![ASU Arizona State University]

A Community Resilience Approach to Emergency Management

Report prepared for the City of Tempe
In partnership with the Director of the Office of Sustainability, Dr. Braden Kay

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Table of Contents

Picture credits cover page

Picture (left): City of Tempe website, tab "Community"

Picture (top, right): ASU Now (https://asunow.asu.edu/20180912-disaster-preparedness-asu-extends-far-beyond-local-response)

Picture (bottom, right): ASU Now (https://asunow.asu.edu/20170915-tempe-leaders-asu-engage-again-resilience-scenario-game)

Executive Summary

BACKGROUND

Exploring Potential Synergies: This report explores current practices in emergency management and potential synergies with community resilience, quality of life, and long-term initiatives in the City of Tempe. To this end, our research team conducted a series of interviews with eight City of Tempe departments/offices and two Maricopa County Departments, for a total of 16 interviewees, regarding emergency management (EM) practice in local and regional government. The team also reviewed recommended-practices, academic literature, and federal guidance. Considering the possible synergies between community resilience and emergency management, the team brought together leading local and national hazards-related practitioners in a series of three panel events, to discuss how the Federal Emergency Management Agency (FEMA) recommended *Whole Community Approach for Emergency Management* applies to local level

- preparedness and response,
- disaster recovery and mitigation, and
- the intersection of emergency management, resilience, and sustainability.

Community Resilience: The report adopts the definition of community resilience as the ability of communities to withstand shocks and stresses, recover from disasters, and continue to thrive despite exposure to increasing hazards. With this in mind, this study looked for programs to build off of (showcases), identify networks of stakeholders to leverage, and explore different approaches to emergency management that foster community resilience.

FINDINGS

Showcases: The City of Tempe's emergency management program had considerable success in building an efficient response system, planning for and managing large community events, engaging members of the public in preparedness activities, and maintaining a strong relationship with regional emergency management partners.

Hazards: The top three hazard priorities as perceived by respondents are: 1. Prolonged Electrical/Gas Outage, 2. Extreme Heat and 3. Cyber Threats, and the cascading effects should either hazard lead to an emergency event.

Roles & Responsibilities: In identifying roles and responsibilities for their departments/offices across all four phases, respondents first indicated that most roles centered on preparedness or response activities. Less than half of the respondents saw roles for their units in mitigation or recovery. The Fire Medical Rescue Department identified duties across all four phases of emergency management. Second, some respondents identified with formal and clearly defined roles. Other respondents engaged informally in emergency management matters and expressed a desire for clarification of roles and responsibilities. A third group of respondents did not see any direct role for their unit in emergency management. Nevertheless, some in this group expressed great interest to be more involved.

Vision: Respondents also described their vision for the further development of the Emergency Management Program, identifying priorities, activities to establish a common frame of reference and ideas for positioning emergency management within the structures of local government.

Priorities: Identified priorities included *common and traditional* emergency management tasks, such as emergency planning, conducting training and exercises, maintaining the Emergency Operations

Center (EOC), situational awareness during an emergency event, coordinating communications and planning for hazard mitigation. Other respondents prioritized less traditional tasks put forth in recent FEMA guidance. These include *non-traditional tasks* such as:

- Preparedness: Working through 'Culture Brokers' (individuals who translate values, practices, and communication patterns) to prepare diverse populations for disasters and hazards.
- Recovery: Prioritizing actions that reduce inequalities and, in turn, vulnerabilities to hazards.
- Mitigation: Anticipating future community hazards and vulnerabilities; preparing plans to mitigate overall community risk; and conducting city-wide training to facilitate a common language, understanding, and knowledge of local hazards and mitigation strategies.

The latter, non-traditional tasks speak to the broadening role of emergency managers within local communities. They also garnered the attention of practitioners, institutions (e.g. FEMA), and scholars.

Establishing a common frame of reference seeks to build a culture of emergency management around *frequent communication and engagement* of city departments/offices with the office responsible for emergency management, as well as *involving the whole community in planning activities* (e.g. workshops) and emergency management exercises. These activities facilitate a common understanding of community assets, hazards, vulnerabilities, and risks, as well as establishing rapport across stakeholders. Respondents offered ideas how to realize these two aspects.

This emerging vision reflects general developments in the field of emergency management as a whole. The field strives to work with all internal and external stakeholder groups and to equally focus on all phases of emergency management, supporting community resilience and sustainability (see figure).

Changing Approaches to Emergency Management
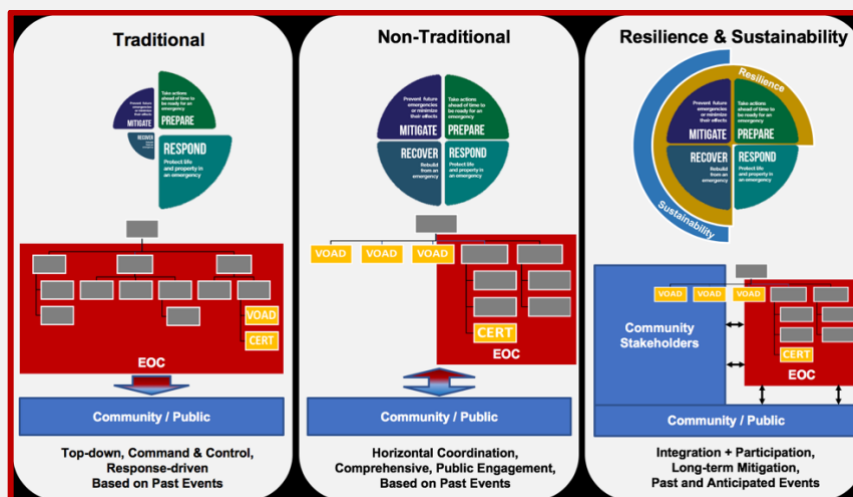
RECOMMENDED ACTION AREAS

Using insights from our respondents, as well as a review of emergency management and community resilience literature, we recommend the following actions:

- **Build a Network**
  Use the onboarding process to build a network around the 'Whole Community'.
- **Use the Planning Process**
  Leverage the hazards and emergency planning processes to build resilience capacity
- **Involve all Stakeholders**
  Develop a training and exercise program that engages the 'Whole Community'

1 Introduction

This project began with a request from the City of Tempe's Office of Sustainability to researchers at Arizona State University, to better understand how the City of Tempe might leverage a full-time Emergency Manager to more effectively address hazards, plan for and respond to current and future emergencies, foster community resilience, and further overarching City visions and goals, including strategic priorities. Within this context, the research team was asked to explore the following:

- Local government emergency management organizational structures
- Emergency management roles and responsibilities within the City
- Good practices across all phases of emergency management that cultivate community resilience

Our intention was not to evaluate the current emergency management program, instead we sought to explore potential synergies and co-benefits that could arise between emergency management activities and wider City initiatives geared towards fostering community resilience and quality of life in Tempe.

The team conducted a series of interviews with eight City of Tempe departments/offices and two Maricopa County Departments, for a total of 16 interviewees, regarding emergency management (EM) functions in local government during the months of March, April, and May, 2019. The team also reviewed nationwide good-practices, professional and academic recommendations, as well as federal frameworks and guidance. Finally, considering the overarching goal of exploring opportunities for synergies across community resilience and emergency management, the team brought together leading local and national hazards-related practitioners in a series of three panel events, to discuss how the FEMA recommended *Whole Community Approach for Emergency Management* applies to community resilience, and local preparedness, response, recovery, and mitigation activities. The policy briefs resulting from these panel events are attached in the Annex of this report (Annex 1-3). As this project wraps up, it's results may contribute to important developments in the City, including the onboarding of the full-time Emergency Management manager and their office's contribution to building resilience to extreme heat as indicated in the City of Tempe's Climate Action Plan.

