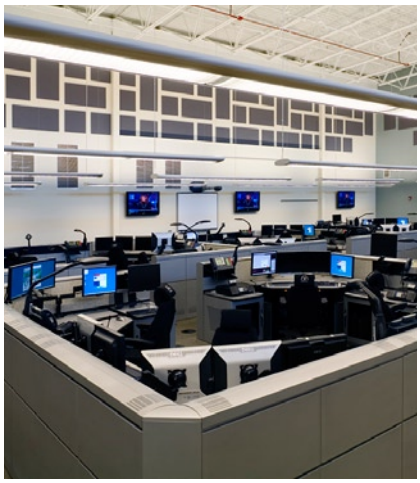

PLANNING THE ALL-HAZARDS, ALL-CRIMES DATA FUSION CENTER

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Planning the All-Hazards, All-Crimes Data Fusion Center

America's primary homeland security efforts today are focusing on one highly evident gap: our seemingly repeated failure to "connect the dots." From the 9/11 attack to the attempted bombing of an airliner over Detroit, we have consistently heard that we had the data in silos spread all over the nation's security infrastructure, but no one connected the dots. No one could pull all the relevant data together, analyze it in order to spot warning signs or trends, and then take action to prevent a disaster.

Across the nation, however, local, regional and state authorities acting to narrow this gap by developing data fusion centers. In all, 70 are up and running or in the planning stage. These centers draw information from each of an area's law-enforcement and public safety agencies, as well as the private sector, and fuse that information into a single database that the center's analysts can use to evaluate information and possibly prevent impending terrorist attacks.

In a few states, authorities have advanced the data fusion concept even farther to incorporate information that could prevent or mitigate other types of hazards, from pandemics to hurricanes to events requiring a multi-departmental response. These all-hazard, all-crimes data fusion centers enable responders to communicate with each other instantaneously—a task that still is difficult in most regions where authorities from different jurisdictions must mutually respond to an emergency—and bring together the complete data necessary for proper analysis of current and potential issues. This kind of center, capable of operating 24/7, can be crucial in a great variety of regional situations.

For example, when U.S. Airways flight 1549 landed miraculously on the Hudson River, an all-hands emergency response ensued. Law-enforcement and port authorities from New York and New Jersey on both sides of the river needed to coordinate their rescue attempts. New York Waterway commuter ferries rushed to the scene. Police boats, fire boats, tugboats and the Coast Guard all participated. Local and federal officials opened a complex network of communications lines to evaluate and react to the situation, and through amazing piloting skills and proximity of responders, disaster was avoided. If such an incident had happened anywhere in the nation except New York City—which had prepared itself well after 9/11—the potential for confusion, uncoordinated response and casualties could have been much greater. The Miracle on the Hudson is exactly the kind of event that an all-hazards, all-crimes data fusion center is designed to help first responders quickly evaluate and resolve.

HIGHLIGHTS

Fusion Centers:

An effective and efficient mechanism to exchange information and intelligence, maximize resources, streamline operations and improve the ability to fight crime and terrorism by analyzing data from a variety of sources.

Other emergencies that can be managed more effectively through such a center could include:

- A pandemic flu epidemic that closes schools and universities and stops commuter trains in major cities
- A widespread power outage like the great blackout of 2003 that crippled the entire Northeast and Ontario
- A major sports event, such as a World Series or Stanley Cup final, that could lead to out-of-control celebrations
- Political events like the G20 Summit that draw large crowds of sometimes violent protestors

In each of these situations, the ability to share information and analysis in real time is critical.

The Role of a Fusion Center

A fusion center is not an emergency operations center; it does not dispatch responders to a scene. Rather, it serves as a central clearing house for all the information that an individual public safety agency would otherwise be unable to obtain in a timely fashion. It's a hub where agencies from multiple government levels and jurisdictions can draw on a complete and common set of information in real time.

