



Photo Credit: FEMA

After-Action Report

SAFEGUARD IOWA PARTNERSHIP

Iowa Disasters: Tornadoes, Flooding and Other Severe Weather

May – July 2008

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Introduction

Iowa was struck by a series of disasters that have created the most costly and challenging situation in the state's history. Over the course of May, June and July 2008, Iowa was struck by multiple deadly tornadoes, record flooding and devastating straight-line winds. While the disaster damage is still being assessed, the damage and loss of life was unprecedented. Seventeen people died due to severe weather and 106 injuries were reportedⁱ. The toll of the disaster will continue to unfold. A U.S. Small Business Administration leader commented that this will be "a decade of recovery."

One of the many organizations responding to this series of disasters was the Safeguard Iowa Partnership, a public-private disaster coalition. Safeguard Iowa staff and partners worked hundreds of hours to assist in coordinating emergency response and recovery throughout Iowa. This series of disasters is the largest response Safeguard Iowa has participated in to date. The interface between the public and private sectors in this massive disaster was exemplary and has prepared Iowa for future incidents.

To strengthen future emergency responses, Safeguard Iowa Partnership gathered after-action information from partners by surveys and group discussion in July 2008. The surveys and discussion included private- and public-sector partners from across Iowa.

The after-action report is organized into several broad categories as follows:

- Events Summary
- Communication
- Resource Coordination
- Education
- Recovery
- Lessons Learned

This report calls for action on numerous issues that cut across the public and private sectors. These action items will be prioritized as part of the Safeguard Iowa Partnership's 2009 strategic planning.

What is the Safeguard Iowa Partnership?

The Safeguard Iowa Partnership (SIP) is a voluntary coalition of the state's private- and public-sector leaders, who share a commitment to strengthen the capacity of the state to prevent, prepare for, respond to, and recover from disasters in Iowa. Created in 2007 by the nonprofit Business Executives for National Security (BENS), the Iowa Business Council and representatives from key state agencies, the partnership helps integrate business resources, expertise, and response plans with those of government during all stages of disaster management. The organization uses designated initiative teams to accomplish the goals laid out in the annual strategic plan.

Together. Helping Iowans.



Timeline of 2008 Disasters

- May 25 An EF5 tornado strikes Parkersburg, New Hartford and rural Waterloo areas in northeast Iowa. Eight deaths are attributed to the tornado. The damage results in a Federal disaster declaration. The last F5 tornado in Iowa was 1976.
- June 6 Iowa Homeland Security and Emergency Management issues a warning of possible Flood of 1993 levels.
- June 8 Winnebago River crests at 18.75 ft in Mason City, creating a new record, flooding homes, forcing residents to evacuate, shutting down the city's water treatment plan and closing all city restaurants.
- June 9 Decorah floods when an Upper Iowa River levee is breached.
- June 10 Safeguard Iowa Partnership is called to assist in the State Emergency Operations Center.
- June 11 Four Boy Scouts are killed when a tornado strikes a Little Sioux campsite.
- June 13 Cedar River crests at 31.1ft., 19 ft. over flood stage in Cedar Rapids, 11 ft. over the record. More than 3,000 homes flood.
- June 14 The entire town of Oakville floods following a levee break on the Iowa River.
- June 15 Iowa River crests at 31.5 ft. in Iowa City, 11.5 ft. over flood stage and 3 ft. over the record.
- June 17 The Mississippi River crests at 25.73 ft in Burlington, creating a new record.
- July 21 A *derecho* windstorm with gusts approaching 100 miles-per-hour travels the length of Iowa from Sioux City to the Quad Cities; 175,000 customers lose electrical power.
- July 28 Des Moines residents along Four Mile Creek evacuate for rising waters following a severe rain and wind storm – the third time in 2008.

Flooding in Northern Iowa

Mason City was one of the first victims of the flooding. The Winnebago River crested at 18.75 feet, breaking the record set in 1933 at 15.70 feet. Rapidly rising waters burst a levee and flooded homes, forcing residents to evacuate, shutting down the water treatment plant and closing all city restaurants following 10 inches of rain. Residents were without safe drinking water for five days.

Decorah was impacted when over six inches of rain fell within 48 hours causing a levee to breach on the Upper Iowa River. The water flooded parts of the lower campus of Luther College, damaging athletic fields and campus buildings. Winneshiek County officials called it the worst flood to occur in Decorah since the current levee system was put in place in the 1940s.

Along the Turkey River, the river crested on June 10 at nearly 31 feet, beating the previous record set in 1991. Elkader had damage in the range of \$8 million, of which about \$3.7 million was damage incurred to the city's infrastructure; and about 100 people were evacuated due to the floods.

The flood waters continued downstream, severely affecting Charles City, Waverly and Waterloo along with numerous smaller communities. Significant flooding affected homes and downtowns in all the downstream communities reaching peak levels along the lengths of most waterways.

Cedar River Flooding Inundates Vinton, Palo and Cedar Rapids

Vinton experienced the worst flooding in its history starting the early morning of June 10 with a crest upwards of 24 feet. The official river gage was swept away in the flooding so crews in boats attempted to make measurements. The flood knocked out the municipal electrical generating plant, inundating about 15 blocks along the river. The Benton County jail had to be evacuated; the sheriff's office was inundated, as was the basement of the County courthouse, where 911 dispatchers were housed.

The small town of Palo, just upstream from Cedar Rapids, and home of Iowa's only nuclear power plant, underwent a mandatory evacuation. The nuclear plant was not harmed but did lose land-based telephone services, as the land lines were routed through Palo. By Sunday, June 15, the city remained completely evacuated of its 890 citizens as debris obstructed any approach by river, and road access was cut off. By June 17, the residents had for the most part returned home to deal with the damage.

Cedar Rapids was inundated by flood waters after a failure of Cedar River levee in the Time Check neighborhood and a Cedar River crest of 11 feet above the previous record. Ten square miles or 14 percent of the city was impacted by the flood with over 7,000 land parcels affected, including residential, commercial, industrial and otherⁱⁱ.

