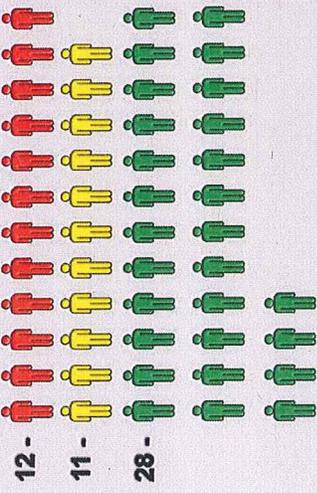


Aurora Bridge, Mid-Span
 Incident #15-0109942
 September 24, 2015

AURORA BRIDGE MCI

HOSPITAL TRANSPORTS (51)



DEATHS ON SCENE 4 -

2015-01-09 14:50:28
Incident # 15-0109942
Whole Foods Market

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Whole Foods Market



From the Desk of the Assistant Chief of Operations

The Aurora Bridge Mass Casualty Incident (MCI) had national significance and was widely reported across the nation and internationally. We can all take pride in the actions taken by our members that day, and reflect on our commitment to teamwork, practice and preparation, and skill delivery. Our crews immediately recognized the need to implement the MCI plan. They executed the plan in a manner that resulted in the rapid triage, treatment, and transportation of patients to area hospitals. I am proud of the professionalism displayed on the bridge that day. Our crews were able to extricate all 51 patients in under 32 minutes and transport the critically injured patients away from the scene in less than twenty minutes.

This incident required the combined efforts of many agencies, and this report acknowledges the invaluable contributions from the Shoreline Fire Department Paramedics (responding as a mutual aid asset), American Medical Response (AMR), the Seattle Police Department (SPD), the Seattle Department of Transportation (SDOT), Harborview Medical Center (HMC), and the National Transportation Safety Board (NTSB).

As a result of the collision, there were 5 fatalities at this incident. The tragedy weighed heavily on the citizens of Seattle and a period of mourning has taken place. We honor the victims of this tragedy with an analysis of our actions in order to improve our service delivery at tomorrow's emergency response.

As always, keep up the good work and stay safe.

Respectfully,

A handwritten signature in black ink that reads "Jay D. Hagen".

Jay Hagen, Assistant Chief
Operations Division



The Aurora Bridge Mass Casualty Incident (MCI) had national significance and was widely reported across the nation and internationally. We can all take pride in the actions taken by our members that day, and reflect on our commitment to teamwork, practice and preparation, and still deliver. Our crews immediately recognized the need to implement the MCI plan. They executed the plan in a manner that resulted in the rapid triage, treatment, and transportation of patients to area hospitals. I am proud of the professionalism displayed on the bridge that day. Our crews were able to evacuate all 54 patients in under 32 minutes and transport the critically injured patients away from the scene in less than 45 minutes.

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This incident required the combined efforts of many agencies, and this report acknowledges the invaluable contributions from the Shoreline Fire Department (responding as a mutual aid asset), American Medical Response (AMR), the Seattle Police Department (SPD), the Seattle Department of Transportation (SDOT), Harborview Medical Center (HMC), and the National Transportation Safety Board (NTSB).

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As always, keep up the good work and stay safe.

Respectfully,

Jay Hergen, Assistant Chief
Operations Division

INCIDENT NARRATIVE

1112 hours

On Thursday, September 24, 2015, at 1112 hours, the Fire Alarm Center (FAC) received multiple calls reporting that a charter bus and a "Ride the Duck" tour vehicle had collided on the Aurora Bridge and that multiple people were in need of aid. At 1113 hours, two separate incidents were dispatched by a dispatcher to 3700 Aurora Avenue N. The first was a Motor Vehicle Incident Freeway (MVIF) response that included Engines 20 and 8, and Aid 5. The second response was a Multiple Casualty Incident (MCI). The MCI assigned companies were: Engines 18, 21, 22, 34, and 41; Ladders 1 and 10; Battalions 4 and 6; Medics 16, 18, and 44; MCI 1, Aid 14, Deputy 1, Safety 2, Staff 10, and Air 9.

The FAC notified Engine 8 that the incident had been upgraded to an MCI and that multiple people were reported ejected. The FAC also added the SFD's Technical Rescue Team, Ladder 7, Aid 14 and Rescue 1, to the response.^A

The incident location is a 6 lane bridge (3 lanes northbound and 3 lanes southbound) built in 1932. It spans the west end of Seattle's Lake Union, is 70 feet wide and 2,945 feet long. The posted speed limit is 40 mph and there is no center barrier between the northbound and southbound lanes. The weather was sunny with the temperature near 70 degrees Fahrenheit.

The charter bus involved in the incident was carrying 48 international students and staff from North Seattle College to downtown Seattle for a new student orientation. The "Ride the Duck" tour vehicle was a repurposed World War II amphibious landing craft, and was being used to conduct land and water tours of Seattle at the time of the collision. Neither the bus nor the "Duck" had seatbelts available to their passengers. Two other personal vehicles were also involved in the collision and ended up adjacent to the "Duck".