In their Fusion Center Guidelines, the U.S. Justice and Homeland Security departments call fusion centers "an effective and efficient mechanism to exchange information and intelligence, maximize resources, streamline operations and improve the ability to fight crime and terrorism by analyzing data from a variety of sources." The all-hazards, all-crimes data fusion centers offer these benefits to all types of situations where multiple agencies must analyze data to take action. These centers are totally encompassing. Rather than focusing only on homeland security or on crime, they compile data on all hazards and potential hazards.

Data Fusion in Southeast PA

One such center is taking shape in Philadelphia. The Delaware Valley Intelligence Center (DVIC) compiles information from 14 counties in four states. Analysts at the center will analyze this data and distribute information to the agencies that need to know about impending issues and trends. The analysts will do their best to connect the dots so that proper authorities can act, instead of react.

HIGHLIGHTS

The DVIC all-hazards, all-crimes data fusion center will tie together information from some 200 entities in the 14 counties that it covers—from local, county and state police to the Coast Guard, hospitals, universities and even other data fusion centers that cover states or regions within DVIC's geographical scope.

The DVIC is being developed by members of a consortium of 27 like-minded companies that compose SOSSEC—The System of Systems Security Integration Initiative, a program of the U.S. Army's research, development and engineering center. For the DVIC, SOSSEC fielded a team of eight companies from the consortium, each with particular expertise. L.R. Kimball is offering its architectural and engineering talents for this project, developing a report that is being translated into a physical structure to house the DVIC. L.R. Kimball also is assisting in the design of a new emergency operations center (EOC) for the city of Philadelphia, situated in the same structure, which will dispatch first responders to the scene of emergencies.

The DVIC all-hazards, all-crimes data fusion center will tie together information from some 200 entities in the 14 counties that it covers—from local, county and state police to the Coast Guard, hospitals, universities and even other data fusion centers that cover states or regions within DVIC's geographical scope. Any first-responder organization with a radio system will be able to share information through and be connected to DVIC.

Personnel who work in the DVIC include the Philadelphia Police Department's Criminal Intelligence Unit and local detectives, among others. The Department's Homeland Security Unit will be stationed there as well, along with their ten specialized vehicles. The Border Patrol and Coast Guard may also occupy portions of the building. Eventually the 35,000-square-foot EOC will be situated on the lower floor of the structure, with the DVIC and Philadelphia's 9-1-1 and 3-1-1 non-emergency operations center upstairs.

Inside the Data Fusion Center

Within DVIC and other data fusion centers of its type, a focal point of activity is the Watch Center. This facility enables authorities and analysts to monitor developing situations around the clock, seven days a week. Should an event occur, watch center personnel will be able to talk with police, fire, medical and federal responders and ensure that they can communicate with each other as well.

Another point of interest in the DVIC is the Sensitive Compartmented Information Facility (SCIF)—a modern-day "cone of silence" that provides a secure space for handling classified information, with encrypted connections to federal agencies. It requires special clearance and access controls to enter.

HIGHLIGHTS

L.R. Kimball is applying its deep expertise in developing regional centers, such as New Jersey's Regional Operations and Intelligence Center, opened in 2006, that has become a model for a statewide emergency operations center (EOC). Southwestern Pennsylvania's Regional Integrated Command Center, designed by L.R. Kimball, provides a redundant, self-healing first responder network to support interoperable communications among 13 counties. L.R. Kimball also designed EOCs that cover two of Delaware's three counties, dispatching personnel coordinating the response to emergencies in that region.

In essence, the DVIC is a data and communications network among agencies that is surrounded by brick and mortar. L.R. Kimball designed an innovative reuse of a 1940s-era government storage and manufacturing structure to house the DVIC. Initially the DVIC will incorporate about 40,000 square feet, with the capability to expand to house more agencies or private-sector security organizations.