The record flooding affected two power plants and the main steam supply to businesses and manufacturers downtown. Mercy Hospital's ground floor flooded after all patients were evacuated. The partially flooded Cedar Rapids water treatment plant caused water restrictions. Mays Island, which has Cedar Rapids City Hall, the Linn County Courthouse, the county jail, as well as the U.S. Courthouse, was flooded up to the second floor level. The Czech Village, Time Check and Cedar Valley/Rompot neighborhoods were particularly hit hard. Tremendous disruption to the city's utilities occurred. Electricity and natural gas were cut off to the flooded parts of the city. Telephone and Internet service was also disrupted.

At one point, all bridges across the Cedar River in Cedar Rapids were closed except for Interstate 380. The city was also isolated by closures of Interstate 380 south along the Iowa River and Highway 30 to the east. The CRANDIC railroad bridge serving downtown was washed away in the flooding, limiting rail access to businesses on the east side of the river.

Flooding of Iowa City and Coralville

Iowa City and Coralville experienced significant flooding as the Iowa River came out of its banks. The flooding forced the closing of all downtown Iowa City bridges except one and snarled traffic.

The University of Iowa suffered massive damage to low-lying parts of campus, including the new Arts Building and 19 other buildings. Summer classes for 10,000 students were interrupted for one week. The most serious damage was to the University power plant and underground utility tunnels, which were under renovation when the flooding began. More significant damage was prevented by massive sandbagging efforts, which sustained the Iowa City water treatment plant and other community infrastructure. There were over 6 million sandbags filled in Johnson County, more than Hurricane Katrina, and it is a new national record.

Des Moines Flooding and Evacuations

The City of Des Moines evacuated its riverfront buildings, including the City Hall and Police Department. Fortunately, the levee along did not rupture and no damage occurred.

The City of Des Moines asked for voluntary evacuation of parts of the downtown neighborhood, which is the main business district for the community of 200,000. This evacuation announcement was made on a Friday morning with a goal of evacuating to the 500-year flood plain level in the next six hours. Except for surface flooding from rain and underground vault flooding, the downtown did not flood.

While downtown was spared, other parts of the city did not fare as well. Due to a levee breach, the already evacuated area of Birdland Park flooded. The flooding affected multiple businesses, North High School, and 50 homes, as well as shutting down two main arterial north-south streets. Dozens of homes were destroyed, many of which had been rebuilt following the 1993 flooding.

Flooding of Columbus Junction and Oakville

The flood waters that inundated the Cedar Rapids and Iowa City areas continued downstream. Columbus Junction sat at the junction of the severely flooded Iowa and Cedar Rivers. A large swath of the community disappeared under flood waters when a temporary levee failed. The massive flood waters continued to Wapello and destroyed Oakville before emptying into the Mississippi River.

Along the Mississippi River, flooding occurred in Davenport and dramatically escalated further south. Flood waters in Burlington halted all rail traffic as the river was within five feet from the tracks and overtaking the bridge's western approach in Iowa. One of Burlington's largest employers, Case Corporation, was threatened with rising flood waters and ordered a shutdown of the plant, encouraging workers to help sandbag. The Great River Bridge, connecting Highway 34 to Illinois, was closed for nearly a month, affecting 40% of Burlington's workforce who live across the river in Illinois. Fort Madison and Keokuk were able to prepare and protected infrastructure while sustaining flooding similar to 1993.

Road Closures

Flooding-related road closures snarled travel throughout Iowa. The Iowa Department of Transportation reported 464 miles of roadway (5.2 percent of the system) and 303 bridges and culverts (7.5 percent of the system) closed due to June floodingⁱⁱⁱ. Major closures included Interstate 80 at the Cedar River, Interstate 380 at the Iowa River and several Mississippi River bridges. Numerous municipal and county roads suffered serious damage and remained closed for months. The extensive detours affected SIP partners by raising costs and delaying deliveries of key emergency supplies to flooded communities.

Telecommunications Issues

Several significant telecommunications issues occurred during the flooding. The fiber-optic telecommunications backbone serving Iowa was threatened in several locations, including significant fiber transmission points and actual fiber-optic lines at below-ground and bridge river crossings. Voice and data services were lost in multiple locations in Iowa for longer than one day.

Iowa's Response System

Iowa has an emergency response system that is based on the National Incident Management System and Iowa Code section 29C. Each incident is a local government issue until the capabilities of that government body is exceeded. Generally, disasters start in a municipality, expand into the county and reach the state level. When disaster begins to overwhelm the state capabilities, the Governor may request federal assistance.

As laid out in Iowa Code 29C, local government requests for state assistance are funneled through the emergency management coordinator in each county. The State of Iowa requires all counties to identify an emergency operations center (EOC) which is maintained by the emergency management agency. The EOC is a coordination point for decision-making and resources for jurisdiction. Each of Iowa's 99 counties has designated an EOC location and is encouraged to train and test annually.

