



A VIRTUAL FIELD COORDINATOR FOR DISASTER RESPONSE AND RECOVERY

Connecting People, Services, Resources, and Data
to Strengthen Community Resilience

Abstract

Disaster response and recovery require the rapid coordination of people, services, resources, and information across government agencies, community organizations, businesses, first responders, and affected residents. Yet the number and complexity of available programs makes it difficult for individuals and communities to identify and access the assistance they need.

This paper presents EnVision as a Virtual Field Coordinator (VFC) – a technology-enabled approach designed to extend the reach and effectiveness of human field coordinators while strengthening coordination across the disaster-response network. Adapted from the existing EnVision platform, the VFC helps disaster survivors assess needs, connect with appropriate services and resources, engage with community partners, and navigate recovery activities. At the same time, it provides participating organizations with timely information and analytics to improve coordination, identify unmet needs, measure program effectiveness, and support evidence-based decision-making.

By connecting the “demand side” of disaster recovery – individuals, families, and communities needing assistance – with the “supply side” of service providers, government agencies, resource partners, volunteers, and businesses, EnVision offers a scalable framework for improving disaster preparedness, response, recovery, and long-term community resilience.

Organizational Performance Systems

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Purpose of this Paper

This paper presents a unique social network for multi-service, post-disaster response and recovery – a **Virtual Field Coordinator** (VFC). VFC uses an existing technology – EnVision – that helps those in need gain rapid access to appropriate services and support in disaster environments.

What is a VFC?

In disaster response and recovery phases, the community expectations for human Field Coordinators (FC) are broad, deep, and immense.

The essential elements of FC responsibilities include communicating with disaster survivors – individuals and organizations – assessing unmet needs, planning related to short and long-term recovery, and community outreach – coordinating with many local and outside agencies – all under tremendous time and emotional pressures. Soon after a disaster event, FCs become the face of recovery via attendance at community meetings and advisory councils.

When applied as outlined in this paper, the VFC:

- Expands the reach and impact of human FCs
- Accelerates the processes of the National Disaster Recovery Framework
- Increases the delivery of much-needed services to individuals and organizations
- Improves information sharing with designated federal coordinating agencies and others across the recovery network (FEMA, 2020)
- Provides timely analytics associated with the six Recovery Support Functions (RSF)
- Adds to the body of research and best practices for improving disaster preparedness and timely response to decrease repetitive losses, financial hardship, and loss of life (FEMA, 2021)

The Problem we are Solving

The post-disaster challenges facing distressed communities – and particularly the urban, rural, and indigenous poor – are multi-faceted and complex. In many cases, despite the hard work of many planners and first responders, they have defied conventional approaches for decades.

Numerous federal departments and agencies offer many programs specifically designed to assist communities following disaster events via public assistance, individual assistance, and hazard mitigation. Each year, Congress allocates many billions of dollars in appropriations and supplemental legislation to address these post-disaster needs (Lingle, 2018). Beyond federal programs, there are innumerable local and private initiatives intended to achieve similar ends.

Collectively, the sheer number of programs and the lack of integration and accessibility create unnecessary barriers for communities and families to find, connect with, and utilize the services that best meet their diverse and wide-ranging needs.

The VFC Responds to National, Regional and Local Needs

The need for a VFC stems from National directives and local practicality. National directives include the operating concepts and disaster-related goals of the Department of Homeland Security (DHS) including the Federal Emergency Management Agency (FEMA), the Department of Health and Human Services (HHS) including the Assistant Secretary for Preparedness and Response (ASPR), and other agencies at federal, state, and local levels. Local practicality is the combined experience of first responders over decades of resilient support and public engagement following a wide range of local and regional disasters.



Supporting National Goals. There are many gaps in our country's disaster preparedness and response system that are specific concerns of FEMA, DHS, ASPR, HHS, and others. The National Biodefense Science Board (NBSB) report (2021) presents these gaps and related recommendations, both supportive and incentivizing, including:

- Ensure that the United States is always prepared to implement an immediate, effective, and coordinated response in public health and non-health sectors.
- Strengthen the alignment and coordination of communication with health and non-health sector businesses, including those involved in advertising and social media, to improve the flow of information to – and implementation of – guidelines by local organizations and the general public.
- Explore the potential to incentivize and guide implementation of locally recognized and organized civil emergency response groups and aid societies to ensure that no one is forgotten or abandoned during a crisis.
- Expand existing programs and where needed establish or incentivize new programs and partnerships to improve the readiness and resilience of the health and public health workforce during a crisis.
- Enhance coordination of first responders and on-scene providers during an emergency response by improving mechanisms to provide consistent, evidence-based, just-in-time...training and guidelines.
- Develop a supportive infrastructure to ensure safe and high-quality childcare, eldercare, and pet care for health workers and first responders so that they can respond effectively to disasters.