1.1 Lens Applied to this Project

The focus of this project—exploring city staff's perceptions around current approaches to emergency management—is timely. It reflects similar efforts in the emergency management field as a whole. Specifically, there seems to be a productive tension between two views: a more "traditional" view and a more "holistic" view, with a wide range in between (see Figure 1).
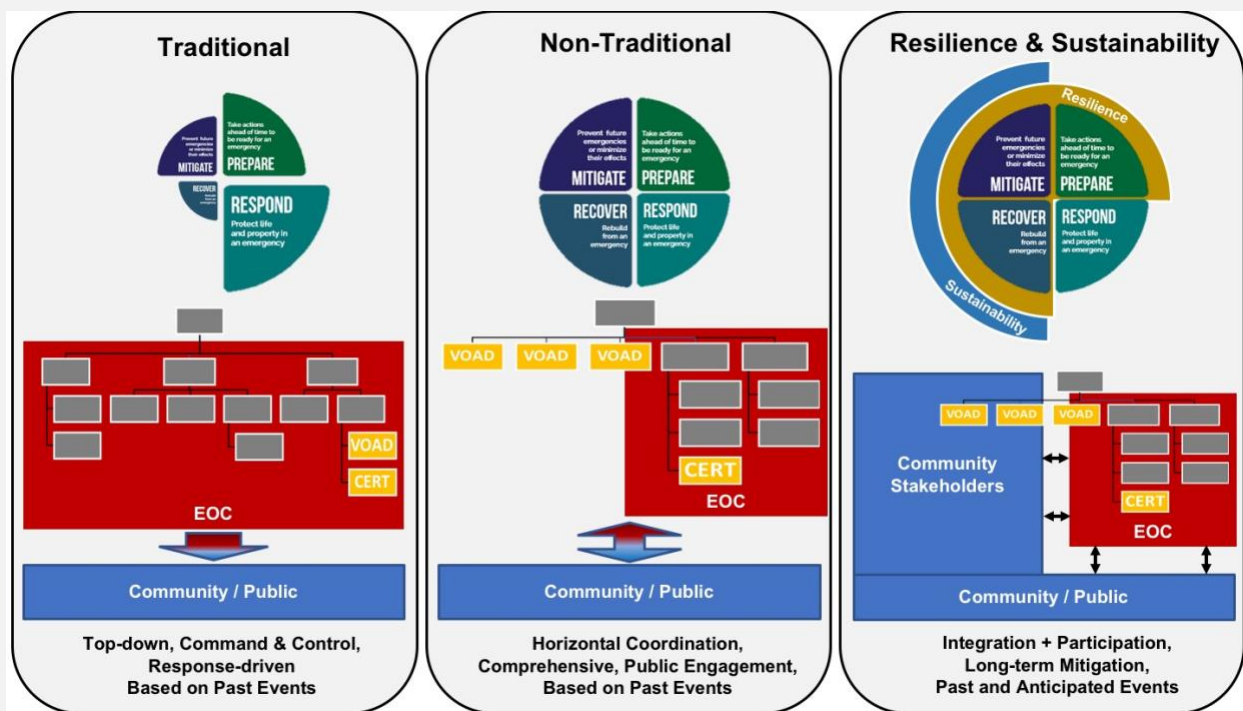
Figure 1: Spectrum of approaches to emergency management.

The traditional view is characterized by a focus on preparedness and response to specific hazards, which are commonly identified based on historical data and past occurrences. The responsibility for managing hazards and emergencies is assigned to government entities, such as first-responder organizations. Local first-responders activate the Emergency Operations Center (EOC), direct city-wide coordination, manage Community Emergency Response Teams (CERTs), and coordinate with county, state and federal entities. Processes and procedures are detailed and clearly defined. Some caution that this approach to emergency management can result in a "reactionary mix of things designed to respond to specific laws or policies aimed at specific hazards and responses."[1] The traditional approach focuses on governmental responses to hazards and emergencies, undertaken on behalf of the community and public.

An alternative approach focuses on the mitigation of hazards, accounting for multiple hazards and threats, while viewing the community and public as an asset through which partnerships can be made to deliver more effective emergency management outcomes. The hazards identified in this approach reference both past occurrences, as well as anticipate future risks. They encompass both, natural hazards and human-created hazards (e.g., land-use choices, risks and vulnerabilities created through modes of production, consumption, and transportation). This approach acknowledges that the responsibility and ability to mitigate hazards lies at the intersection of emergency management and other departments (e.g., planning, transportation, community services), and includes a community's adaptive capacity. As hazards, vulnerabilities, and risks change, so does the community's adaptive capacity. Proponents of this approach argue that investing in mitigation avoids losses and generates cost-savings ($1 invested in mitigation

[1] Schneider, 2013, p.175

saves $6 in reconstruction).[2] Additionally, it is argued that the increasing complexity of hazards and disaster management will likely "reshape the leadership roles and responsibilities of emergency managers", forcing them to consider the interrelationships between the social, physical, and environmental systems that influence disaster vulnerability, risk, and resilience."[3]

With this in mind, this report adopts the definition of community resilience as the ability of communities to withstand shocks and stresses, recover from disasters, and continue to thrive despite exposure to increasing hazards.[4] Our research looked for programs to build off of (see section "Showcase examples"), identified networks of stakeholders to leverage, and explored different approaches to emergency management that foster resilience.

1.2 Interview Questions and Report Structure

Interview respondents were asked a series of questions related to emergency management practice, current roles and responsibilities, local hazard priorities, and programmatic challenges. In order to recommend relevant and feasible actions, interview questions sought to understand:

- How is emergency management conceptualized as both a program and profession?
- What are the identified emergency management roles and responsibilities within the City of Tempe?
- What are the local hazards of greatest concern to City representatives?
- How do City government organizations/departments mitigate, prepare for, respond to, and recovery from emergencies and local hazards?
- What are the strengths and capabilities of current practices to emergency management within the City of Tempe?
- What programmatic areas should a full-time Emergency Manager focus their attention on?

After compiling and analyzing interviewee responses, we organize our findings according to those that describe the *current*-state, versus those that envision a *future-state* centered around community resilience.

2 Current-State Perceptions on Emergency Management Practices

2.1 Showcase examples

One question explored the emergency management showcase programs, asking respondents to identify those efforts, initiatives, processes, or structures within Tempe that they consider highly successful, or well-established and high functioning. This question was motivated by insights from organizational development, suggesting that identifying and appreciating an organization's strengths and capabilities fosters performance and development of new ideas. In contrast,

[2] National Institute of Building Sciences, 2018
[3] Samuel & Siebeneck, 2019, p.3
[4] Cutter, 2015

identifying weaknesses limits discovery of possible solutions because the focus on deficits comes with underlying ideas of what is right and possible.[5]

Overall, the City of Tempe's current emergency management program has had considerable success in building an efficient response system, planning for and managing large community events, engaging members of the public in preparedness activities, and maintaining a strong relationship with regional emergency management partners. Effective collaboration was a shared characteristic across all show case examples. Select showcase examples are below.

Showcases within Emergency Management relate to the *Community Emergency Response Team* (CERT), which respondents identified as the "shining star of community preparedness," and not only in Tempe. The CERT programs across the Valley "develop a culture of their own with the other city CERTs" taking on "different roles in response and preparedness." (Internal Respondent). The *Mutual Aid Agreement* involves over 30 jurisdictions in the Valley and its level of integration and sharing of equipment, technologies, and protocols sets it apart from other regions in the country (Internal Respondent).

Another set of showcases reflects the high functioning of inter-departmental collaboration around emergency management. One respondent expressed their unit's appreciation for others' efforts:

> "We have this group of neighborhood services warriors that are out and responding all the time when we have water emergencies or transportation emergencies or whatever. They're just out there all the time. They know everybody. They know how to reach everybody, how to communicate with everybody. Between the public information officers and the neighborhood services people, their face-to-face communications and their social media communications, I think Tempe is really robust in that regard." – Internal Respondent

Other examples showcase where daily actions led to indirect positive effects on emergency management and to "really productive collaboration" (Internal Respondent). Examples include the collaboration

- between IT and water for a cyber security assessment,
- between fire and the county using centralized software for plan updates, and
- among public works, engineering, police and other departments around implementing Vision Zero and CCTV cameras to generate co-benefits.

The third set of show case examples illustrates success around city-community collaborations. The triaging of 9-1-1 calls allows first-responders to maintain focus, while ensuring that callers got appropriate care and the option to register in a database. In the event of a large-scale emergency, first responders "know who these people are, … where they're located, … what their needs are … we're able to identify them, and if something happens, we can get them help quicker." Additionally, we heard about the Valley-wide Heat Relief Network, spearheaded by the city of Phoenix and the Maricopa County Public Health Departments, who has established a network of public cooling centers and first responders able to operate their closed-PODs.

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[5] Ludema et al. (2003)

2.2 Local Hazard Priorities

Using hazards identified in the 2015, Maricopa County – Multi-Jurisdictional Hazard Mitigation Plan, as well as several hazards indicated of high concern to City officials, respondents were asked to identify and rank hazards of greatest-to-least concern from their perspective. We also asked respondents for their rationale; some based their rankings on a frequency and impact model, while others spoke to their level of professional and local experience. The results are indicated in Table 1. The top ten hazards are ranked based on average priority from all respondents.

Given local geography, climate, and the urban environment of Tempe and the Greater Phoenix Metropolitan Area, it is perhaps unsurprising that *utility outages* and *extreme heat* were cited as hazards of greatest concern. Respondents frequently noted the tightly-coupled relationship between extreme heat and electrical outages, drawing attention also to the cascading second-order effects. One participant mentioned…

> "The immediate effects of [extreme heat and an electrical outage] and the cascading effects of that, would be really hard to recover from, especially in the summer time."
> – Internal Respondent

Others expressed concern for vulnerable populations and the impacts of exposure to such extreme heat and utility outages:

> "In our work, we're dealing with a lot of vulnerable populations: seniors, low-income families, [those types] of populations. When those things happen, they are at a very major disadvantage…especially in extreme heat and with the electrical going out…"
> – Internal Respondent

While *cyber threats* were ranked in the top three hazards of concern, many respondents expressed uncertainty as to how such threats should be addressed, whose responsibility it is to respond, what actions would be taken to ensure continuity-of-operations, and how cyber incidents, as well as their cascading impacts, would be managed.