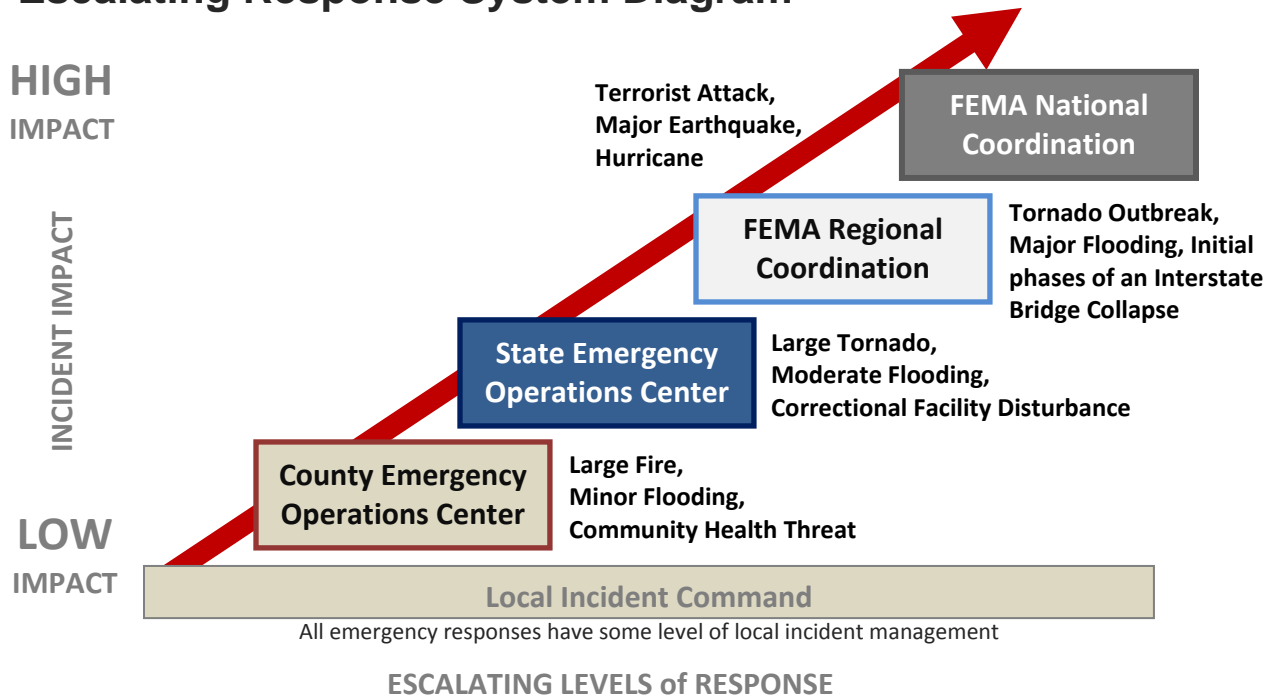
The State EOC is organized similarly to the county EOC and includes representatives from the Governor’s Office, key state elected officials and state agencies. When authorized by the Governor or under other authorities, the State EOC may task state agencies to assist local government and other organizations. This system is developed to respond to all nature of disasters, from human or animal health emergencies, severe weather, man-made incidents or terrorist attacks. Iowa regularly tests this system through exercises and, unfortunately, disasters.

When state capabilities are exceeded and the Governor requests federal assistance, the Federal Emergency Management Agency (FEMA) coordinates the federal agency assistance to the State of Iowa. FEMA maintains both regional and national level coordination centers as well as sending personnel to the State EOC.

This response system uses the incident command system as incorporated in the National Incident Management System (NIMS). Making a single national response system was a key outcome of the September 11, 2001, attacks and the result is NIMS. NIMS has been highly integrated into the day-to-day and acute disaster response in Iowa. This is a key lesson learned for public- and private-sector partners and is cited later in this report.

The below diagram illustrates that as an incident increases in impact, there is a corresponding escalation in the response coordination. As each escalating level of coordination becomes involved, the levels already engaged continue to be involved and handle their level of responsibility. The overall intent is that the response system can be applied to help manage any emergency, whether local to national, natural to man-made.

Escalating Response System Diagram



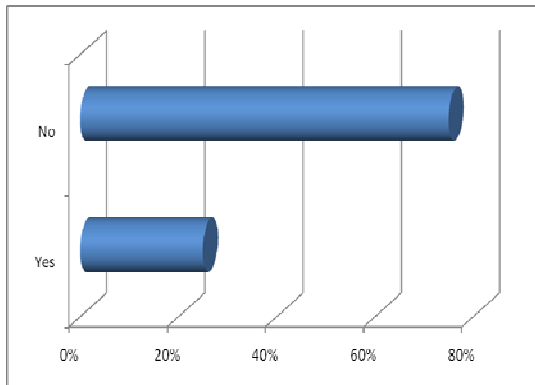
Safeguard Iowa Partnership After-Action Review

The Safeguard Iowa Partnership gathered information from partners by surveys and group discussion in July 2008 as many businesses were still in recovery. The surveys and discussion included private- and public-sector partners from across Iowa. The following report summarizes many of the issues.

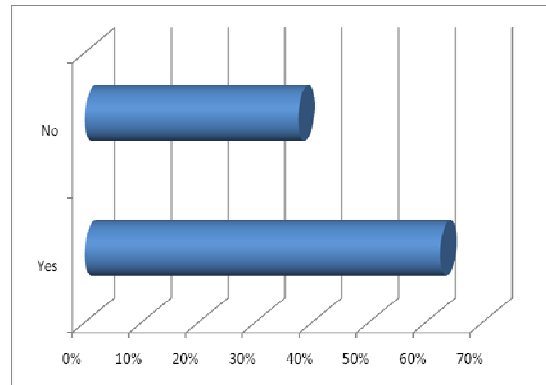
SIP will continue to provide data and assistance to other after-action reviews at the community, state and national level.

Tabular Survey Results from SIP Partners

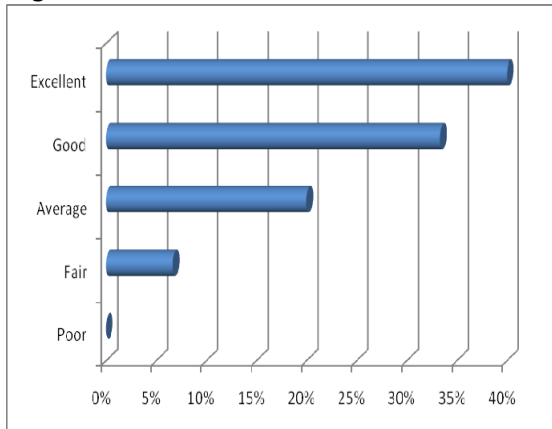
Did your organization incur any direct damage from the tornadoes or flooding?



