other was westbound. One of them may have been a DPS SUV.
- The weather that morning was a little foggy if I remember right. I had my wipers on intermittent due to frozen precipitation. I didn't hit any slippery areas from home to this point. I did hit slick areas out towards Monahans.
- I was traveling 75 mph. Traction was good I didn't slide at all. It was cold that morning.
- I didn't see anyone in front of me dodge the guardrail. I did see several people behind me through my rear view mirror dodge it.
- I live around FM1936 and the Interstate.

E. DOCKET MATERIAL

The following attachments and photographs are included in the docket for this investigation:

LIST OF ATTACHMENTS

Survival Factors Attachment 1 - Freedman manufacturing letter to TDCJ

Survival Factors Attachment 2 - Texas Department of Public Safety Dispatch Logs

Survival Factors Attachment 3 - Odessa Fire Department Dispatch Logs

Survival Factors Attachment 4 - Odessa Fire Department Incident Reports

Survival Factors Attachment 5 - Ector County Sherriff's Office Radio Log

Survival Factors Attachment 6 - Odessa Fire Department MCI Standard Operating Guidelines

Survival Factors Attachment 7 - First Responder Interviews

Survival Factors Attachment 8 - Offender Interviews

Survival Factors Attachment 9 - Good Samaritan and Witness Interviews

LIST OF PHOTOGRAPHS

Survival Factors Photo 1 - Frontal view of Bluebird bus showing front end torn away.

Survival Factors Photo 2 - Left side angle view of Bluebird bus showing missing front end and deformation to side from pillar impacts.

Survival Factors Photo 3 - View of rear caged wall showing bowing to center.

Survival Factors Photo 4 - View of rear jump-seat with seat belt webbing pulled out showing lack of blood.

Survival Factors Photo 5 - View of three tiny blood spots on rear jump-seat seat belt webbing.

Survival Factors Photo 6 - Overhead view of destroyed driver seat.

Survival Factors Photo 7 - View of collapsed front jump seat.

Survival Factors Photo 8 - View of deformation to steering wheel.

Survival Factors Photo 9 - View of indentation to back of seatback.

END OF REPORT

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