While responding to the incident scene, Medic 44 called the charge nurse at Harborview Medical Center (HMC), the region's Level 1 Trauma Center, to notify them that there was a report of a major incident. Riding with Medic 44 was Medic 45, the SFD Medical Services Administrator (MSA), who simultaneously called American Medical Response (AMR), the contracted Basic Life Support (BLS) transport company in Seattle, to request 6 AMR units be dispatched.^B

1115 hours - (2 minutes after SFD dispatch)

The first arriving units were Battalions 4 and 6, who responded from Station 9, just north of the bridge. From their vantage point north of the crashed vehicles, the full extent of the incident was not clear, but at least 10 victims could clearly be seen on the roadway. Battalion 6 reported this information to the FAC and directed Battalion 4 to conduct further size up. Battalion 4 also notified the FAC that all responding units would likely have to approach the incident from the north due to traffic conditions. The FAC directed all incoming units to approach the incident from the north.

^A The FAC recognized the initial dispatched incident did not include the Heavy Rescue Company and re-balanced the alarm to include the Technical Rescue Team: Ladder 7, Rescue 1, and Aid 14. (See Effective Action A)

^B AMR was contacted while en route by M45 to request transportation units. (See Effective Action B)

Battalion 4 entered the scene and found an increasing number of victims and evidence of a severe impact between the two large vehicles. There were at least 12 to 15 victims lying on the ground surrounded by personal belongings that had been ejected from the vehicles upon impact. During the collision, the "Duck" had torn a large hole in the bus, and numerous victims remained in both vehicles. Battalion 4 initially estimated that there might be as many as 40 critical victims due to the mechanism of injury. (See Picture 1)



Picture 1 – Aerial View of the impact.

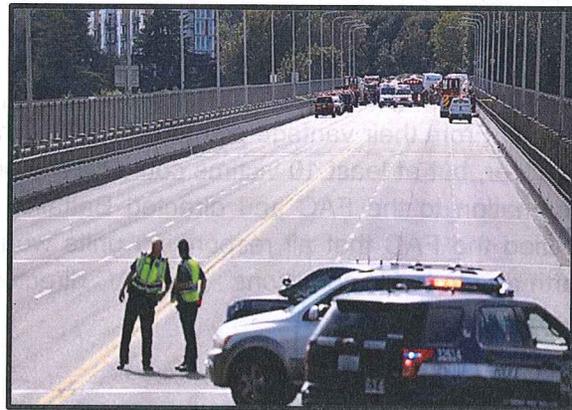
Upon hearing the radio report of 10 patients on the ground, Medic 44 contacted the HMC "Trauma Doctor" to confirm that this was a major incident and a large number of patients would need to be transported. Medic 44 requested that the Disaster Medical Control Center (DMCC) be established.^C The DMCC acts as the coordination center between on-scene transportation resources and all of the region's emergency departments.

1116 hours - (3 minutes after SFD dispatch)

Battalion 6 established Aurora Command, and Battalion 4 was assigned the role of Rescue Group Supervisor (RGS).

Engine 9 arrived and Aurora Command directed the crew to recon the scene and get a patient count. RGS recognized a lot of vehicle fluid on the ground and requested Engine 9 also deploy a precautionary hoseline to protect against any fire potential.

Engine 18 arrived shortly after Engine 9 and was assigned by RGS to secure a transportation corridor. RGS notified Command that *"Engine 18 is going to establish a transportation corridor. The corridor will have to be accessed from the north, and back to the north."* The Engine 18 Driver and Officer set up cones and directed incoming units where to park in order to keep the transportation corridor clear.^D (See Picture 2) Engine 18 Team Bravo proceeded to the accident scene to assist with patient care.



Picture 2 – SPD blocking traffic to maintain the

^C Medic 44 initiated notification and activation of the Disaster Medical Control Center (DMCC) early in the incident. (See Effective Action C)

^D The transportation corridor was established early and maintained. (See Effective Action D)

1118 hours - (5 minutes after SFD dispatch)

Command received reports that there was a patient trapped between the bus and the "Duck." The IC radioed: *"First in truck from Aurora Command, announce your arrival and you will be assigned Rescue Group. And you will be focusing on the patient pinned between the "Duck" and the bus."*

Engine 9 completed their recon of the bus and notified "Aurora Command" that there were approximately 12 patients on the bus, and then began their triage.^E They directed all remaining patients on the bus (that could walk) to disembark. Engine 9, along with additional arriving SFD companies, began removing red and yellow patients from the bus.¹

After Engine 9's report from inside the bus, Aurora Command updated the FAC: *"Dispatch from Aurora Command, we have a confirmed...12 patients on the bus. Let's start stacking up some AMR's....Medic 16 from Aurora Command, you'll be our Medical Group Sup."* The IC also advised Medic 44 to request additional medic units. The FAC heard this request and dispatched three additional medic units: Medic 10, 28, and 31.

Medic 16 arrived and split their crew. The Medic 16 Officer assumed the role of Medical Group Supervisor (MGS), and the M16 Driver established Treatment Team Leader (Treatment). They parked their apparatus north of the crash in order to establish a treatment area directly behind Medic 16 and announced this on the radio.