Supporting Response and Resilience. The VFC supports readiness, response, and resilience by streamlining public engagement, communication, and support during a crisis. In doing so, it supports the following:

- A forward-looking need to establish National policies and implementation goals that direct, incentivize, and guide improvements in a number of technical areas. (HSPD-21)
- Support the overarching National goal to improve capacity, resiliency, and interconnectedness among state, local, Tribal, and territorial (SLTT) systems and to strengthen their interoperability with federal programs. (HSPD-21)
- A requirement to ensure that both “supply side” and “demand side” needs receive equal attention vis a vis Community Resilience. This is true for all aspects of community readiness and response in the face of potential catastrophic health events. (HSPD-21)
- The need to ensure that the United States is always prepared to implement an immediate, effective, and coordinated public health response. (NBSB, 2021)
- ASPR's request to NBSB that their 2021 study should consider any threat that would warrant national preparedness attention, major improvements in a whole-of-society approach, and potential federal investment and partnerships. (NBSB report, p. 9).

How the VFC Supports the Nation's Disaster Preparedness and Response Needs

Working from Existing Technologies and Methods

The core functionality of the VFC is adapted from the OPS EnVision system – a self-directed, incentive-based and community supported social network to help those in need. EnVision was developed in concert with the U.S. Department of Housing and Urban Development (HUD) and the Census Bureau.

The unique feature of EnVision is that it creates synergies across the programs of multiple departments and agencies at federal, state, and local levels; private service organizations; and the private commercial sector to support low-income Americans and distressed communities.

As a cross-community enabler, the VFC improves response and decision making by finding relationships between disaster risk, resilience, and cost at the local level. This includes business vulnerability and distress indicators, and the capacity of a particular geography to recover from disaster events with minimal losses.



EnVision as a Virtual Field Coordinator

VFC also expands the data set related to Disaster Declarations in any geography and expand the information available on the investments made by support agencies at every level.

In its current configuration, EnVision helps heads of households assess their needs, set goals and priorities, create personalized roadmaps, and engage with community partners to accelerate their journey toward economic mobility and sustained success.

There are many similarities between the needs of those in poverty and survivors with needs in the aftermath of a disaster. Based on collaboration, information gathering, and selected pilots in over 20 communities, the application's capabilities are ready for further adaptation to support post-disaster response and recovery.

Enabling Virtual Operations Support Teams

In past disaster events, Virtual Operations Support Teams (VOST) have been social media-savvy people who monitor public social media feeds for information that could help agencies better manage a situation. Within the VFC the VOST concept is expanded and enhanced to identify a wide range of subject matter experts (SME) who are activated "on-call" and assign them to specific local activities based on their capabilities and availability. The VOST functionality overlays the EnVision virtual mentoring capabilities to achieve the desired scope, reach, and specificity goals in VFC.

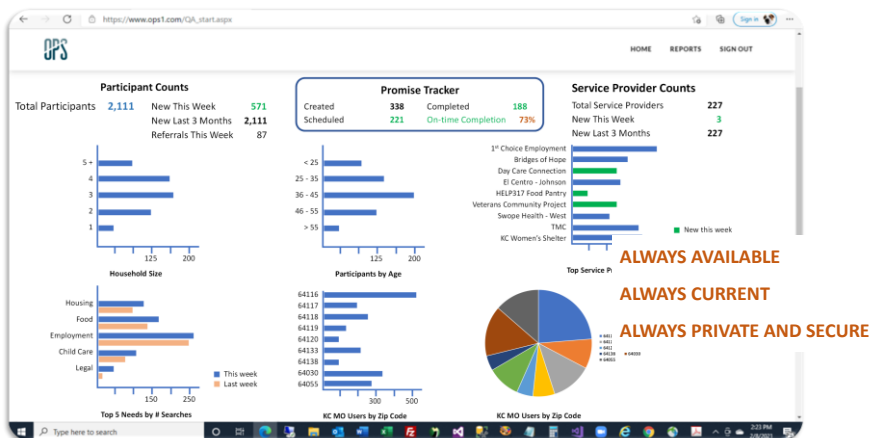
Creating A New Form of Incentive; Earning Points Through Engagement

The approach embodied in the VFC is unique in that it rewards users (those who provide services and those who need them) for engaging in the application.

Rewards can come in many forms depending on the intended recipient. For example, service providers (the supply side) may become eligible for additional grant opportunities or equipment availability. Service recipients (the demand side) may be eligible for offers from local and national merchants who want to expand their outreach during emergencies and demonstrate their support of the communities in which they operate. In sum, rewards benefit both reward providers and their recipients.

As participants, service providers, reward providers, first responders, and others engage with the VFC, an enormous data set will be created. Those data will highlight opportunities for improvement and engagement strategies that aid individuals, families, businesses, communities, and the Nation.