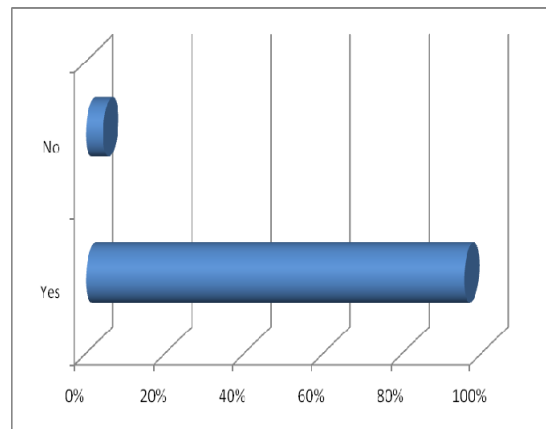
Did your organization incur any indirect loss from the tornadoes or flooding – such as lost business, delayed shipments or employee absences?



Were the ongoing situation reports or other information distributed by SIP helpful to your organization?



Did you share the situation reports (provided by SIP) with management?



Communication

SIP Information Sharing – The information sharing during the June 2008 floods was very successful. SIP Executive Director, Jami Haberl, provided State of Iowa situational reports to the SIP membership and coordinated the donation of key resources such as bottled water and plastic sheeting for sandbagging. The level of communication was unprecedented and unexpected by partners. The dissemination of information caused one after-action participant to comment, “You made me look good with my executive leadership.” Another participant indicated that the SIP communications were vital to dispelling rumors and using resources most effectively in her organization.

During the June 2008 flooding, e-mail was used to push the information to each SIP member. This success in information sharing creates future challenges:

- How can SIP enhance the connection to and communication of state information?
- What technologies can supplement e-mail when e-mail is not available?
- Will pertinent and timely information be available in all situations?

The ongoing efforts for SIP to establish a permanent State Emergency Operations Center (EOC) presence and for developing a resource registry, though not completed at the time of the June flooding, will continue and be enhanced by the lessons learned in the disasters.

Information sharing was considered successful during the disasters, but nearly all information was shared by e-mail. This creates a significant dependency on a single technology. At least one SIP partner’s e-mail server was flooded and they lost e-mail capability for an extended period. Telecommunications were also severely stressed statewide and failed in multiple communities, including Internet access.

Participants in the after-action review also noted that there are multiple existing systems to share information, but no system was universally available or had complete information. The multiple systems and paths also created challenges to monitor and digest information, as well as latency. SIP has endorsed a three-part communications system using the Health Alert Network for alerting, Homeland Security Information Network for information sharing and the Fusion Alerting System. Limited Internet connectivity present in June 2008 meant these systems were not extensively used by SIP partners. The consensus from the after-action discussions was that information “push” by e-mail is preferred to information “pull” from a Web-based system, especially in a rapidly changing situation.

No viable alternatives to an Internet or Web-based system have been identified. In the Des Moines area, the public-private Metropolitan Incident Commanders Radio Network (MICRN) provides a redundant path for emergency information. This radio system only covers eight counties in central Iowa and has recurring costs. There is no available statewide communications system operating on a non-Internet-based system.

Additionally, information sharing might be significantly curtailed in a terrorism incident. Information on incident effects, such as road closures or damaged infrastructure, might be restricted due to investigative reasons.

Priority Information Needs and a Common Operational Picture – Iowa Homeland Security and Emergency Management (HSEMD) suggested that SIP prepare a list of priority information needs to facilitate more effective communication to the private sector and other public-sector organizations.

Priority information needs are the key issues that drive the organization of intelligence or situational reports. Private-sector organizations have never specified their priority information needs during disaster situations.

Suggested priority information needs for public-sector reports included:

- Infrastructure threats and disaster effects to energy, telecommunications, water or transportation sectors.
- Response and recovery priorities for state and local government.
- Projected needs for assistance, particularly in areas where private-sector assets are needed or may be requested.
- State programs activated and regulations suspended.

As an example, SIP was contacted by a national-level retail store when they saw a dramatic spike in food assistance program usage following the disaster. The retailer was concerned it could be a fraud situation, when, in fact, it was an emergency program for displaced Iowans. A clearinghouse for changes in the normal program status can allow the private sector to make informed decisions and best meet community needs in concert with government action.

Iowa HSEMD has adopted a federal critical infrastructure model of multiple sectors, but this model is not reflected in the situational reports or other public information. This sector organization has applicability across state lines and an existing structure. SIP suggests that the sector-based critical infrastructure model be used to organize situation reporting. This system also has compatibility with the emergency support functions (ESF) used to organize the state and federal emergency response plans. The utilization of this existing response structure may also reduce the many duplicative requests from federal agencies that responded into Iowa after the Presidential Declaration.

This same system can be used for private-sector organizations to self-report damage. Presently, few formal mechanisms exist for private-sector damage reports to be included in state-level situational awareness. The Iowa Utilities Board requires major utility outage reporting; telecommunications outages affecting 911 services are reported to Iowa HSEMD, and the National Weather Service solicits damage reports in weather events. The present system does not incorporate two-way communication, which limits the development of an accurate picture of disaster effects. By having a formal, sector-based mechanism to report damage and other disaster effects, a better common operational picture may evolve.

The single best common operational picture available across public and private sectors during the tornado and flood response was the existing State of Iowa situation report (SITREP). This SITREP was developed at frequent intervals by HSEMD staff and was generously shared with SIP. SIP distributed the SITREP and media releases from the State EOC to all SIP partners during the active disasters and now compiles a weekly private-sector recovery report. The value of this report in setting common understanding and dispelling rumors cannot be overstated. SIP urges expansion of the existing State of Iowa SITREP to include private-sector effects and priority information needs.

Communication Action Items –

1. Develop protocols for the SIP communications plan based on the lessons learned from 2008 disasters.
2. Assist the State of Iowa on further refining and implementing private-sector priority information needs and use of sector-based critical infrastructure model into situational reporting.