Medic 18 arrived and also split their crew. The Medic 18 Driver staffed the treatment area to begin treating the growing number of patients. The Medic 18 Officer established the Triage Team Leader (Triage) and positioned on the front of the "Duck." This vantage gave a clear view into the bus to direct patient removal operations. Triage confirmed two DOA patients on the bus, updated the RGS as to the patient count inside the bus, and kept the treatment area informed of what injuries were headed their way.

1121 hours - (8 minutes after SFD dispatch)

MCI-1 (a specialized unit from Station 21 which contains 112 backboards, 20 advanced life support treatment kits, and assorted medical equipment used to coordinate an MCI scene) arrived and positioned their apparatus directly adjacent to the patient treatment area. The crew deployed red and yellow tarps inside the treatment area, designating separate areas for red and yellow patients.² Personnel staged the rest of the MCI equipment by the treatment area, including their cache of backboards.^F

Command received further reports of red and yellow patients and requested four additional Basic Life Support (BLS) units from the FAC. These were Engine 36, and Ladders 6, 8, and 9. The MGS also requested that Command add two additional medic units. The FAC acknowledged the requests for additional units and notified Command that they currently had 5 SFD medic units assigned and would work on getting two mutual aid medic units.

^E The rapid reconnaissance of the first arriving engine company provided the IC the information needed to request additional resources early. (See Effective Action E)

¹ Triage flagging tape was not used. (See Observation #1)

² The red and yellow treatment areas were right next to each other. (See Observation #2)

^F MCI-1, the SFD Multiple Casualty Incident van, was staged in a location directly behind the tour bus. (See Effective Action F)

Engine 2 arrived on the south side of the incident and found civilians struggling to turn their cars around and exit the area. The Engine 2 Officer assigned the Engine 2 Driver to clear traffic from the area and sent Engine 2 Team Bravo to assist in patient care at the bus. The Engine 2 Officer secured the batteries on the bus, and then collected all of the green patients near the treatment area.

Medic 44 arrived on scene and assumed MGS from the Medic 16 Officer. Medic 44 directed Medic 45 to establish the Transportation Team Leader role (Transportation), and assigned the Medic 16 Officer to assist.

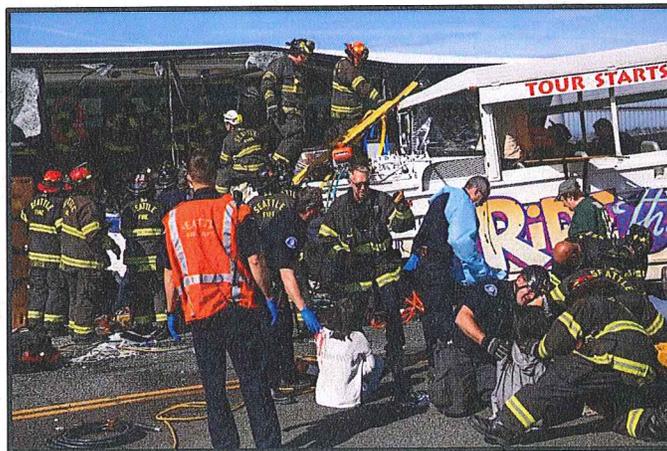
1123 hours - (10 minutes after SFD dispatch)

RGS updated Command that there were currently eight red patients still on the bus, four of the patients with agonal breathing. RGS requested Command send all available resources to help remove red patients from the bus.