> "The cyber threat, those are tough. We don't deal with a lot of those, but if it got ugly, we would. That has the potential to take everything down. Not just communication systems, [but] financial systems, everything… [There are] so many things that are outside the realm of our ability and expertise. If something happens…we'll deal with the ramifications of it, more so that we'll deal with the incident itself, because those aren't our expertise." – Internal Respondent

Table 1: Priority Ranking of Hazards

Perceived Priority		Hazard
Higher	1.	Prolonged Electrical/Gas Outage
	2.	Extreme Heat
	3.	Cyber Threat
	4.	Transportation Incident (Air, Road, Rail)
	5.	Flooding
	6.	Terrorism
	7.	Hazardous Materials Exposure
	8.	Drought
	9.	Epidemic/Pandemic
Lesser	10.	Severe Wind
	*11+	Dam Inundation, Levee Failure, Fissure, Wildfire, & Infrastructure Failure

2.3 Identified Emergency Management Roles & Responsibilities

To capture how City of Tempe practitioners understand their current emergency management roles, respondents were asked to describe their responsibilities across the four phases of emergency management (see Figure 2).

Figure 2. Four Phases in Emergency Management
Source:www.fairfaxcounty.gov/emergencymanagement

Overwhelmingly, most respondents expressed an organizational role focused on preparedness or response activities; most centering around command and control processes (e.g. Incident Command System – ICS) and Emergency Operations Center (EOC) duties. Less than half the respondents indicated that their organizations have a role in the phases of mitigation or recovery. In fact, when discussing the tendency to focus on preparedness and response, over mitigation and recovery, one respondent noted:

"…education and training have helped me to realize we need to move away from operations heavy. Because, to be perfectly honest with you, police and firefighters, they know what they're supposed to do. We don't need to run an incident command…we need to do the other supportive functions." – Internal Respondent

Notably, the Fire Medical Rescue Department was the only organization to cite examples of their duties across all four phases of emergency management. Despite some organizations not readily identifying with emergency management roles or responsibilities, when prompted through discussion, nearly all were able to envision potential roles in each of the four phases.

Given the centrality of planning to each of the four phases, we also wanted to know who is actively involved in the emergency management planning process. Examples of planning activities include:

- Emergency Operations Plans (EOP)
- Hazard Mitigation Plans (HMP)
- Disaster recovery plans
- Continuity-of-Operations Plans (COOP)
- Continuity-of-Government Plans

Less than a third of respondents indicated they had participated in emergency management related city or regional planning initiatives. Of those who responded 'yes', most were uncertain as to the status of those plans, who had participated in the most recent plan updates, nor whom is responsible for maintaining or exercising those plans. When asked about their involvement in planning, respondents' comments indicated their diverse levels of involvement:

> "Well, I generally think it's sort of ad-hoc, meaning that if it's time…to update the emergency operations plan, and I don't think that there's a standard that has to be updated, fire manages that, so we clearly have input on that. So, when it comes time to update the plan for some reason, then we get involved." – Internal Respondent

> "Only when I'm required to be. I mean, if I have to do the NIMS [National Incident Management System] training, I'll go do the NIMS training. But other than that, yeah, not really." – Internal Respondent

> "I think the city does have an emergency plan, right?" – Internal Respondent

Respondents also explained their views on the relationships between planning and emergency management. While acknowledging the importance of integrating hazard awareness and mitigation strategies throughout city plans, one respondent did not see a direct connection to emergency management.

> "…what we typically do, it doesn't really gear towards emergencies because it's really long-range, looking at 20-, 25-, 30- years' time…And then as soon as we can get to climate change, more and more of those things are also included in our plans." – Internal Respondent

Given their role as the emergency management representative for the City of Tempe, the Fire Medical Rescue Department was the only organization to indicate involvement in the Maricopa County Multi-Jurisdictional Hazard Mitigation Plan.

Connection to literature: Planning, characterized not only by documented written plans, but also by the planning process itself, is generally regarded as a critical component of an effective emergency management program.[6] These observations are consistent with findings from both the Federal Emergency Management Agency (FEMA) and the American Planning Association (APA), who note in a practitioner resource guide[7] that:

[6] Burby, Deyle, Godschalk, & Olshansky, 2000; Henstra, 2010; Johnson, Frew, & Samant, 2005; Perry & Lindell, 2003; Schwab, 2010
[7] FEMA, 2013; Schwab, 2010

- "Hazard mitigation plans are often developed or updated without the active participation or leadership of local planning and community development staff.
- Local land use planners are less willing to embrace hazard mitigation planning as falling within their professional purview.
- Hazard mitigation plans often include mitigation strategies or actions that are focused on a disconnected series of emergency services, structure or infrastructure protection projects, and public outreach initiatives, with less emphasis on non-structural measures available through local land use planning or policy alternatives.
- Hazard mitigation plans are typically completed as stand-alone documents that cover multiple jurisdictions, and it is relatively uncommon for them to be directly linked or integrated with other community-specific planning tools such as comprehensive land use plans and development regulations."

Integrating Hazard Mitigation Into Local Planning
Case Studies and Tools for Community Officials
March 1, 2013

FEMA

2.4 Emergency Management Governance Network

Understanding the professional network that underpins emergency management programs is important considering that emergencies are complex, multi-faceted, and beyond the scope of any one office. The Whole Community Approach, when employed across all phases of emergency management, is a comprehensive and effective approach that addresses that inherent complexity and leverages professional and social networks across the community.

To assess the current emergency management network in Tempe, respondents were asked to indicate the organizations with whom they interact and collaborate with on a day-to-day basis, as well as in their emergency management roles and responsibilities. The responses were used to generate a simple network analysis. We then compared the network to four network models identified in emergency management research (see Table 2 for a brief description of each)[8].
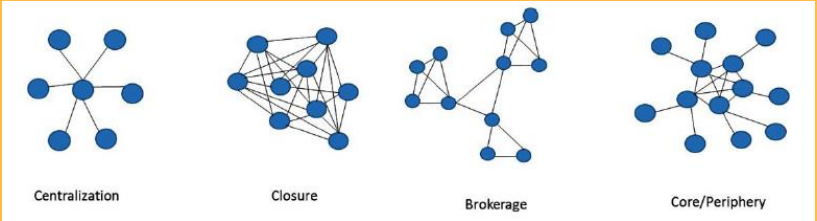
Research indicates there is no ideal network suited for all contexts. Traditional networks in emergency management programs are often characterized by *centralized relationships* among a limited number of actors. Meanwhile, emerging evidence suggests that adaptive emergency management programs are characterized by networks patterned after the *core & periphery* model. This model is centered in a dense core of well-connected actors, who can broker and leverage relationships with peripheral actors and networks to achieve common goals and objectives.

[8] Nowell, Steelman, Valez, & Yang (2018)

Proposed advantages of the *core & periphery* network compared to the centralized networks, include:

- The ability to engage a broader range of actors in the decision-making process, during all phases of the emergency management cycle, and especially during the neglected phases of emergency management—mitigation and recovery.
- The ability to leverage the expertise and experience of peripheral actors to address the complexities and uncertainty of emergency management in dynamic environments[9].

- *Centralized*: a network linked by one key actor (e.g. traditional EOC/ICS)
- *Closed*: actors well linked across and through the network

- *Brokered*: subgroups connected by key actors
- *Core/Periphery*: dense connections within a central group, surrounded by peripheral actors

Table 2. Four network structures (Nowell, Steelman, Valez, & Yang (2018)

We note that our analysis is limited by the number of respondents and varying degrees of access to, or knowledge of, other relationships within City organizations. Yet, this cursory analysis may serve as a starting point for our main recommendation: to *strengthen existing relationships* and *to expand the current network* to important, but previously unidentified, organizations.

The collaborative network amongst our respondents is both rich and diverse. Given the complexity of City administration and governance, the extent of these networks is perhaps unsurprising.

Given the structure and location of the emergency management function within the Fire, Medical, and Rescue Department, we see extensive connections to most City departments, as well as to emergency-management related organizations in Maricopa County and other community organizations, most notably Arizona State University (Figure 3).