Resource Coordination

Expanding SIP Presence in the State Emergency Operations Center – In close coordination with HSEMD, the SIP Communication and Coordination Team has been developing qualifications, training and procedures for a private-sector position in the State EOC. The training and volunteer recruitment was not complete at the time of the storms, but the concept has been validated by the Parkersburg tornado and flood response. SIP Executive Director, Jami Haberl, has been recognized for her work during the most costly disaster in Iowa history. The creation of a larger pool of trained volunteers will increase the future SIP capabilities, without the massive individual commitment made by Ms. Haberl.

As the capability matures in the State EOC, SIP may pursue embedding personnel in the planning and logistical sections. Both of these areas saw significant SIP interface during these disasters, but the limited SIP personnel in the State EOC did not allow for assigning dedicated SIP representatives. SIP presence in the planning and logistical sections would better integrate private-sector concerns into the operational planning and logistical support of the statewide response.

SIP leaders believe the role of private-sector coordination should be made clear in the Iowa Emergency Response Plan and State EOC procedures as well. One key outcome of this effort should be contacting SIP as soon as the State EOC is opened and issuing warning orders prior to this point as appropriate. Like any other response partner, earlier notification allows for better planning and execution.

Expanding SIP Presence in the Local Emergency Operations Centers – SIP had a formal presence in local emergency operations centers in Polk (Des Moines) and Johnson (Iowa City) counties. The SIP mission focused on private-sector resource management in support of community-wide goals. The SIP representatives in the county and State EOC established regular communications and were able to supply key situational information. David Guthrie, a Business Executives for National Security (BENS) staffer based in Kansas City, and Jesse Truax, a SIP intern, filled these positions.

Other SIP public- and private-sector partners were present in local EOCs, including Polk and Linn Counties. The after-action consensus was that information sharing and decision making were very successful in these facilities and there is a future role for SIP in local EOCs and the State EOC. One area of excellence noted was the role of a law enforcement officer from a Fusion center becoming a dedicated private-sector liaison in a county EOC. The private-sector liaison is able to push information from the local EOC to affected private-sector organizations and coordinate resource support during an incident.

Public- and Private-Sector Incident Management Teams – The State of Iowa's Incident Management Teams (IMT) were noted repeatedly as a key resource in the tornado and flooding response. IMT members responded to the Butler County EOC and Parkersburg incident command post, reducing the staffing challenges for local officials and providing planning support for local decisions. During the flooding, a corps of Des Moines-area IMT members supported the temporary Polk County EOC. The IMT members are drawn from local and state response agencies after the widespread flooding made it difficult for agencies to release their most experienced personnel to assist other communities. Similar, less formal instances happened across the state, as talented and trained volunteers assisted in hospital evacuations, EOC operations and supporting dozens of community-level incident commands.

SIP has recognized that organized, trained and exercised Incident Management Teams are able to dramatically increase the effectiveness of the incident command system. SIP may be a vehicle to broaden the personnel pool and capabilities of existing IMTs. The development of private-sector

involvement in the IMTs and exploration of a SIP-sponsored IMT to support private businesses could enhance this concept in Iowa.

SIP Resource Registry – SIP has teamed with HSEMD to develop an online business resource registry for private-sector assets. SIP Resources and Preparedness Team developed the database, resource typing and output mechanisms at the time of the storms, but the system was not sufficiently populated to be operational. The completion and ongoing maintenance of this project will address some resource coordination concerns from the storms. The desired outcome will be an Iowa “disaster yellow pages” for volunteer and for-hire emergency assets.

Another lesson learned from this disaster is to package together resources likely to be requested, such as sandbags for flooding or pollution control. During the Parkersburg tornado, Iowa Telecom deployed a mobile communications system which supported the local incident command and made telephones and Internet services available for residents to contact friends and family. Based on previous disasters, similar assets could be packaged together into standard response procedures.

Planning for Procurement Challenges – Procurement processes at different levels of government became a significant challenge during the disaster response. SIP personnel at the state and local EOCs worked as part of the incident command logistics section. They would locate private-sector resources and then request donations if possible. Many large and small retailers generously donated supplies, but as the disaster continued to expand, heavily tapped businesses began to ask for reimbursement.

Depending on the type of supplies needed, some were purchased under county procurement rules and others under state rules. Each jurisdiction had different approving authorities and documentation requirements, even if the supplies went to the same incident scene. SIP personnel moving from EOC to EOC had to learn new processes. Navigating the differing county and state procurement rules was challenging, but when the federal procurement rules were introduced, the problems blossomed. FEMA requests for assistance and other purchasing programs brought tremendous resources to the response, but also added another process and procedural set. This specifically came into play when Safeguard Iowa at the State EOC was arranging donated bottled water shipments and transportation during the flooding. FEMA contacted the same vendors already engaged at the state level. This dramatically changed the existing relationship and left some engaged private-sector resources confused about the level of governmental coordination.

Another issue recognized during the response was the need for a process to issue receipts for donated goods. Many businesses that made sizable donations were not issued receipts documenting the nature and value of the donations. This may become a significant concern for the donors and an issue for communities still involved in recovery in the weeks and months following a disaster.

SIP personnel were occasionally thrust into positions that went well beyond facilitating private-sector donations. Procuring supplies under governmental procedures should be inherently a government role wherever possible, with the understanding the Floods of 2008 were unprecedented and SIP filled the gaps as they emerged. As local and state EOC logistics systems are further developed, SIP may play an advisory role. The SIP-sponsored business resource registry will also provide opportunities for simplifying procurement by having pre-established agreements for government procurement.

SIP has a role along with local procurement authorities, State of Iowa Department of Administrative Services, FEMA and the federal General Services Agency, to determine how procurement can be expedited for resources in the SIP business resource registry.

Regional Resource Coordination – Another significant issue that developed during the flooding was allocation of resources across political boundaries. Businesses in regional commercial centers, especially home improvement and hardware stores, were besieged by multiple requests for donated supplies from surrounding counties. Since each county operated as an independent command, there was limited coordination of resource requests across political boundaries. Many large commercial businesses began surging flood-related supplies to stores, but this was based on individual initiative and not any coordinated action or concept.