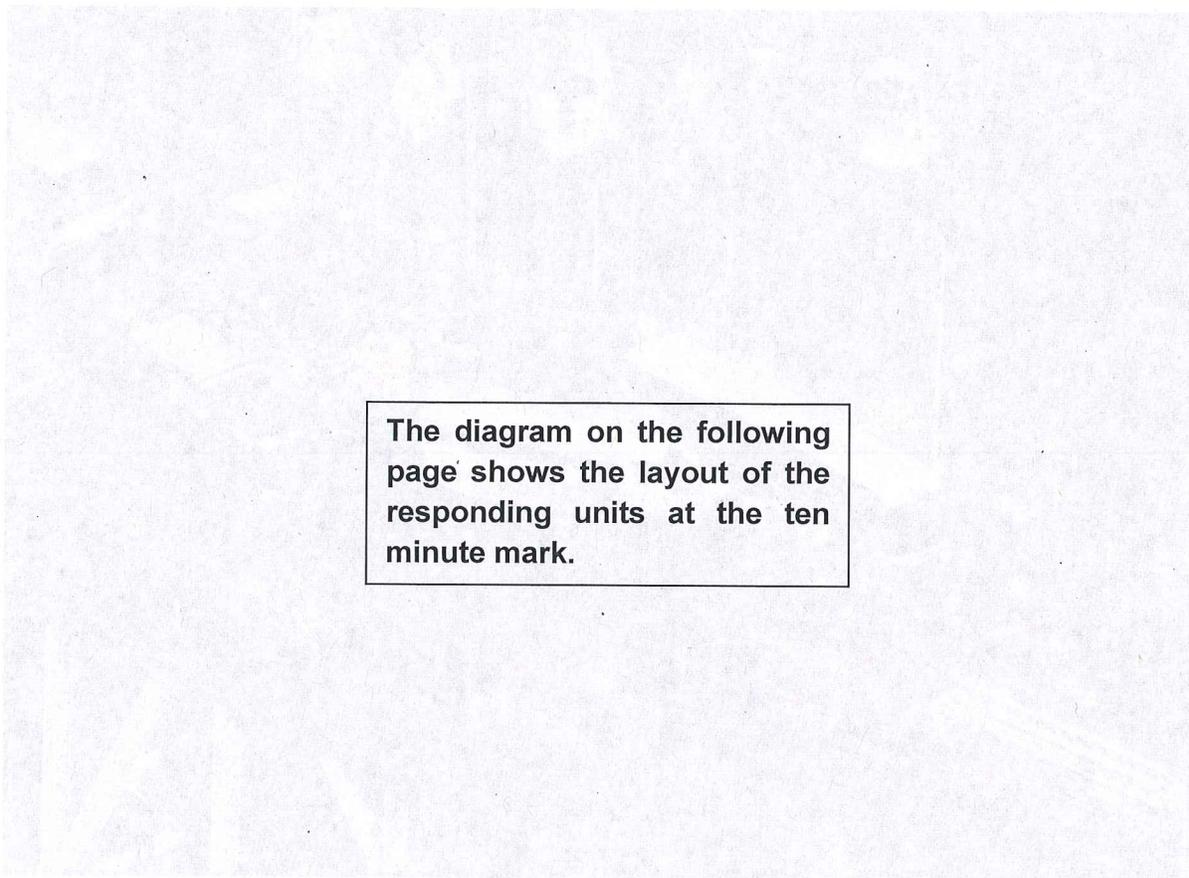
Ladder 4 arrived on scene and parked close to the bus, providing easy access to their tools. Ladder 4 set up their extrication equipment in preparation for rescuing trapped victims. (See pictures 3 and 4 on following page) By the time the equipment was set up, Ladder 1, Aid 14, and Ladder 7 personnel had arrived to assist Ladder 4. The Ladder 4 Officer climbed to the front of the "Duck" (beside Triage) in order to better direct extrication efforts. After pointing out the "striped" or deceased patients, Triage communicated the removal order for patients from the bus. Ladders 4, 1, and 7 then helped cut away seats and place ladders to both the bus and the "Duck" for patient removal.



Picture 3 – Ladder 4 apparatus (bottom left) parked near the operating crews.