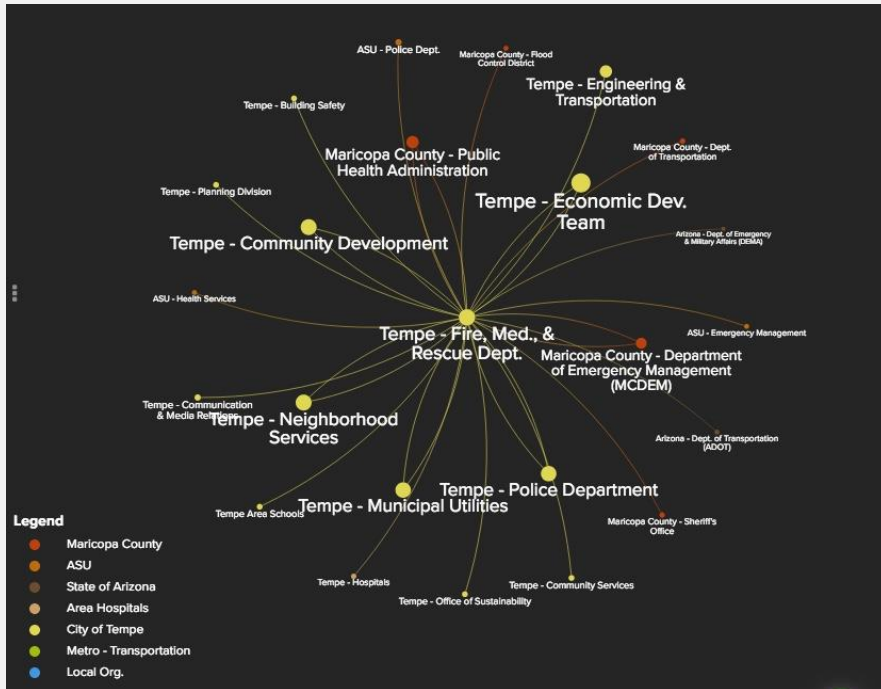[9] Nowell, Steelman, Valez, & Yang (2018)

Figure 3. Tempe Local Network.

Expanding our view to other departments within Tempe, we see that most respondents indicate at least periodic participation and interaction with other City departments and offices (Figure 4). However, comparing the connections between departments in day-to-day tasks, with those specifically pertaining to emergency management, we note a disconnect. While most departments indicate regular collaboration between departments, relatively few indicate direct connections pertaining to emergency management or emergency-related activities. This observation suggests that Tempe may be able to leverage the existing network to further hazard mitigation and emergency management goals, if guided by activities that foster a risk reduction *culture* and strategy within the network.
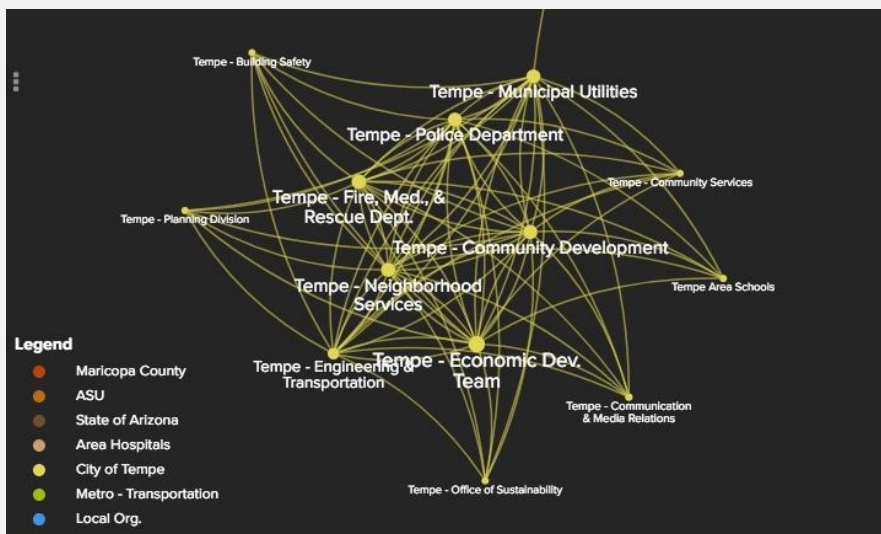

Figure 4. Tempe Collaboration Network

Expanding our view beyond the city, respondents indicate regular interactions with practitioners and officials outside of Tempe, across a spectrum of governmental, non-governmental, and private organizations. This more comprehensive network (Fig. 5), suggests a dense network of core actors (City of Tempe) with peripheral connections to numerous outside actors. Comparing the day-to-day collaborative network with the models highlighted in emergency management literature, we note a pattern similar to the *core & periphery* network (ref. Table 2).

Though most day-to-day tasks in the city's department are not directly related to emergency management, the *core & periph*ery model may serve as a guide to establish goals and strategies to reduce risk across a broader network of organizations. How so? We applied a statistical measure that highlights the number of independent connections to outside actors and the relative importance of each node (organization/actor) to the overall network (Fig. 6.). This analysis identified, for instance, that the Tempe economic development team has a number of connections to organizations previously unidentified by other respondents. In other words, the economic development team has relationships to outside organizations—with potentially valuable knowledge and capacity to further emergency management and risk reduction goals—that other organizations do not have a working relationship. While the Tempe economic development may be a member of the core emergency management network, it is possible that they can leverage their relationship with outside peripheral organizations to aid in Tempe's goals.

Given the limits of our study, it is likely that other Tempe departments have similar connections to outside organizations. An important goal in strengthening Tempe's emergency management network may be to systematically work with a core team of department representatives to identify those outside *peripheral* actors that can bolster the capacity to address disaster risk reduction.
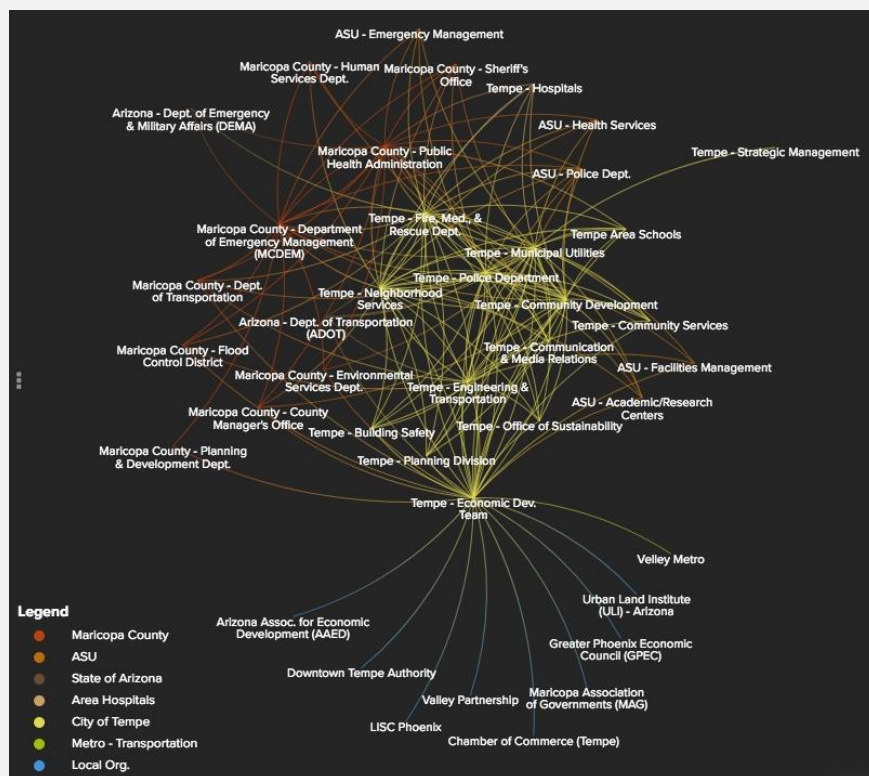

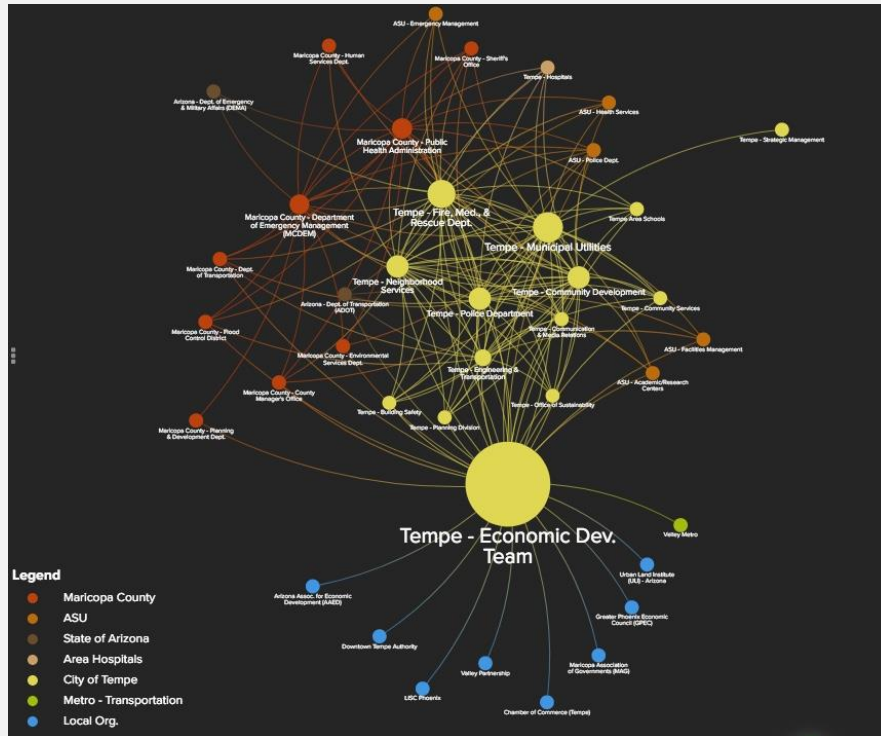Figure 5. Comprehensive network – beyond the City of Tempe

Figure 6. Comprehensive network with key-actors (physical size of nodes)

Connection to the literature: Emergency management inherently relies upon collaboration and cooperation from diverse stakeholders, not only within local government, but also between governments, amongst non-governmental actors, and with the general public.[10] These networks clearly lend themselves to planning for mitigation and preparedness ahead of an emergency. Research also indicates that the strength of these networks is vitally important to an effective response and recovery.[11] Therefore, identifying networks in which collaboration, planning, and information-sharing is conducted, can help design strategies that leverage existing bonds to strengthen local capacities.[12] Strengthening these networks ahead of an emergency, increases the likelihood of a community constructively responding to an emergency, recovering from a disaster, and adapting to ever changing hazards and risks.