In massive flooding like June 2008, the effects are spread over a considerable area, generally following a linear path, and the likely affected areas can be anticipated. For instance, the Iowa National Guard deployed troops ahead of the lower Iowa River and Mississippi River flooding, reinforcing communities as the flood bubble moved downstream. There was limited coordination of the resources across county boundaries (between EOCs) until coordinated at the State EOC level. SIP recommends a regional resource coordination capability, such as the logistical support area concept, should be developed to better coordinate resources in large disasters. If Iowa again faces a disaster as widespread as the June 2008 flooding, the present system involves no fewer than 100 competing emergency operations centers. Bundling of similar requests, combining transportation and storage, and coordinating deployment could enhance the statewide capability to respond. A more rational resource coordination system would be able to more effectively assess and respond across a large span of affected area.

SIP and Aidmatrix – SIP partnered with the Iowa Disaster Human Resource Council to implement the Aidmatrix Network, to provide a process for monetary and product donations to the nonprofit organizations assisting in the response and recovery efforts. The Iowa Disaster Human Resource Council is comprised of faith-based and voluntary agency representatives and government agencies focused on addressing the immediate and long-term physical, spiritual and emotional needs of citizens impacted by disaster.

Aidmatrix Network delivers powerful solution tools to connect those who have resources with those in need. Deploying supply-chain management technology, Aidmatrix leverages public- and private-sector resources with charitable organizations in relief services – creating an opportunity for the “Right Aid to the Right People at the Right Time™.” Aidmatrix helps streamline the way donations are accepted, processed, tracked and distributed and acknowledged. When offers of donated products are made, these offers are immediately made available online to the participating nonprofit organizations working in Iowa. SIP approached HSEMD in May 2008 on utilizing Aidmatrix, but the actual implementation occurred during flooding, in response to swelling donations. Melis Jones from Aidmatrix Network responded to Iowa and she assisted in the implementation and training for members of the Iowa Disaster Human Resource Council.

During the flooding and tornado recovery, Aidmatrix was deployed to manage the many donations from throughout Iowa and the nation. The day-to-day management of the Aidmatrix system was initially provided by SIP Executive Director, Jami Haberl, and SIP Intern, Jesse Truax, but it has since been transferred to the State of Iowa.

Support from Business Executives for National Security (BENS) – SIP is an affiliate of the BENS network. SIP received valuable assistance from BENS personnel, Lynne Kidder, Jeff Gaynor and David Guthrie, who spent a combined 11 days in Iowa staffing local and state EOC positions. With nearly all of Iowa directly affected or under significant threat, in-state assistance for SIP missions was severely limited, and BENS personnel provided key assistance.

Resource Coordination Action Items –

1. Establish procedure to notify SIP for all State EOC partial or limited activations.
2. Establish initial SIP Communication and Coordination Team representative presence in the State EOC and continue to develop the role of SIP in supporting the State of Iowa response.
3. Review and evaluate role of SIP at county EOCs.
4. Support the development of private-sector involvement in the existing State Incident Management Teams (IMT) and explore creating an IMT to support private businesses in Iowa.
5. Complete the SIP Resources and Preparedness Team business resource registry project and establish an ongoing maintenance system for the registry.
6. SIP, the State of Iowa and other partners should explore a regional resource coordination system which would be able to more effectively assess and respond across a large span of affected area using the logistical support area concept for large disasters. SIP may play an advisory and coordination role as local and state EOC logistics systems are further developed.
7. SIP has a role along with local, state and federal procurement authorities to determine how procurement can be expedited for resources in the SIP business resource registry and how SIP can support existing procurement system.
8. Complete transition of the Aidmatrix capability to the State of Iowa.

Education

Educational Topics From the Disaster Response – SIP partners identified multiple areas for ongoing education learned from the disaster response. Worthy of note were three SIP-sponsored preparedness workshops held during the first week of June that involved 400 public and private attendees. Many of the attendees became heavily involved in the disaster response for the next three weeks.

1. Education for multi-level catastrophic planning
 - Public- and private-sector partners need to prepare for catastrophic events.
 - Existing emergency response and business continuity plans are not developed to meet a statewide catastrophic event or the localized effects of an EF5 tornado or miles of a submerged homes and businesses.
 - Several organizations in the Cedar Rapids area with multiple levels of contingency plans were overwhelmed by the size and scope of the flooding.
 - Critical infrastructure such as telecommunications, energy, transportation and water were damaged or eliminated in the affected areas simultaneously.
 - Preparation for common disasters is not sufficient.
2. Education for elected officials on disaster effects on the private sector
 - Elected officials in many Iowa communities faced unforeseen catastrophic challenges. SIP has recognized a need to adequately prepare these elected officials to understand the response system, capabilities and challenges for the private sector.
 - The precautionary evacuation of one downtown business district was announced by elected officials. This announcement bypassed the incident command system and disregarded existing plans and protocols previously developed for an orderly evacuation. The

precautionary evacuation announcement was not clear about the limited area affected and caused significant confusion for private-sector organizations. An orientation to the incident management system and existing community plans for public- and private-sector community leaders may have prevented the confusion and disruption caused by the evacuation decision. The evacuation proved precautionary only, as the area never flooded. *As an example, an elected supervisor in one Iowa County praised the National Incident Management System (NIMS) training received prior to the disasters. The understanding of the response system made the roles of elected officials clearer and enabled more effective assistance to the response agencies and community needs.*

3. Education for private sector on effective disaster assistance
 - Leadership in some private-sector businesses were eager to assist the affected communities statewide but were unsure on how to offer assistance within the established command system.
 - Private-sector organizations should prepare template plans for activating and managing employees for volunteer work. These plans should include callout lists, leave and financial policies.
As an example, SIP contacted a member organization at 2:30 a.m. to organize a volunteer sandbagging operation. The organization has organized employees for disaster response in multiple previous events but never in the middle of the night. The response was slowed because no plan existed for a callout in this situation.
4. Public health issues during a disaster
 - Providing tetanus vaccine became an issue for businesses following the massive flooding. General public health recommendations were made for all persons working in flood waters or with contaminated materials to receive tetanus vaccinations. Like all communication, the message sent and the message received did not always mesh. Confusion resulted around the immediate need of vaccination and what public-sector options for the vaccine were available. In one situation, employees refused to work without tetanus vaccine during a key crisis situation. Had adequate medical direction been available, the role of the tetanus vaccine both before and after exposure to flood waters may have addressed the employee concerns and avoided the employees' refusal to work.
 - The confusion over the public health announcements and private-sector actions indicate a need for continued dialogue and education between public-sector health authorities and private-sector organizations. This joint understanding will be vital for managing a major public health incident like a pandemic or bio-terror attack.