L.R. Kimball is taking a number of steps to harden the building against the impact of the disasters that it is designed to monitor. To accommodate round-the-clock activities, the structure includes lockers, showers and bunk rooms sufficient for the center's 130 personnel. L.R. Kimball reactivated a 200-foot-high masonry tower with tanks that hold a quarter million gallons of water for use by occupants and for a sprinkler system, in case the local water supply is compromised. Generators will supply electricity in case of a power outage, and occupants of the DVIC could live and work in the facility for long periods of time, if necessary, while managing a crisis.

The building is designed to help DVIC personnel operate highly efficiently. It includes a large number of conference spaces and breakout rooms that can hold up to two dozen people at a time. At least a quarter of the walls in these conference areas and throughout the facility are composed of tackable surfaces, where analysts and sworn officers can post graphs, maps and photos showing trends in crime or the movement of illicit materials. The design is meant to facilitate interaction among those analyzing a host of issues for trends and connections.

For regions that are considering the development of an all-hazards, all-crimes data fusion center, L.R. Kimball offers the following recommendations:

1. **Cast your net as far as you can.** Gain the broadest possible range of participants, including municipal, county, state, federal and private agencies. The more organizations that join the center's operations, the better the intelligence that is gathered and the more funding that is available. The federal guidelines on data fusion centers suggests a long list of private and public sectors that may find value in participating in a data fusion center. A few of these include:
    - Agriculture
    - Banking
    - Chemical industry
    - Educational institutions

HIGHLIGHTS

L.R. Kimball recommendations:

1. Cast your net as far as you can
2. Find a physical location
3. Create an inviting environment
4. Look to current and future trends toward energy efficiency
5. Ensure that you allow sufficient room for expansion
6. Consider the design of some shared facilities
7. Provide for a highly secure, hardened building

- Energy companies
- Health and public health services
- Hospitality and lodging companies
- Shipping companies
- Private security firms
- Real estate organizations
- Retail stores
- Transportation companies

2. **Find a physical location** for the data fusion center that is not in the heart of what you perceive to be your most vulnerable area but close enough to it to react effectively. Personnel need to be able to come and go at the center and maintain operations without becoming enveloped by the unfolding disaster, while also monitoring progress on the scene.

3. **Create an inviting environment** within which personnel can work most effectively. L.R. Kimball is writing the book on good design practices for this new type of facility. For example, the firm is incorporating significant amounts of light and airy spaces. The DVIC we have re-glazed ten existing 100-foot-long skylights, all facing north, to provide as much natural lighting as possible for staff, far different from a typical government office building.

4. **Look to current and future trends toward energy efficiency** and the requirements for LEED-certified structures. Data fusion centers consume heavy amounts of electricity through their information technology networks, and that consumption must be funded annually. To initially reduce the DVIC's environmental impact, L.R. Kimball used renewable resources and materials made from renewable resources, while gaining the energy-saving benefits of extensive natural lighting.

5. **Ensure that you allow sufficient room for expansion.** Once the center is up and operational, more public and private agencies are likely to want to become a part of it. You also will need flexibility in your infrastructure capabilities within the building. If an event like a presidential visit is scheduled, you may find the number of people occupying the center increasing temporarily by 25 to 50 percent, and they all will require connectivity and power for their computers and personal technology. Keep in mind the need for ample parking for expansion needs and investigate the

ability to exercise eminent-domain-style actions during a serious incident to claim more parking areas for the center.

6. **Consider the design of some shared facilities** among organizations operating in the building, such as a media/ presentation room, conference rooms, lockers and public meeting areas.

7. **Provide for a highly secure, hardened building.** The DVIC requires that people entering the facility pass through four security checkpoints—and a fifth to enter the SCIF. Hardened windows and walls, a badge system, and a guard at entrances should be part of the security process. Establish areas outside the data fusion center operation where vendors and visitors can meet with staff without entering the center itself. Also, develop procedures and policies that help prevent violation of confidentiality.

CONTACT US

To help you connect the dots in planning your region's data fusion center, L.R. Kimball experts are available for a consultation.

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and consider partnering with L.R. Kimball for intelligence in design.

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