3 Emerging Vision for Emergency Management Program

Our interviews revealed an array of City actors enthusiastic about opportunities to strengthen the City's emergency management program while leveraging current and past achievements. As mentioned above, the City of Tempe's current emergency management program has had considerable success in building an efficient response system, planning for and managing large

[10] Andrew & Carr, 2013; Kapucu & Garayev, 2013; Kapucu & Hu, 2016
[11] Nowell, Steelman, Velez, & Yang, 2018
[12] Choi & Brower, 2006

community events, engaging members of the public in preparedness activities, and maintaining a strong relationship with regional emergency management partners.

In looking towards the future and discussing the potential of employing a full-time City emergency manager, we asked respondents to reflect on programmatic aspects and suggest areas where a new manager might focus their attention. To facilitate this discussion, we asked:

> 1. Within each phase of the emergency management cycle (mitigation-preparedness-response-recovery), what tasks or responsibilities should a new emergency manager prioritize and focus their attention?

> 2. Within the City of Tempe *government*, what types of activities, information sharing, training, or education would help to establish a common frame of reference around emergency management and hazard-related goals, strategies, and responsibilities?

> 3. Within the City of Tempe *community*, what types of activities, information sharing, training, or education would help to establish a common frame of reference around emergency management and hazard-related goals, strategies, and responsibilities?

> 4. If Tempe were to employ a full-time emergency manager, what would be the ideal position, within the City organizational structure, for them to accomplish their responsibilities?

3.1 Emergency Management Priorities

Using the phases of the emergency management cycle as a framework, respondents were asked to rank emergency manager tasks in order of priority. The tasks used in this activity were grouped and selected from two sources: the first half were designated *traditional* tasks and the second half were selected as more contemporary, *non-traditional* tasks. The traditional tasks were chosen from guidance titled *Emergency Program Manager: Knowledge, Skills, and Abilities* (n.d.), published by the International Association of Emergency Managers (IAEM) in cooperation with the Federal Emergency Management Agency (FEMA). The *non-traditional* tasks were derived from the FEMA endorsed *The Next Generation Core Competencies for Emergency Management Professionals: Handbook of Behavioral Anchors and Key Actions for Measurement* (2017). Although over 32 tasks were identified in this activity—eight within each phase—the task-list purposely did not cover all aspects of emergency management programs. Nevertheless, the mixture of traditional and non-traditional tasks allowed respondents to consider alternative approaches to emergency management programs.

Overall, the majority of the respondents ranked *traditional* tasks of higher priority than contemporary *non-traditional* tasks. These *traditional* tasks included areas such as emergency planning, conducting training and exercises, maintaining the Emergency Operations Center (EOC), ensuring situational awareness during an emergency event, coordinating communications, and planning for hazard mitigation. There were a few notable exceptions where the average rank of *non-traditional* tasks were ranked higher than other *traditional* tasks. These exceptions include:

- Identify and work through 'Culture Brokers' (individuals who can translate values, practices, and communication patterns) to prepare diverse populations for disasters and hazards. (Preparedness Phase)
- Identify and prioritize actions that reduce socio-economic inequalities and, in turn, vulnerabilities to hazards. (Recovery Phase)
- Identify and anticipate future community hazards and vulnerabilities; prepare plans to mitigate overall community risk. (Mitigation Phase)
- Conduct city government education and awareness training to facilitate common language, understanding, and knowledge of local hazards and mitigation strategies. (Mitigation Phase)

It is interesting to note that non-traditional tasks were ranked of high priority in each phase of the emergency management cycle, except for the *response* phase, where traditional tasks took precedence. Of the four tasks identified above, each speaks to the broadening role of emergency managers within local communities, and has garnered the attention of scholars, practitioners, and institutional bodies (e.g. FEMA).

Connection to literature: Ongoing debates note the changing professional landscape of emergency management from a *response-oriented* paradigm—characterized by a top-down, command-&-control, first-responder focus—towards a greater emphasis on collaboration-&-coordination, where planning, stakeholder engagement, network building, and strategy implementation take priority.[13] This shift and broadening of emergency management roles, follows the introduction of concepts such as *community resilience* and a *Whole Community Approach to Emergency Management* (see Figure 6).[14]

These frameworks have gained traction as practitioners recognize the increasing complexity of disasters, as well as the linkage between social, environmental, and economic factors that increase the impact and severity of emergency events.[15]

Figure 6: The Whole Community Approach

[13] Kapucu, 2011; Samuel & Siebeneck, 2019; Schneider, 2013
[14] Mileti, 1999, FEMA, 2011; Freitag et al., 2014.
[15] Schneider, 2013

As a result, the professional competencies of emergency managers have evolved. This is clearly evidenced in a report drafted for the FEMA Higher Education Program titled, *The Next Generation Core Competencies for Emergency Management Professionals: Handbook of Behavioral Anchors and Key Actions for Measurement*.[16] The competencies are summarized in table 2.

Table 2: Next Generation Emergency Management Core Competencies (2017)

Competencies that Build Relationships	Competencies that Build the Practitioner	Competencies that Build the Individual
Disaster Risk Management	Scientific Literacy	Operate within EM Framework, Principles, and Body of Knowledge
Community Engagement	Geographic Literacy	
Governance & Civics	Socio-cultural Literacy	Possess Critical Thinking
Leadership	Technological Literacy	Abide by Professional Ethics
	Systems Literacy	Value Continual Learning

3.2 Establishing an Emergency Management Culture

When asked about recommendations for ways to further establish a common frame of reference, understanding of Tempe's hazards, shared goals, and collaboration across the City government, respondents identified several activities as a productive means for building a culture of emergency management.

Overwhelmingly, respondents noted the importance of frequent communication and engagement with the office responsible for emergency management. Multiple respondents cited a desire to be involved in planning activities (e.g. workshops) and emergency management exercises, because it allows them to get to know one another and establish rapport.

> "We keep saying the same thing, about breaking down silos, getting emergency response personnel, engineers, transportation folks, in the same room, talking, understanding what their roles are in advance…So then, if and when a situation arises, it may not completely match the [exercise] scenario that was worked-out, but we at least understand the different people within the organization and what their roles may be." – Internal Respondent

Others stressed the importance of ensuring an inclusive set of stakeholders in regular face-to-face discussions about all aspects of local emergency management and had concrete ideas how this could be realized.

> "…and then you have some sharing of ideas, and networking, and it's a good place to start at least. Although internally we'd probably need some kind of a committee that every department has one member that's a part of it, that goes through different things and gets training." – Internal Respondent

> "And we could have a one-on-one discussion, but in order to get a group or two groups of people together…meet with a moderator, really kind of go through activities and

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[16] Feldmann-Jensen, Jensen, & Smith, 2017

> things like that...that's to my knowledge, that's never really [happened], outside of an
> EOC drill." – Internal Respondent

Additionally, it is important to note that some respondents expressed concern about their perceived role in emergency management. In particular, departments outside of traditional first-responders' communities (e.g. fire, rescue, EMS, police), cited they frequently felt excluded from emergency planning activities, and were only included later in exercises, such as EOC drills.

> "I think there needs to be more collaboration and more communication on those
> things…my sense is always that fire and police don't think we're as important to include
> in those things as we do." – Internal Respondent

Regardless of how practitioners choose to engage, respondents familiar with the national emergency management community, articulate the importance of an engaged emergency manager who is able to facilitate an exchange of knowledge and strategies across community and agency boundaries; as only such a concerted effort facilitates community resilience.

> "Sometimes that emergency manager, in other [geographic] areas, have been that
> broker to help develop new programs that maybe didn't have a lot to do with emergency
> matchup, but built community resilience…" – External Respondent

Connection to the literature: A significant challenge for emergency managers is recruiting, establishing, engaging, motivating, and maintaining a diverse network of stakeholders, including those from within local government, as well as diverse, yet influential external actors. This broad network of actors is frequently cited as an important characteristic of effective emergency management programs.[17]

3.3 Emergency Management Within the City Organization

A key question we were asked to examine was, 'to be most effective, where might an emergency manager be located within the bureaucratic structure?' While this question was unique to Tempe, it has been a topic of considerable discussion amongst scholars and practitioners alike. In short, there appears no unanimous agreement on which organizational structure is ideal. This is due to wide variation in local government authorities, legal provisions, agency divisions and responsibilities, hazards, vulnerabilities, risk, monetary budget, personnel, and prioritized goals, to name but a few.