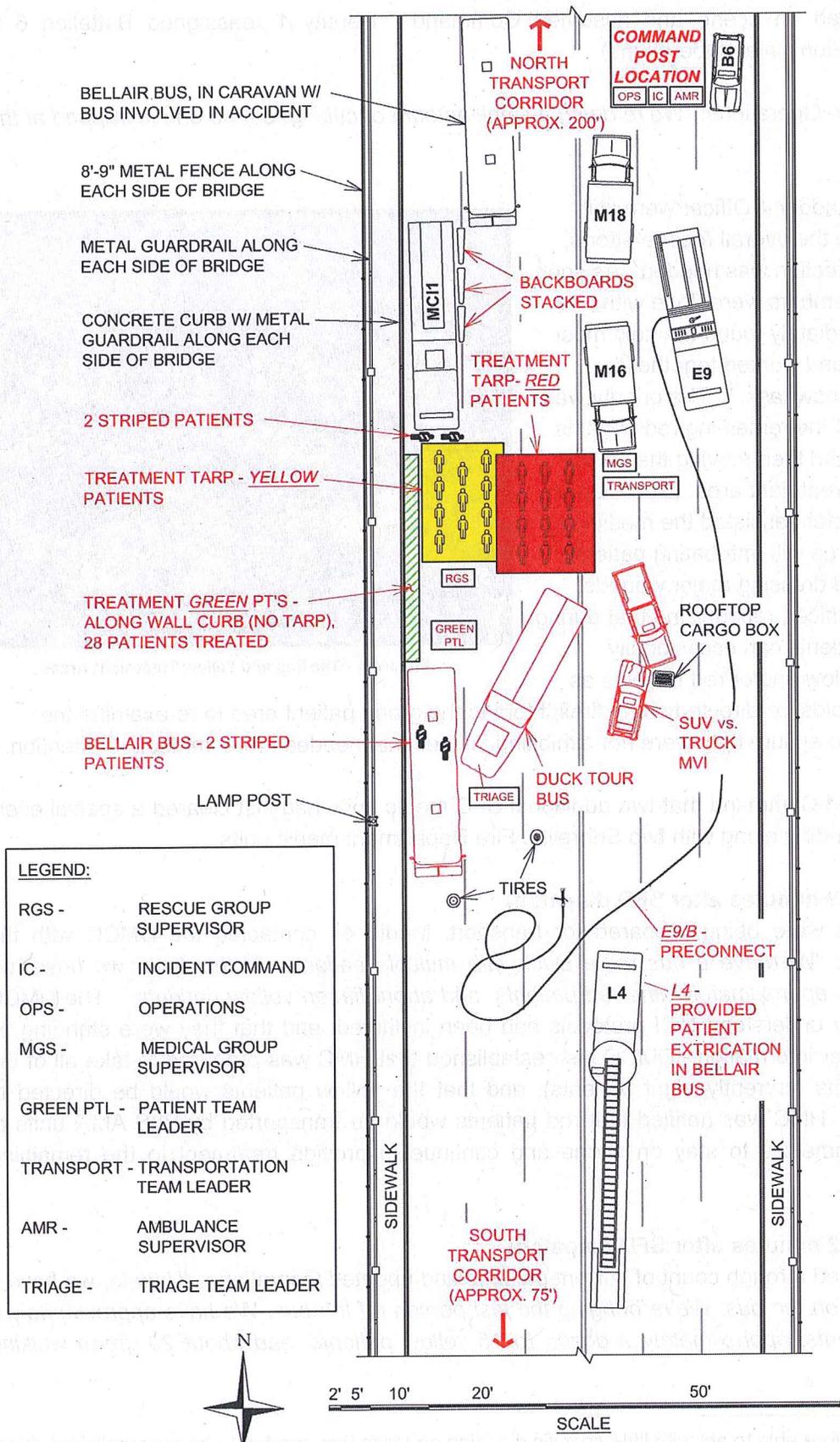


Picture 4 – Crews operating at the scene



The diagram on the following page shows the layout of the responding units at the ten minute mark.



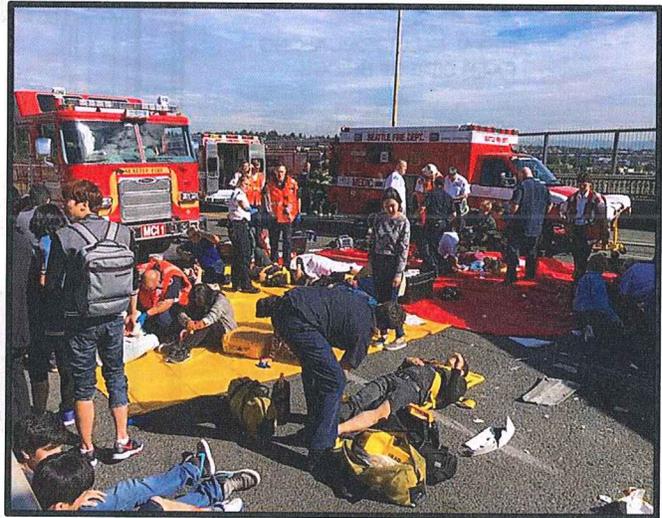


1128 hours - (15 minutes after SFD dispatch)

Deputy 1 arrived on scene and assumed Command. Deputy 1 reassigned Battalion 6 to Operations Section Chief (Operations).

RGS reported to Operations: *"We're doing a small amount of cutting, but no one is trapped at this time."*

The RGS and Ladder 4 Officer were still helping to guide the overall rescue efforts, but very little direction was needed. As soon as individual members were done with one task, they immediately found the next most pressing issue and worked together to accomplish the new task.^G The priority was the extraction of the remaining red patients from the area, and then moving the yellow patients to the treatment area. (See Picture 5) Other firefighters assisted the medics in the treatment area with intubating patients, starting IVs, and dressing major wounds. The Engine 2 Officer, recognizing that during MCI's green patients can occasionally develop into yellow and/or red patients as the incident unfolds, re-directed some firefighters to the green patient area to re-examine the green patients to ensure they were not exhibiting injuries that needed more immediate attention.



Picture 5 – The Red and Yellow Treatment Areas

The FAC notified Command that two additional SFD medic units had just cleared a special event and were responding along with two Shoreline Fire Department medic units.

1132 hours - (19 minutes after SFD dispatch)

As red patients were being prepared for transport, Medic 44 contacted the DMCC with the following report: *"We have a bus vs. a Duck with multiple patients. At this time, we have two confirmed DOA, approximately nine red patients, and about fifteen yellow patients."* The DMCC replied that they understood MCI protocols had been instituted, and that they were standing by waiting for further information. DMCC also established that HMC was prepared to take all of the intubated patients (currently eight patients), and that the yellow patients would be directed to other hospitals. HMC was notified that red patients would be transported by BLS AMR units to allow SFD paramedics to stay on scene and continue to provide treatment to the remaining patients.^H

1135 hours - (22 minutes after SFD dispatch)

The RGS received a rough count of current patients and updated Operations: *"Update, we have 2 striped patients on the bus. We're bringing the last person off the bus. We have approximately a dozen red patients, approximately a dozen to 15 yellow patients, and about 20 green walking"*

^G SFD members were able to act with little specific direction on tasks that needed to be accomplished. (See Effective Action G)