Recovery

SIP's Role in Recovery – SIP had not developed a formal strategy for the organization to have a recovery role prior to the Parkersburg tornado and June flooding. Based on the key coordination role during the response to the disasters, SIP Executive Director, Jami Haberl, has played a role in linking many recovery programs for the private sector.

Coordination roles include:

- Sponsoring weekly conference calls for three weeks with Iowa business recovery partners, including federal and state government agencies and state and national business/trade associations, to develop an Iowa recovery road map immediately following the end of the flooding.

- Coordination with the Rebuild Iowa Office and the Economic and Workforce Development Task Force, recovery organizations created by Governor Culver and under the close direction of Lt. Governor Judge.
- Participation on the Interagency Long-Term Recovery (ESF #14) Committee consisting of federal and state agencies.
- Compilation and dissemination of weekly business recovery status reports to all SIP partners and Iowa Business Recovery partners.
- Participating in the Back to Business workshops held in the Cedar Rapids corridor following the flooding.
- Working with state agencies on compiling estimated economic damages for the private sector.
- Serving on the Iowa Volunteer and Donations Management Committee to assist with private donations.

Recovery Action Items:

1. Continue to support the recovery of Iowa from the massive disasters of 2008.
2. Based on the lessons learned in recovering from the 2008 tornadoes and floods, identify and define the role of SIP during the recovery from future disasters.

Other Lessons Learned

Incident Command System (ICS) – Numerous SIP partners urged that all public- and private-sector organizations adopt and use the incident command system. Business and nonprofit personnel trained in incident command were able to easily integrate into public-sector emergency operations centers and incident commands throughout Iowa. As one after-action participant expressed simply, “ICS works.”

Creative Solution for Connectivity – One lesson learned was the atypical use of businesses with free wireless Internet. This idea served as a key to maintaining business operations when normal offices were flooded or Internet connectivity was lost. Employees held meetings and conducted regular business from locations such as Starbucks coffee shops.

Mobile Health Clinics – Multiple communities had massive sandbag operations involving thousands of volunteers. With traditional emergency medical resources stressed by the disaster and hospital evacuations, local public health organizations provided medical support to sandbag operations. One community identified the acute need for a mobile health clinic able to support these large and strenuous operations involving thousands of volunteers over several days.

Emergency Operations Centers (EOC) – One large metropolitan community did not have a functional city or county EOC when the disaster began. The EOC was hastily assembled in a cafeteria and continually upgraded to support more than 60 personnel. Valuable time in the initial disaster stages was spent locating and preparing a functional EOC by emergency management (with support from the public health department and private partners). Having an established, exercised and expandable EOC was a key lesson learned that all Iowa communities should heed.

Including Major Retailers into Preparedness – Many large national retailers provided irreplaceable assistance to the response in countless Iowa communities. However, few of the retailers had been well integrated into the Iowa response system prior to the event, with SIP or with public-sector organizations. Whenever possible, preparedness planning should include the input and suggestions from national retailers about their capabilities and limitations.

Dedicated Private-Sector Liaisons from Fusion Centers – One large metropolitan community dedicated a law enforcement officer assigned to the regional Fusion Center to staff a private-sector coordination desk at the County EOC. This position was able to supply information on traffic conditions, evacuations and infrastructure status to local businesses. At the height of the flooding, the need for a rumor-control conference call was identified and a call arranged for the local business community. This is a strong recommendation for future disasters in any community.

Small Business Communication – No single organization or group is able to provide universal communication to the large percentage of Iowa's small businesses. Communication with small businesses was attempted through chambers of commerce, small business development centers, main street alliances and economic development authorities. SIP worked with the existing national and state organizations to identify and deliver information to small-to-medium-sized businesses affected by disaster. Forging the alliances necessary for sharing information prior, during and after disasters with small businesses should be a priority.

Redundancy in Internal Communication – SIP provided key information from the State EOC throughout the disasters. Some organizations did not receive this information by e-mail because the designated SIP contact was away from e-mail. SIP urges all members to have redundancy in contacts for crisis information sharing.

Summary of Priority Action Items

Priority Action Items for Consideration during SIP's Strategic Planning for 2009 –

Identifier	Issue	Recommendation	Existing Initiative	Team Assignment
<i>Communications 1:</i> Information sharing	Safeguard Iowa Partnership information sharing	Continue e-mail "push" versus extracting information from other systems. Search for redundant system for e-mail communication. Identify what information would be shared during a terrorist or other major criminal event.	Yes	SIP Communication and Coordination Team
<i>Communications 2:</i> Priority Information Needs (PIN) and a common operational picture	Incorporating private-sector information in the state situation report (SITREP)	Include key private-sector PINs in the state SITREP and coordinate private-sector damage summaries.	No	SIP Communication and Coordination Team
<i>Resource Coordination 1:</i> Expanding SIP presence in the State Emergency Operations Center (EOC)	Continue planning for and introduce lessons learned into SIP's State EOC presence	Establish initial SIP Communication and Coordination Team representative presence in the State EOC and continue to develop the role of SIP in supporting the State of Iowa response. Establish procedure to notify SIP for all State EOC partial or limited activations.	Yes	SIP Communication and Coordination Team
<i>Resource Coordination 2:</i> Expanding SIP presence in the local emergency operations centers	Consider planning for SIP's local EOC presence	Review and evaluate role of SIP at county EOCs, based on the training and procedure models developed for private-sector support to the State EOC.	No	SIP Communication and Coordination Team
<i>Resource Coordination 3:</i> Public- and private-sector incident management teams	SIP's role in support of incident management teams	Support the development of private-sector involvement in the existing State Incident Management Teams (IMT), and explore creating an IMT to support private businesses in Iowa.	No	SIP Communication and Coordination Team
<i>Resource Coordination 4:</i> SIP resource registry	SIP Business Resource Registry was not used in the disasters	Complete the SIP Resources and Preparedness Team business resource registry project and establish an ongoing maintenance system for the registry.	Yes	SIP Resources and Preparedness Team