Nonetheless, effective emergency management programs have been implemented under a variety of organizational structures, each with their advantages and disadvantages. A more detailed examination of these pros and cons is available in an earlier report from May 14, 2019, see Annex 4. Regardless of specific structure, respondents to this study and research have revealed common characteristics across well-recognized highly professional emergency management organizations.

A majority of respondents conveyed support for housing an emergency management office under the City Manager. Those with first-hand experience in emergency management noted:

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[17] Kapucu & Hu, 2016; Samuel & Siebeneck, 2019

"If it's under public works, or public health, or fire, or law enforcement of any kind, then it takes on that department. It's not going to be…It struggles to be the discipline neutral organization that it needs to be...you're going to be focusing your efforts on whatever the priorities of that department…There's no understanding that it's an entirely, 100 percent, its own profession. It's not just something that you're going to intuitively get just because you used to work public safety." – External Respondent

"I see the most success right under the City Manager, with a standalone department, with its own authorities, and the ability to manage its own budget. It can still be successful under fire if it is a standalone position under fire, and you have one person dedicated 100 percent to that. But because an emergency manager needs to work on things like continuity-of-operations and continuity-of-government, that's hard to do when you're down at this level…When you're just an employee like three or four management levels down and you've been tasked to write a plan…the department head doesn't always respect the employee, so there's a lot of layers of permission to get through." – External Respondent

These on-the-ground experiences reflect general good-practices and institutional guidance. According to FEMA training and guidance[18], effective emergency management programs tend to be:

- More structurally fluid, changing structures to accomplish specific tasks (e.g. task groups and self-managed work teams)
- More organizationally flexible, bringing together employees with complementary knowledge, skills, and competencies
- Less hierarchical or even non-hierarchical, permitting employees to have broad responsibilities and more authority to act on their own
- More participative and consensus-based, encouraging open communications, shared decision-making, and non-directive leadership

4 Recommended Actions

Our interviews revealed a number of programs and actions that reflect highly on the work and dedication of the existing City of Tempe emergency management program and stakeholders. In particular, respondents noted the effectiveness of the response system, planning for and managing large community events, engaging members of the public in preparedness activities, and maintaining a strong relationship with regional emergency management partners. Considering the opportunities presented by employing a full-time emergency manager, to mitigate hazards, prepare for inevitable emergencies, coordinate emergency responses, and enhance the overall resilience of the City of Tempe to shocks and stresses, we outlined several actions that frame emergency management around community resilience.

Using insights from our respondents, as well as a review of emergency management and community resilience literature, we recommend the following actions:

[18] FEMA, n.d.

1. Use the onboarding process to build a network around the 'Whole Community'.

Why: A strong emergency management network is essential to building both organizational and community capacity in each emergency management phase. The 'on-boarding' of a new emergency manager presents a window-of-opportunity to sit-down with City employees and key community stakeholders for one-on-one, meet-and-greets, as well as an opportunity to begin a conversation with more peripheral organizations and broader community actors. Early engagement will be essential to building trust between the City's emergency management office and internal and external stakeholder organizations. If done in a collaborative manner, it is suggested that the onboarding process can facilitate organizational learning in emergency management, garner support for community resilience, and connect emergency management goals with other City strategic priorities.[19]

Suggestions for initial tasks

- Use community knowledge brokers to facilitate one-on-one discussions.
- Establish an emergency management core committee: include City officials, as well as leaders from key community organizations (e.g. hospitals, local school districts, National Weather Service office, NGOs), who regularly meet to guide the emergency management programs and ensure continuous planning.[20]
- Meet community stakeholders where they are: join their meetings in order to build trust by listening and discussing topics of their concern. Emergency management may be a common theme; it should not be the sole focus of such meetings.[21]
- Ensure the emergency management office has sufficient time to recruit, engage, motivate, and maintain a diverse network of stakeholders.

Establishing a broad network and building trust, will likely yield better mitigation, emergency response, and disaster recovery outcome, more so that a focus on technical aspects of emergency management.[22]

2. Leverage the hazards and emergency planning processes to build resilience capacity

Why: It is argued that a collaborative planning process is more beneficial than the delivery of a formal written plan.[23] A new full-time emergency manager with the City of Tempe has an opportunity to deepen a shared understanding of community hazards, vulnerabilities, risks, disaster preparedness, and mitigation strategies across the stakeholder landscape. By including and valuing the inputs of diverse actors in the hazard mitigation and emergency planning process, City of Tempe emergency management professionals can cultivate the trust and commitment of key internal and external stakeholder groups.

[19] Watkins & Hollister, 2019
[20] Henstra, 2010
[21] FEMA, 2011; NHMA, 2017; Graham, 2018
[22] Boin & 'T Hart, 2010; Jung & Song, 2015
[23] Choi & Brower, 2006; Perry & Lindell, 2003

Suggestions for initial tasks:

- Considering the five-year update to the Maricopa County Multi-Jurisdictional Hazard Mitigation Plan—due in 2020—use the opportunity to engage Whole Community stakeholders in identifying local hazards, assessing vulnerabilities, determining overall risks, and prioritizing mitigation strategies.
- Building off the Hazard Mitigation Plan experience, engage key stakeholders in recurring planning activities to ensure an up-to-date and relevant Emergency Operations Plan (EOP) for the City of Tempe.
- Conversely, ensure emergency management participation and input in City-wide collaborative planning efforts (e.g. comprehensive-, master-, district-, neighborhood improvement-, and climate action plans). Strive to account for changing hazards and community vulnerabilities in all municipal planning efforts.

3. Develop a training and exercise program that engages the 'Whole Community'

Why: Our respondents, professional guidance, and academic literature, repeatedly emphasize the importance of actively participating in regular emergency management training, education, and exercises. While exercises traditionally focus on first-responder and Emergency Operations Center (EOC) procedures and command structures, designing training and exercise events around a holistic network of actors is recommended for building community resilience capacity.[24] Community resilience is supported through networks that foster relationships and social capital in three areas: connections between individual community members ("bonding social capital"), connections across organizations concerned with related causes ("bridging social capital"), and connections between individuals and organizations with government agencies or market entities ("linking social capital").[25] Emergency training and exercises offer a unique opportunity to bring together a diverse set of stakeholders, who not only have a role to play in comprehensive emergency management, but who also encompass the social capital necessary for community resilience.

Suggestions for initial tasks:

- Leverage awareness of community hazards, vulnerabilities, and risks, to guide City training, education, and exercise events around salient and relevant hazard and emergency scenarios.
- Establish a training and exercise cycle that is predictive, iterative, and inclusive.
- Continue to expand the Homeland Security Exercise and Evaluation Program (HSEEP) process to the Whole Community.

These recommendations highlight the critical role of emergency management for disaster resilience and sustainability in the 21st century, where it is increasingly recognized that disaster

[24] FEMA, 2011
[25] Consoer & Milman, 2016

damages are not "things that happen to a community while it is busy making other plans. They are the product of the plans it is busy making. Emergency management is first and foremost the taking of responsibility for disasters and the planning for sustainability. This is the work of an entire community, but it requires a "profession" to guide its efforts."[26]

[26] Schneider, 2013, p.176

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Annex

1. Policy brief, panel #1, February 27, 2019: *The Whole Community Approach: Emergency Preparedness and Response*

2. Policy brief, panel #2: March 18, 2019: *The Whole Community Approach: Hazard Mitigation and Disaster Recovery*

3. Policy brief, panel #3: April 30, 2019: *The Whole Community Approach: Emergency Management, Resilience, and Sustainability*

4. Interim Report, May 14, 2019: *Emergency Management Positions within Local Governments*

The Whole Community Approach: Emergency Preparedness and Response

Panelist on February 27, 2019

Beth Boyd	American Red Cross Regional Disaster Officer; President of the Arizona Voluntary Organizations Active in Disaster (VOAD
Sheri Gibbons	Director of Emergency Preparedness for Arizona State University, former Emergency Management Coordinator for the Town of Gilbert
Robert Rowley	Director for the Maricopa County Department of Emergency Management
Dan Neely	Manager of Community Resilience and Regional Recovery Manager at the Wellington Region Emergency Management Office (Guest Presenter)
Brian Gerber	Co-Director of the ASU Center for Emergency Management and Homeland Security (Moderator)

Executive Summary

As the first of three panel discussions examining how communities address all phases of emergency management—preparedness, response, recovery and mitigation—this panel centered on best practices for local governments to engage community groups and stakeholders in developing a culture of preparedness and response. Building off the Federal Emergency Management Agency's (FEMA) *'Whole Community Approach'*, panelists discussed current challenges and opportunities in engaging local communities in emergency management practice. Dan Neely, from the Wellington Region Emergency Management Office (New Zealand), presented their novel and game-changing approach in cultivating community participation in emergency preparedness and response. Using *Community Emergency Hubs*, the Wellington region prepares their communities for disasters by fostering a culture of community-driven response, absent official emergency responders. Additionally, they prepare their official response, so they are able to work with the emerging community response. As Dan notes, this approach has the co-benefit of increasing community resilience.

