



Storms Create Recovery Challenges, Foster Valuable Lessons Learned

Hurricane Harvey submerged BNSF Railway's yard in Galveston, Texas

When massive Hurricanes Harvey, Irma and Maria tore through the U.S. in barely a month, wreaking havoc on millions of people, the storms presented a unique set of recovery challenges — and learning opportunities — for intermodal.

"This year there were three hurricanes plus other disasters right on top of each other," said Kathy Fulton, executive director of the American Logistics Aid Network. "That made our operations boom. If you are in the disaster business, it's never good to say you are booming. Television showed the devastation. We are on the other side. We see the good work the logistics industry is doing to help people in need."

After Harvey hit, Fulton said the organization received four to six calls a day on average for more than two months, compared with around one call per month beforehand.

ALAN works primarily with non-profit businesses that are on the ground in disaster areas, offering food, sanitation and hygiene as well as cleanup.

From every corner of the intermodal industry, executives stressed the overriding importance of effective planning and communication, while also offering a wide range of "lessons learned" from the hurricane barrage.

"A hurricane preparation and recovery manual is critical and must ensure the plan is executed upon early in the process," said Jon Poelma, president of Consolidated Chassis Management. "We made the call to bring in a SWAT team of sorts, of corporate M&R personnel and staff outside Houston to help recover. It helped us set up our recovery efforts quickly and get a head start on addressing chassis that were impacted by the flood."

He listed a series of steps that can be taken in the future as a result of lessons learned. They included creating a reserve stack of good order chassis, moving equipment to higher ground when possible and creating a systematic repair process, including

chassis on the street during the storm, before returning equipment to service.

Different Challenges

Each storm presented different challenges for chassis operations, Poelma said.

In Houston, it was the water damage from flooding. Irma hit just before peak season on the East Coast, where business increased significantly during the year. That storm reduced drayage power, domestic container availability and warehouse staffing, and the effects were complicated by the fact that the storm hit multiple ports and railroads, instead of a glancing blow at one location.

"There are two key lessons learned from the 2017 disaster recovery efforts and they are planning and preparation," said James Hertwig, CEO of Florida East Coast Railway. "One critical area we will change is providing additional generators and power on our own in the future and less reliance on local utility companies. We learned from the size of the hurricane that we will need to reposition generators throughout our network in the future as location of power outages have been difficult to predict."

"Irma was different, because it was the first storm that hit all parts of the Florida East Coast Railway network," Hertwig said, as it traveled straight north through the state. That forced the railroad to take down or lock grade crossing gates at more than 600 locations.

Marcia Faschingbauer, president of Excargo Services, emphasized how social media communication tools made an

enormous difference in coping with hurricane impacts, particularly compared to past disasters like Katrina when they didn't exist. Social media helped to route calls to people who could help, even though the Excargo office was closed for four days.

"The fact that we had communications was huge," she said. "We are in the communication and information business, but our business is trucks."

She also cited two other key points. One was effective information sharing by Port Houston and the U.S. Coast Guard on a regular basis with carriers and others. The other key change was not to do a mass evacuation that tied up the highways.



Faschingbauer

Highways Kept Open

"That approach allowed people with boats to come in and help," Faschingbauer said, opening up the highways. "That was huge."

Patrick Maher, executive vice president of drayage carrier Gulf Winds International, also highlighted those important points – having a flexible staff in remote locations to keep critical operations moving and using social media "to keep all stakeholders up to date on a very dynamic situation."

Chassis were a key issue during and immediately after the storm and this continues today. Gulf Winds was helped by having over 1,000 chassis of its own.

"The impact may not have been as great if some of these volumes were spread over the previous [pre-Harvey] week, with a full complement of 'leased' chassis in the market," Maher said.

Tom Williams, vice president of consumer products for BNSF Railway, noted that planning for extreme weather-related events extends far beyond hurricanes. The railway also develops proactive measures to deal with ice storms, blizzards, mudslides and rockslides.

From Harvey, BNSF "learned the importance of establishing a central command center as far in advance as possible from when a hurricane is anticipated to make landfall," Williams said.

While Houston's flooding was so dramatic that some called it a 1,000-year storm, it was but one of several flooding events in 2017, following disruptions in the Midwest and elsewhere.

Unmanned Aerial Vehicles

"During these flooding events, we deployed our unmanned aerial vehicles to evaluate the impact on the ground in places we couldn't reach by ordinary measures," Williams said. "Deploying UAVs allowed our operations teams to assess the situation and pre-stage ties, ballast and other track supplies needed to repair the track so trains could resume as soon as it was safe to do so."

Puerto Rico's damage from Hurricane Maria presented a particular challenge, due to the 1,000 miles of ocean separating the island from the U.S. mainland.