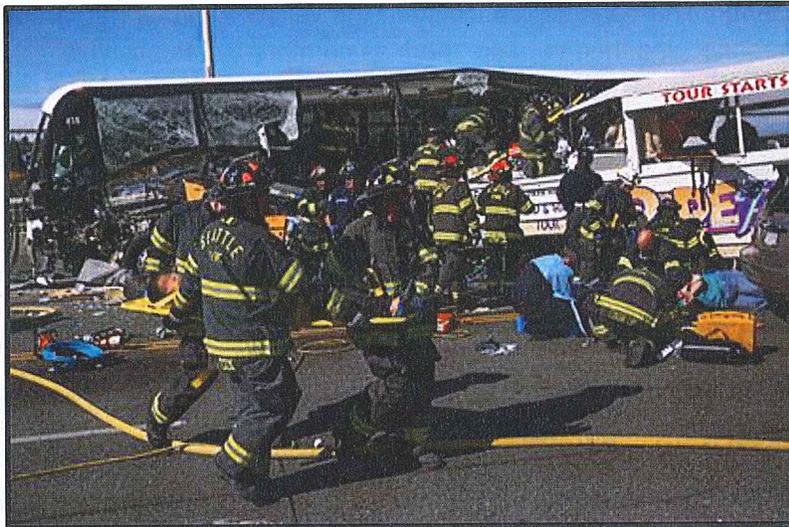
^H AMR transported ALS patients allowing SFD Paramedics to remain on-scene to continue to provide ALS interventions to stabilize more patients. (See Effective Action H)

wounded.... But that is approximate.” After another minute, the RGS also reported that four yellow patients remained on the “Duck”.

A second SFD MSO, along with the Tunnel Rescue Captain, arrived on-scene while returning from a nearby drill. They consulted with the MGS and established a South Transport Branch. This was in addition to the currently established Transportation Branch (now North Transport). Both North and South Transport communicated with the DMCC on Channel 8 to coordinate patient destinations.³

1147 hours - (34 minutes after SFD dispatch)

The RGS radioed Operations as the last patients were removed from the hazard area: *“We have the final patient off the Duck. We have all patients off and into the triage area. All red patients are on their way to transport.”*¹ (See Picture 6)



Picture 6 – Firefighters moving the injured patients

All nine red patients (eight of them intubated) were loaded into AMR units bound for HMC. Medic 44 notified the DMCC that the patients were en route and that they were going to need destinations for yellow patients. The DMCC stated that each of the area hospitals had been told to expect three to four yellow patients each.

Two red patients were removed from the bus with agonal breathing, however they were pronounced deceased in the treatment area despite emergency interventions. They were covered with blankets and moved to the side of the yellow treatment area.

1149 hours - (36 minutes after SFD dispatch)

The RGS reported that they were working on transporting yellow patients and needed a plan for transporting the green patients. Operations replied that they were planning to use a Metro Bus to transport the green patients. Hearing this exchange on the radio, the crew at Station 39 called the FAC and asked that the SFD Medical Ambulance Bus (MAB-1) be dispatched to assist the green patient team leader. The FAC agreed and notified Command that they were adding MAB-1. The Engine 2 Officer, acting as the green patient team leader, was tasked with overseeing the transportation of green patients with the Metro Bus and/or MAB-1.

Additional AMR units arrived on scene and the first yellow patients were transported from the scene by both transportation branches.

³ The two Transportation Team Leaders were located a long distance from the Treatment Team Leader and this caused some confusion for members carrying patients to the two separate transportation corridors. (See Observation #3)

¹ All 51 patients extricated in under 32 minutes. (See Effective Action I)

Many patients were carried on backboards from the treatment area to the transporting units.⁴

Each transportation branch contacted the DMCC separately as they had units ready for transport and gave the age and general disposition of the patient or patients. The DMCC gave Transportation a destination for that particular unit. This continued until all yellow patients were transported.

1158 hours - (45 minutes after SFD dispatch)

The RGS updated Operations that there were 8 yellow patients and 1 red patient that remained in the treatment area waiting to be transported (one yellow patient had been upgraded to a red patient). The patients remaining in the yellow treatment area continued to be monitored by SFD personnel who tried to make them as comfortable as possible.

1205 hours - (52 minutes after SFD dispatch)

After having three patients who were initially triaged as yellow change to red, the last red patient was transported to HMC by Seattle Fire medics.

1216 hours - (1 hour 3 minutes after SFD dispatch)

Medic 81 broke down two blocks from HMC while en route with an intubated patient. The FAC dispatched Engine 5 to assist, and with the help of all SFD members, the patient was pushed uphill for four blocks to the HMC Emergency Department. (See Picture 7)



Picture 7 – Members pushing a patient to the HMC ED after the Medic 81 apparatus broke down while transporting

MAB-1 arrived on-scene and green patients were helped onboard to keep them comfortable while they waited for transportation resources. At that time, two yellow patients were still waiting for AMR units.

1228 hours - (1 hour 15 minutes after SFD dispatch)

The RGS radioed Operations that the last yellow patient was being loaded for transport and that all patients were out of the treatment area. The RGS also notified Operations that crews had performed a complete secondary search of the area and no further patients had been found.