Whole Community Approach FEMA (2011)

Strategic Themes:
1. Understand community complexity
2. Recognize community capabilities & needs
3. Foster relationships with community leaders
4. Build & maintain partnerships
5. Empower local action
6. Leverage & strengthen social infrastructure, networks, and assets

Challenges in Engaging 'The Whole Community'

- Community apathy to hazards and disaster risk
- Limited number of emergency management staff
- Considerable time & resources spent planning and exercising emergency plans
- Limited authority to mandate new initiatives
- Hegemony of the 'top-down', government-centric approach… the traditional approach
- Fewer volunteers dedicated to working in organizations active in disasters and more events are recurring nationwide

Organizers: Katja Brundiers
Philip Gilbertson

ASU Julie Ann Wrigley Global Institute of Sustainability — Arizona State University

The Wellington, New Zealand Approach…
Presented by Dan Neely

- Follows prior disaster experiences; notably the 2011 Christchurch earthquake
- Recognizes the limits of a government-centric approach to preparedness & response activities
- Prioritizes community engagement

Download Dan Neely's presentation here.

…Community Emergency Hubs

- Starts where disasters occur—local neighborhoods
- Connects emergency management with day-to-day neighborhood organizations (GetPrepared.NZ)

- Uses residents' self-organization, with limited training, to guide disaster response
- Rallies residents around a local *community hub* and around every-day activities, introducing emergency preparedness to identify and protect what people love
- Fosters self-support, neighborhood pride, and community resilience

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Up Next

To continue this conversation on the role of emergency management in achieving vibrant and sustainable communities, join us for our next panel discussion where we examine *'The Whole Community Approach'* in **hazard mitigation** and **disaster recovery**.

**The Whole Community Approach:
Hazard Mitigation & Disaster Recovery**

Next Panel…
**Monday, March 18th, 2019
12:00 – 1:00PM
Arizona State University
Wrigley Hall, Room 418**

Organizers: Katja Brundiers
Philip Gilbertson

The Whole Community Approach: Hazard Mitigation & Disaster Recovery

March 18, 2019

Panelists

- **Allison Boyd** (Guest Speaker), Levee Project Manager, Multnomah County; Urban Planner, Community Sustainability and Disaster Resiliency
- **Corey Hawkey**, Assistant Director, University Sustainability Practices, ASU
- **Hans Silberschlag**, Former Assistant Fire Chief and Fire Marshall, Tempe Fire Medical Rescue; Chair, Fire Science & EMT Department, Mesa Community College
- **Robert Rowley**, Director for the Maricopa County Department of Emergency Management
- **Melanie Gall** (Moderator), Co-Director, Center for Emergency Management & Homeland Security, ASU

Executive Summary

In our second panel discussion, panelists outlined the challenges and benefits of addressing hazard mitigation and long-term disaster recovery across the spectrum of community stakeholders, referencing the Federal Emergency Management Agency's (FEMA) 'Whole Community Approach'. Allison Boyd, an urban planner, presented strategies for incorporating resiliency and sustainability concepts into day-to-day municipal planning efforts and post-disaster recovery plans, drawing on the best-practice guideline Planning for Post-Disaster Recovery: Next Generation. A key to success is that emergency managers, city practitioners and planners work together to connect hazard mitigation and disaster-recovery to policy areas outside of, but related to, emergency management. These policy areas include housing, economic development, transportation, recreation, nature conservation, public health and so forth; and they are interrelated. Leaving these interrelated areas unaddressed, means missing opportunities to reduce vulnerability and disaster risk. In contrast, creating visionary plans (e.g. sustainability plans) helps working across areas and achieve complementary goals, especially when combined with participatory-approaches that build social resilience at the same time.

Whole Community Approach FEMA (2011)

Cited Benefits:

1. Shared understanding of community needs & capabilities
2. Empowerment & integration of community resources
3. Stronger social infrastructure
4. Establishing relationships that facilitate prevention, protection, mitigation, response, and recovery
5. Increased preparedness
6. Greater resiliency

Challenges in Engaging The "Whole Community"

- 'Slow-boil' of long-term, seemingly non-acute, hazards such as climate change impacts (extreme heat, drought, sea-level rise, floods) results in perceived lack of urgency.
- Difficulty securing enduring commitment and interest for long-term mitigation and recovery planning, especially in the absence of local disasters.
- Limited reliable sources for hazard mitigation funding: too much reliance on federal government disaster funds creates blind spots for other, none disaster related complementarily funds (e.g., funds creating a multi-use path and nature conservation area while building a levee).

Best Practices in Planning for Hazard Mitigation & Disaster Recovery…

Presented by Allison Boyd
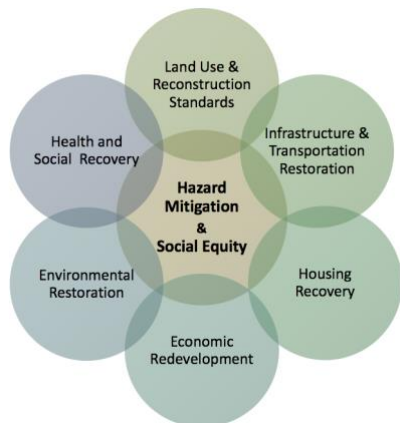
- Disasters present "windows of opportunity" – a period of time when it is more feasible to achieve large scale changes to advance sustainability and resiliency
- To take advantage of the window of opportunity, communities should develop a long-term disaster recovery and hazard mitigation plan *prior* to a disaster. These plans are best guided by a sustainability vision for local development.
- This plan addresses a variety of policy areas that reinforce one another; the plan charts out how to leap forward in meeting the community's sustainability vision and becoming more resilient in the future.

…Increasing Community Resilience

- Resilience and sustainability should be integrated throughout day-to-day community planning efforts. Good examples include Arizona State University's collaboration with the cities of Tempe and Phoenix around Tree & Shade projects to mitigate heat, while enhancing quality life and urban development.
- Building the capacity of local governments and community organizations to assist residents and businesses in mitigation is essential to this policy being successful. First responders can play an important role in connecting preparedness and response activities to longer term mitigation actions.
- Public education and funding assistance can encourage communities to voluntarily rebuild more resilient or sustainable.

Up Next

In our final panel discussion, we explore how the goals of emergency management align with efforts to achieve more sustainable and resilient cities. Faced with interdependent and complex problems, our panelists will discuss how *'The Whole Community Approach'* might be leveraged to reduce disaster risk, by addressing underlying social, economic, and environmental vulnerabilities within communities.

The Whole Community Approach:
Linking Emergency Management, Sustainability, & Resilience

Tuesday, April 30th, 2019
Panel: 12:00 – 1:15PM
SCN Workshop Discussion: 1:30-3:00PM
Arizona State University
Wrigley Hall, Room 481
RSVP and how to join through ZOOM: here

Organizers: Katja Brundiers
Philip Gilbertson

The Whole Community: Emergency Management, Resilience, and Sustainability

April 30, 2019

Panelists

- **Kristin Baja** (Guest Speaker), Climate Resilience Officer, Urban Sustainability Directors Network
- **Erik Cole** (Panelist), Director, Design Studio for Community Solutions at Arizona State University
- **Barry Hokanson** (Panelist), AICP, Consultant for North Carolina recovery from Hurricane Matthew
- **Braden Kay** (Moderator), Director of Sustainability, City of Tempe
- **Philip Gilbertson** (Moderator), Ph.D. student, School of Geographical Sciences & Urban Planning, ASU

Executive Summary

Our third panel discussed current and best practices for local government to integrate their emergency management, resiliency and sustainable development efforts across the city and in collaboration with the whole community.

Kristin Baja presented USDN's approach to resilience, focusing on the ability to anticipate, accommodate and positively adapt to changing climate conditions. In this sense, resilience is needed to address **everyday stressors** (e.g., epidemic violence, unemployment, and traumas stemming from racism. drug use, and poverty), **shocks** (e.g., heat waves, floods, sea level rise) and the **recovery** from shocks. Building resilience is **community-led** and centers on **equity (addressing questions related to resource distribution, inclusive processes, and eqal power relations)**. Highlighting the USDN's **Resilience Hub** concept, Kristin explained how the hub concept can build resilience to everyday stressors by delivering services and programs that foster relationships, promote community preparedness, and improve residents' health and well-being. The figure below illustrates the Resilience Hub operating in everyday as well as shock and recovery modes (Source).