Demand for Aid Strong After Storms End

The American Logistics Aid Network provided daily updates on disaster relief from the time the hurricanes began until nearly two months later, when the demand for food, medicine and other relief shipments remained strong.

For example, on Oct. 18, there were nine requests to move 222 pallets of food, water, baby food, wheelchairs, generators, mosquito repellent, dog and cat food, and numerous other products.

There also were warehouse space requests, for at least 300 pallets of cleaning supplies, as well as an additional one for as much as 100,000 square feet of warehouse space.

Equipment also was needed, including reach trucks and forklifts.

IANA provided multiple types of assistance to the American Logistics Aid Network

IANA participated with the Federal Emergency Management Agency and ALAN, as well as other organizations, on status and update reports through conference calls.

- Updates to members were provided through Intermodal Connections and a web page on IANA's website to provide updates and requests for need from ALAN and the relief effort.
- Advised ALAN on how to connect with members who could assist with their needs in the relief effort.
- Assisted ALAN and FEMA in establishing situational awareness in affected areas.
- Provided ALAN with an opportunity to exhibit at Intermodal EXPO, and promoted the establishment of relationships with members and others for current and future relief efforts.

"The supply chain was constrained at every point," Fulton said, with mainland ports slowed by earlier storms. Puerto Rico itself was crippled with infrastructure that was virtually destroyed inland, sharply curtailing the ability to move goods inland from the San Juan docks.

The most important lesson learned for the business community, Fulton said, was that contingency plans are inevitably going to break down under great stress and resourcefulness will be needed to adjust. The inevitability arises because an efficient supply chain has little elasticity, or excess capacity, Fulton said. "When everyone is competing for that little bit of excess capacity, someone will lose out," she said.

For businesses, the most important issue in responding is to have solid contracts and relationships with your commercial partners, Fulton believes, since both can be key factors in the flexibility needed during disasters.

Like others, Fulton underscored the importance of communication. She cited the example of a conference call during the Maria recovery efforts that gathered as many people as possible to discuss particular needs, such as who had supplies and where they were available or who had a generator that could be better used by someone else.

Ron Joseph, chief operating officer of Direct ChassisLink, Inc., identified several steps.



Joseph

Open Lines of Communication

"Prepare in advance as much as possible and keep the lines of communication open," he said, by using online information portals for customers and automating equipment information inquiries after the storms.

After Harvey, DCLI moved to do even more advance communications and planning, which helped to cope with Irma's wrath.

"Weather related events are a part of railroading," said Doniele Carlson, a spokeswoman for Kansas City Southern. "Preplanning of resources, materials and preventive actions help minimize impact of such events, and allow us to restore service in the most efficient manner for our customers."

Norfolk Southern's Cary Booth, assistant vice president of intermodal and automotive, offered a wider perspective, saying "it's essential to look beyond your own rail network and its physical capabilities to deliver service when implementing recovery efforts. It's important to understand the ability of the broader supply chain and freight pipeline to recover."

Irma briefly impacted NS track and operations in Florida, Georgia and South Carolina, forcing adjustments in locations such as Jacksonville, Florida.

In future recovery efforts, NS will refine processes and procedures used to regulate the flow of traffic into storm-impacted areas to focus more attention beyond NS's network to shipping dynamics across the entire supply chain, Booth said.

The widespread efforts of people throughout the intermodal industry also played an important role.

"Our story is really about people and the support and collaboration of our employees and those in the port/intermodal industry; and repairing and hardening this economic asset – the Houston Ship Channel," said Lisa Ashley, director of media relations for Port Houston.

"We have been stressing the role that people played in collaboration to get the port back on line," Ashley said.

"Our quick return to serving ship channel industries and Port Houston was made possible by the extraordinary teamwork of many stakeholders," said Port Houston Chairman Janiece Longoria. "Thank you maritime community for your extraordinary efforts."

Lance Fritz, CEO of Union Pacific Railroad, described what he called the "unprecedented challenge" of Harvey, while thanking employees for working "tirelessly and heroically to quickly and safely restore our network and our operations."

Joseph said DCLI people showed "extraordinary dedication. Even as they were personally recovering from Harvey in the Houston area, they were committed to ensuring that our customers had what they needed."

Those efforts extended far beyond working hours.

Williams said BNSF employees rescued more than 100 people trapped by floodwaters by taking them to higher ground.

Maher said many team members rose to the occasion to help rebuild, house, donate and respond to the needs of each other.

Gulf Winds also moved up the start date of its More Than the Move charitable foundation because "we saw an immediate need in the aftermath of Harvey to impact lives." The foundation donated more than \$100,000 to help Harvey victims.

"We are very humbled to be a small part in the restoration of hope in our city," Maher said.