1242 hours - (1hour 29 minutes after SFD dispatch)

With all but the last of the green patients transported, South Transport and the DMCC reconciled their records and agreed that 44 patients had been transported to 8 area hospitals. Only one patient who was transported as a yellow patient required an eventual inter-facility transport to HMC to undergo surgery.^J All other yellow patients were treated and released from the hospitals

⁴ Some patients had to be carried a long distance to the Transportation Corridor. (See Observation #6)

^J The initial triage by SFD members was efficient using the Sick/Not Sick triage criteria. (See Effective Action J)

where they were transported. One of the red patients transported to HMC later succumbed to his/her injuries for a total of five fatalities.

1253 hours - (1 hour 40 minutes after SFD dispatch)

The remaining seven patients still waiting to be transported from the scene were taken via MAB-1 to Northwest Hospital with the permission of the DMCC, raising the total number of patients transported to 51.^K

SYNOPSIS

- At 1112 hours, the FAC received a call for a vehicle collision on State Route 99 on the Aurora Bridge.
- The vehicles involved were a charter bus carrying 45 passengers and a World War II amphibious landing craft converted into a tour bus for "Ride the Duck" tours carrying 37 passengers.
- The "Duck" is a steel-hulled, wheeled vehicle that was 31 feet long, eight feet wide and weighed about six tons. The wedge shape of the front/bow of the vehicle contributed to the significant impingement of the vehicle into the bus.
- The "Duck" was northbound on the bridge when control of the vehicle was lost and it drove across the center divider and into the middle section of the southbound charter bus.
- Engine 9 was the first fire company to arrive and was tasked with reconnaissance and laying a 200' pre-connect hoseline.
- Units were cognizant to leave adequate room for the first arriving ladder company which parked next to the front left side of the charter bus and in front of the Duck.
- High volume vehicle traffic was managed by members on scene who made an effort to clear out civilian traffic, organize incoming vehicles, and create a transportation corridor.
- Two incidents were created and dispatched simultaneously to the accident scene. A Motor Vehicle Incident Freeway (MVIF) and a Mass Casualty Incident (MCI) response.
- 11 Engine Companies, 7 Ladder Companies, 7 SFD Medic Units, 2 Shoreline Medic Units, 3 Medical Services Officers, and 4 Chief Officers comprised the bulk of the incident response.
- Time of dispatch to first unit on scene: 1 minutes 58 seconds.
- Time from arrival to transportation corridor established: 2 minutes 30 seconds.
- Time from arrival to all patients extricated: 31 minutes.
- Time from arrival to all red patients transported: 19 minutes (two patients that were re-triaged yellow to red adjusted this time to 50 minutes).
- Time from arrival to all patients transported: 1 hour 40 minutes.
- 5 civilians died as a result of injuries received at the incident: 4 on scene: 1 at a hospital.
- 51 total patients were transported: 12 Red, 11 yellow, 28 green.
- Unified Command facilitated coordination between effected agencies including: Seattle Fire, Shoreline Fire Paramedics, Seattle Police, Department of Transportation, and American Medical Response.

^K MAB-1, an ambulance bus apparatus, was utilized to transport several low acuity, green patients at the end of the incident with a single transport.

- The Unified Command allowed for the dissemination of accurate information to the City Joint Information Center and Emergency Operations Center and allowed for the smooth transition of Command from Fire, to Police, and finally to Department of Transportation.

EFFECTIVE ACTIONS

- A. The FAC proactively upgraded the response to include an MCI and the Technical Rescue Team before the first units had arrived on scene.

NOTE: The dispatcher answered the initial call, dispatched the initial MVIF, then the MCI, linked the two, and then sent the Rescue team, while still talking to the caller; all in two minutes 10 seconds. This was an extremely skillful maneuver and proactive approach. The initial sending of a large number of resources played an integral part in this incident being so successful.

- B. AMR was contacted by M45 while en route, to request transportation units. Six ambulances were initially dispatched along with an AMR Supervisor. (The AMR Supervisor was at a nearby exercise with SFD and arrived very early and provided an enormous amount of support.)
- C. Medic 44 initiated notification and activation of the Disaster Medical Control Center (DMCC) early in the incident. Harborview Medical Center (HMC) is the only level-one trauma center serving Alaska, Idaho, and Washington States. As a result, the emergency department is often filled near capacity. Early notification gave the ED staff time to organize their current patient load and prepare for the large and immediate influx of critically injured patients. The minutes that were gained through early notification prevented costly time delays and provided for faster lifesaving interventions. The DMCC notifies the other area hospitals, allowing them time to prepare for additional patients, and coordinates the distribution of patients.
- D. The transportation corridor was established early and maintained. Engine 18 was tasked with establishing the transportation corridor on the north end of the bridge. They used cones to define the corridor, cleared the remaining civilian traffic, and directed incoming units to keep the transportation corridor clear. Seattle Police was utilized to control the entrance and exit for the north end of the bridge.
- E. The first arriving engine company's rapid reconnaissance provided Command with information needed to request additional resources early. This also provided incoming units with vital information to prepare for actions needed upon arrival.
- F. MCI-1, the SFD Multiple Casualty Incident van, was staged directly behind the tour bus, near the treatment area. This allowed quick access to a cache of EMS equipment. The crew of MCI-1 organized the treatment area (laying out the red and yellow tarps), staged equipment, assisted with patient care, and helped organize transportation. The use of colored tarps was instrumental in organizing patients based on level of care needed.
- G. SFD members were able to act with little specific direction on tasks that needed to be accomplished. The MCI planning and training conducted prior to this incident were key in the

Department's ability to look through the chaos of the incident, recognize the tasks that needed to be accomplished, know fundamentally how to accomplish them, and then act efficiently and effectively to save lives.