Challenges in Engaging the "Whole Community" to Integrate Emergency Management, Sustainability, and Resilience:

- Cities: requires "silo-busting" city departments; fostering inter-departmental collaboration
- Sectors (e.g. NGOs and private organizations): better communication is needed to facilitate cross sector opportunities and co-beneficial approaches (e.g. using home buy-outs to create recreational areas that increase well-being, but also serve as a flood mitigation strategy)
- Communities: communities and practitioners experience planning fatigue, resulting in disengagement, loss of trust, and lack of interest among community groups

Moreover, it is difficult to know whether the 'whole' community is being engaged. In other words, it is difficult to measure adaptive capacity, i.e., how people's capacity to anticipate and positively adapt to stressors and shocks changed.
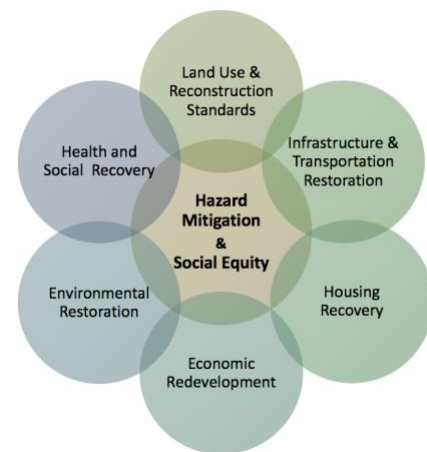
Best Practices for Building Resilience While Addressing these Challenges …

Ensuring climate equity, sustainability, resilience and—to a certain extent—successful emergency management, are part of everybody's job. Hence, these areas of work need to be integrated via:

- Training and capacity building
- Budgeting and capital spending
- Collaboration with financial officers
- Collaboration and integration across city plans, including general, hazard mitigation, sustainability, and land-use plans

Presented by Allison Boyd

This process of integrating areas of work also requires cities to identify stakeholders and community partners to collaborate on projects, these partners incl. school districts, land conservancy groups and health department institutions such as hospitals. Regarding the latter, New Zealand's "All Right?" campaign has received international recognition for effectively incorporating mental health care into their disaster recovery and resilience building efforts on an everyday basis

Considering the urgency of everyday stressors and extreme shocks like floods and heat waves, building resilience has to start with using a "people first approach" that focuses on building relationships and partnerships for implementation. Overall, this turns the conventional "knowledge-first" approach on its head. Instead, resilience and sustainability require the co-production of knowledge—developing knowledge by working with community members and organizations on real-world plans & projects, directly in the communities where they are to be implemented.

**To be continued in Fall Semester 2019
The Whole Community Approach:
Linking Emergency Management, Sustainability, & Resilience:**

TO: City of Tempe

FROM: **Philip Gilbertson, Doctoral Student, School of Geographical Sciences & Planning (ASU)**
Katja Brundiers, Clinical Assistant Professor, School of Sustainability (ASU)
Braden Kay, Director of Sustainability (City of Tempe)

SUBJECT: Emergency management positions within local governments

Project Description

This project began with a request from the City's Office of Sustainability to researchers at Arizona State University, to better understand how the City of Tempe might leverage a full-time Emergency Manager to more effectively address hazards, plan for and respond to current and future emergencies, and help further overarching City visions and goals. Within this context, the research team was asked to explore the following:

- Local government organizational structures, with respect to emergency management (EM)
- Local emergency management roles and responsibilities
- Best practices across all phases of emergency management
- Research-based recommendations
- Potential synergies and co-benefits between emergency management activities and City initiatives

The team conducted a series of interviews with 8 - City of Tempe departments/offices and 2 - Maricopa County Departments, for a total of 16 interviewees, regarding emergency management (EM) functions in local government. The team also reviewed nationwide best-practices and federal recommendations. Finally, the team brought together leading local and national hazards-related practitioners in a series of three panel events, to discuss how the FEMA recommended *Whole Community Approach* applies to local level preparedness, response, recovery, and mitigation.

In the interest of time, this initial memorandum addresses only one of the research questions:

> **"Within the city government organizational structure, where would a full-time emergency manager be most effective in accomplishing their duties?"**

Initial Findings (Summary)

From interviews:
- Consideration of a full-time Emergency Manager position was well received
- Practitioners were enthusiastic to discuss the possibilities of building on the City's existing EM strengths and enhancing less exercised EM functions
- The EM phases of mitigation and recovery were seen as of particular importance to advancing other non-EM, City goals and initiatives
- Generally, four-models of organizational structure emerged (listed from most-to-least mentioned):
  1. The EM-office is a stand-alone and independent department/office (cited 15 times)
    ➔ Emergency Manager is an independent office
    ➔ Reports directly to City Manager
  2. The EM-office serves as a cross-departmental coordinator (cited 9 times)
    ➔ Emergency Manager facilitates planning, action, and coordination across all departments
    ➔ Reports to City Manager's Deputy
  3. The EM-office housed within Public Safety (cited 3 times)
    ➔ Emergency Manager is within another department (e.g. Fire, Police, Health)
    ➔ Reports to department-lead
  4. The EM-function is independent, but coordinated with another office (cited 2 times)
    ➔ Emergency Manager is within another manager-level office (e.g. Sustainability)
    ➔ Actions are coordinated to achieve co-beneficial outcomes
    ➔ Emergency Manager coordinates reporting to City Manager with office-lead

Note: These models, derived from the interviews, reflect an extended set of models compared to recommendations put forth by FEMA (2006), which include model 1 (An Independent Office reporting directly to the chief executive officer or representative) and model 3 (Within the Police department, led either by a civilian or a uniformed officer; or: Within some other governmental function).

Assessment of Organizational Models

Criteria to Evaluate and Compare the Pros & Cons of Each Model (Identified by interviewees as illustrated through select quotes)**:**

Access to decision-makers
> "The emergency manager has to get cooperation from all the other departments to build an effective emergency management program. If the emergency manager is assigned under the city manager, you're much more likely to gain that voluntary cooperation from any other departments because you'll be seen as a function under their boss."

Ability to manage own budget
> "Give them a budget. Give them a budget that is supported by the city general fund, and not 100% relied on grant, and give them people that can help to write the plans. It needs to be more than one person."

Authority - Ability to get things done
> "When you're just an employee like three or four management levels down and you've been tasked to write...plans that the emergency manager has to write, there's a lot of authority written into the plan. [Department X] will do the following things. [Department X] needs this type of equipment...There's too many barriers in place."

Ability to coordinate & synchronize across departments
> "The person should be a facilitator and not a director...it's important and that we need to facilitate better collaboration and communication [around emergency management]."

Ability to engage 'whole community'
> "Really looking at everybody as a whole. A whole approach to emergency management...really developing those relationships...Sometimes that emergency manager, in other areas, have been that broker to help develop new programs that maybe didn't have a lot to do with emergency matchup, but built community resiliency total."

Model Pros & Cons as Identified in Interviews (see Attachment 1).

Summary/Recommendations

To answer the question "where to position an Emergency Manager within City government?", depends largely upon a City's vision for their emergency management program. This vision should describe not only what the program does today, but also what it should do in the future and how it contributes to city operations and initiatives a whole. The vision will dictate where the function is located in the organizational structure. Our recommendation is that the position should be designed to evolve as it matures. Following interview responses and published best-practices, we recommend that an Emergency Manager initially serve as an independent office that answers directly to the City Manager (Model #1). However, as the position is established, we suggest that emergency management goals and mitigation strategies be mainstreamed in other city initiatives. Therefore, we further recommend that in due time, the position be considered under Model #4 where the function remains independent from other departments, but where the goals, objectives, and strategies are required to be coordinated with other overarching City initiatives. Good practice recommendations are available to facilitate such coordination.

Attachment 1: Pros & Cons as Identified by the Interviewees

Note: Included below are paraphrased pros and cons directly mentioned during interviews. This is not exhaustive, but rather only includes those aspects identified by the interviewees. We hope that this initial draft may be used as a worksheet for a collaborative assessment.

Model Criteria	(1.) EM-office is stand-alone	(2.) EM function is a coordinating role	(3.) EM incorporated within public safety	(4.) EM-office is mainstreamed & coordinated with another office
Access to decision-makers	[+] Direct access [-] Must compete for resources & attention w/ other departments [-] Potential politicization	[+] Don't need someone with direct access to department leads and decision-makers [-] Dependent on other department leads for advocacy	[-] Limited access	[+] Able to find co-benefits w/ other organizations & funding [-] Potential politicization
Ability to manage own budget	[+] Can prioritize efforts [+] Can advocate for resources/allocation [-] Need admin resources	None Mentioned	[-] Take on budget priorities of parent organization	None Mentioned We suggest that the pros & cons from model 1 apply, as model 1 is comparable in this regard.
Authority	[+] Authority derived from City Manager/Mayor	[-] Difficult in garnering support [-] Limited authority	[-] Takes on priority of parent organization [-] Frequently tasked w/ other duties of parent organization	None Mentioned We suggest that the pros & cons from model 1 apply, as model 1 is comparable in this regard.
Ability to coordinate & synchronize across departments	[+] Enhanced by derived authority [+] Able to get buy-in from other departments	[+] Needs to be a part of every-day planning and operations, in every department [-] Too many barriers to coordination	[-] Difficult to be discipline-neutral [-] Difficult to coordinate across departments	[+] Needs to be a part of every-day planning and operations, in every department
Ability to engage 'whole community'	[+] Can prioritize efforts [+] More likely to get more engagement [-] Time commitment	None Mentioned We suggest that the ability to engage whole community is dependent on willingness of other leads	[-] Difficult to engage outside of public-safety focus	None Mentioned We suggest that the pros & cons from model 1 apply, as model 1 is comparable in this regard.