Identifier	Issue	Recommendation	Existing Initiative	Team Assignment
<i>Resource Coordination 5:</i> Planning for procurement challenges	SIP may have performed some public-sector procurement missions	SIP and procurement authorities to determine how procurement can be expedited for resources in the SIP business resource registry and how SIP can support existing procurement system.	No	SIP Resources and Preparedness Team
<i>Resource Coordination 6:</i> Regional resource coordination	99 EOCs system was not effective at meeting resource needs	SIP and other stakeholders should explore a regional resource coordination system to assess and respond across a large span of affected area using the logistical support area concept.	No	SIP Resources and Preparedness Team
<i>Resource Coordination 7:</i> SIP and Aidmatrix	Complete transition of the Aidmatrix capability to the State of Iowa	Support the State of Iowa's donations management system as necessary.	No	SIP Resources and Preparedness Team
<i>Education 1:</i> Education for multi-level catastrophic planning	Many private-sector crisis plans were overwhelmed	Preparation for common disasters is not sufficient. All organizations should plan beyond the worst-case scenario.	No	SIP Education and Exercises Team
<i>Education 2:</i> Education for elected officials on disaster effects on the private sector	Elected officials faced unforeseen catastrophic challenges	SIP has recognized a need to adequately prepare elected officials to understand the response system, capabilities and challenges for the private sector.	No	SIP Education and Exercises Team
<i>Education 3:</i> Education for private sector on effective disaster assistance	Businesses were eager to assist but were unsure on how to coordinate assistance	General education for the private sector on the response system and template plans for activating and managing employees for volunteer work. These should include callout lists, leave and financial policies.	No	SIP Education and Exercises Team
<i>Education 4:</i> Public health issues during a disaster	There is a need for continued dialogue and education between health authorities and businesses	Continuing education and discussion about the role of public health authorities, how to seek information and the coordination necessary in disasters, whether flooding or pandemic influenza.	Yes	SIP Education and Exercises Team

Identifier	Issue	Recommendation	Existing Initiative	Team Assignment
<i>Recovery 1:</i> Define SIP role in disaster recovery	SIP had not defined the organizational role in disaster recovery.	Based on the lessons learned in recovering from the 2008 tornadoes and floods, identify and define the role of SIP during the recovery from future disasters.	No	SIP Partnership Development and Outreach Team

Conclusion

Iowa was struck by a series of disasters that have created the most costly and challenging situation in the state's history. As the toll of the disaster continued to unfold, Safeguard Iowa Partnership (SIP) responded along with the rest of the state and nation. Safeguard Iowa staff and partners worked hundreds of hours to assist in coordinating emergency response and recovery throughout Iowa. The after-action discussions indicate that the role of a public-private partnership clearly enhanced the communication and coordination throughout Iowa for this unprecedented disaster. Iowa has a history of deep-seated response to disaster by the government, nonprofit, business and volunteer organizations. The tornadoes, floods and storms of the summer of 2008 have built upon this system.

This report has identified multiple opportunities for improvement for future disasters, whether large or small. The interface between the public- and private-sectors was demonstrably better in this massive disaster than any disaster in recent memory, providing a springboard for success for future joint responses.

Whether it was the role SIP played in establishing the AidMatrix donations management system, the valuable information shared by the State Emergency Operations Center or the countless hours of volunteers, Iowa should be better prepared for the next disaster.

This report calls for action on numerous issues that cut across the public and private sectors. These action items will be prioritized as part of the Safeguard Iowa Partnership's 2009 strategic planning.

Questions and comments related to the development of this report should be directed to:

Jami Haberl, Executive Director
 Safeguard Iowa Partnership
 Des Moines, Iowa
 515-770-4637
 sip@safeguardiowa.org
 www.safeguardiowa.org

One City's Numbers
Cedar Rapids, Iowa

*Cleanup and relocation costs total more than \$4.6 million
Replacement and repair of equipment/furnishings will be
over \$9.3 million*

10 square miles or 14% of the city impacted by flood

18,623 estimated persons in flood impacted area
7,198 effected land parcels
5,390 residential, 1,049 commercial, 84 industrial and 675 other

27 companies impacted by the flood

18 directly impacted
9 indirectly impacted
\$250 million estimated to-date for cleanup and repair alone
6,167 employees
25 have committed to rebuilding in Cedar Rapids

Pre-flood Downtown:

13,000 people working in the downtown area
900 people residing in the downtown area
37 restaurants

Post-flood Downtown:

9,000 people working downtown displaced
450 downtown businesses impacted
900 people residing downtown displaced
35 restaurants impacted

Source: Critical Flood Statistics, City of Cedar Rapids, August 1, 2008

ⁱ State of Iowa Operational Status Report #37, Iowa Homeland Security & Emergency Management (2008, June 21).

ⁱⁱ Critical Flood Statistics, City of Cedar Rapids, August 1, 2008.

ⁱⁱⁱ Iowa Department of Transportation (2008, July 17). Department of Transportation employees answer call to service in response to historic flooding. Retrieved July 17, 2008, from <http://www.iowadot.com>.