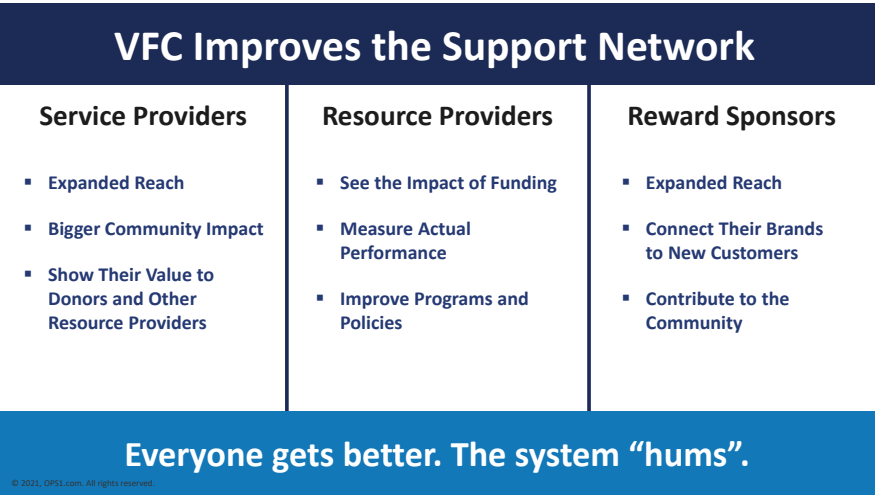
These data will be highly valued by organizations and government entities seeking to develop evidence-based policy and programmatic solutions at local, state, and federal levels.



Local and National Impact

In the U.S., the cost of weather and climate disaster events averaged about \$149 billion per year between 2020 and 2024. Globally, estimated losses from natural disasters total over \$415 billion annually.

Beyond the positive impact on individual and institutional wallets, the cross-community impacts will be even more pronounced: more targeted support by first responders; improved use of available healthcare infrastructure; more responsive personal physical and mental health support; and increased availability of childcare, family welfare, and other related programs. These improvements translate into programmatic funding that can be directed elsewhere.



General Operating Concept: Application and Analytics

Our operating concept is based on coordination between two crucial support elements of VFC: (1) the network itself and (2) its analytics and best practices capabilities.

As previously described, VFC couples a comprehensive technology to responsive on-the-ground implementation and sustainment capabilities.

VFC also provides unique visualizations and intelligence using data generated by users of every type and every level. These analytics advance the understanding of the factors that affect individuals, families, and communities in disaster environments including commerce, housing, economic development, family structure, healthcare, education, civic engagement, public safety, and other dimensions of community health and stability.

VFC’s combined capabilities serve as a platform for the formulation, analysis, and dissemination of 21st century solutions to disaster readiness, response, and resilience. Through the analysis of comprehensive real-time data, client organizations can develop innovative, evidence-based, approaches that benefit their communities when disasters strike.

Risks and Risk Mitigation

Any significant effort is subject to various risks. We have considered the risks we deem relevant and have developed appropriate mitigation strategies.

Risk	Mitigation
Stakeholder Awareness Risk Does OPS sufficiently understand the wants and needs of the various stakeholders? Can they consistently meet them?	Yes. Our VFC deployment plan is tied to longstanding relationships at the federal, state, and local levels. That enables us to maintain awareness and understanding of the needs of the audience and their communities. We also expect to have an advisory board made up of members with deep ties to their communities and their related disaster response needs.
Execution Can OPS translate stakeholder wants and needs into an efficient operating structure?	Yes...and quickly. Our effective management practices and leadership skills allow us to effectively process emerging needs, provide timely decisions, and implement innovative and responsive engagement strategies.

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EnVision as a Virtual Field Coordinator

Risk	Mitigation
Continuity Can VFC be sustained over an extended time across multiple locations?	Yes. Our experience supporting government organizations in the achievement of their performance objectives is a testament to our ability to provide the most time- and cost-effective support. We require limited orientation time. Our approach guarantees that transitions are seamless, effectiveness is maintained, communication is clear, and that program continuity is assured at the least possible cost to our clients in time, dollars, and efficiency.
Information Availability Is it difficult to get the information we need to configure the VFC?	No. OPS works closely with our client counterparts to ensure information needs are identified and coordinated with the appropriate data and systems owners. Upon consultation with the key stakeholders, we devise backup data access plans as needed.
Schedule Isn't it overwhelming to coordinate a multi-faceted rollout?	No. We have extensive experience supporting complex challenges in high stakes scenarios at federal, state, and local levels. We continually update our plans based upon the guidance we receive from our client leaders. We also keep client leadership knowledgeable of our progress as well as any issues that may occur. In that way, client leaders can make timely and well-informed decisions on the most effective and efficient way to accomplish their goals.

For More Info

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Chris Bourne Bio

Chris is a retired Marine Corps colonel and former Deputy Assistant Secretary for Innovation at the U.S. Department of Housing and Urban Development. He is a graduate of Boston University and the U.S. military's highest educational institutions. Chris was selected to the Hoover Institution Veteran Fellowship Program, 2023-2025. He currently leads community outreach for the EnVision Project.



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