- H. AMR transported ALS patients allowing SFD Paramedics to remain on-scene and continue to provide ALS interventions. This provided a higher level of care for more patients immediately. (Typically SFD Medic Units transport ALS patients with 2 paramedics.)
- I. All 51 patients were extricated in under 32 minutes. Ladder 4 and Aid 14 worked initially to cut away the sides and seats to provide for patient access. Ladder slides were used to efficiently lower victims. The initial 9 Red patients were transported in the first 30 minutes. (Note: 3 additional yellow patients were upgraded to red and transported within 50 minutes from dispatch.)
- J. Initial triage by SFD members was efficient using the Sick/Not Sick triage criteria. During the incident, 3 patients were upgraded from yellow to red. Only 1 yellow patient was upgraded from yellow to red at the hospital. The Sick/Not Sick approach to triage utilizes the EMT's knowledge and experience to rapidly evaluate a patient.
- K. MAB-1, an ambulance bus apparatus, was utilized to transport several low acuity, green patients at the end of the incident with a single transport.
- L. Unified Command facilitated coordination between effected agencies throughout this incident. Representatives from Seattle Fire, Police, Department of Transportation, and American Medical Response all needed to work together to organize the complexities of each agency's ability to contribute based on the needs of the incident. Further, a Unified Command allowed for the dissemination of accurate information to the City Joint Information Center and Emergency Operations Center. It also allowed for the smooth transition of command from Fire, to Police, and finally to Department of Transportation.

OBSERVATIONS

1. **Observation:** Triage flagging tape was not used.
Analysis: Triage Flagging Tape is the color-coded identification system (red, yellow, green, and black/white striped) used to designate medical priority of patients during a MCI. SFD Operating Guidelines state that flagging will be used at all MCI's. As a result, some patients were triaged multiple times prior to being removed. Some confusion resulted from not immediately knowing the triage disposition of patients because flagging tape was not used during initial triage.
2. **Observation:** The red and yellow treatment areas were right next to each other.
Analysis: Space was limited due to the apparatus parked on the bridge deck. The red and yellow tarps were placed immediately next to each other. During the event, the proximity between the treatment areas caused confusion about patients at the perimeter of the areas and some patient overlap occurred. Ideally, the treatment areas should be in close proximity, but not overlapping if space allows.

3. **Observation:** The two Transportation Team Leaders were located a long distance from the Treatment Team Leader, which caused some confusion for members carrying patients to the two separate transportation corridors.

Analysis: Members were carrying patients to two transportation corridors without clear coordination through a direct chain of command. This caused some delays and rerouting of patient movement. Each Treatment area (only one in this incident) should have one Transportation Team Leader working in coordination with the Treatment Team Leader. Larger incidents may require that the Transportation Team Leader delegate tasks by designating a DMCC Coordinator, a Patient Loading Coordinator, a Tracking Aide, and/or an Ambulance Staging Manager. The Transportation Team Leader filled all of these roles at this incident.

4. **Observation:** Some patients had to be carried a long distance to the Transportation Corridor.

Analysis: The current Operating Guidelines states: *In most cases ambulance staff should be directed to stay with their apparatus while patients are brought to the transportation area.* The carrying of patient over an extended distance on backboards was exceptionally tiring for firefighters and the increased effort created a higher risk of injury and fatigue. If the transportation corridor is remote from the treatment area, it may be beneficial to bring the stretcher to a staging area closer to the treatment area.

ADDITIONAL OBSERVATION

- **Observation:** MCI Command sheets were available, but not utilized at this incident.
Analysis: MCI specific command sheets were created for use during complicated Mass Casualty Incidents to simplify decision-making and to remind units of key components to establishing an organized MCI scene. They were available for use on all of the initial arriving units to this incident, but were not utilized. The expectation is that they will be utilized at our incidents in order to better organize our action plans and facilitate a smoother transition from Company Officer Incident Commanders to later arriving Chief Officer's when they assume an established Command.
- **Observation:** A group of approximately 25 green patients from the chartered bus were medically evaluated by Seattle Fire Department personnel and assigned to the green patient area. They were then escorted by law enforcement to a Metro bus on the north end of the bridge. The patients were left unattended for 40 minutes while other patients were treated and transported. These green patients needed no further medical attention and believed they had been released and left the scene. It was reported that they walked to Woodland Park Zoo and were subsequently transported back to North Seattle Community College by privately operated vehicles.
Analysis: While the initial action to relocate the green patients was effective, dedicated personnel assigned to green patients should not be re-directed until the green patients are moved definitively to area hospitals or handed over to alternate agencies as coordinated by Unified Command.

REFERENCES

Seattle Fire Department Policy & Operating Guideline: P & OG 5014
Seattle/King County Multiple Casualty Incident Plan