

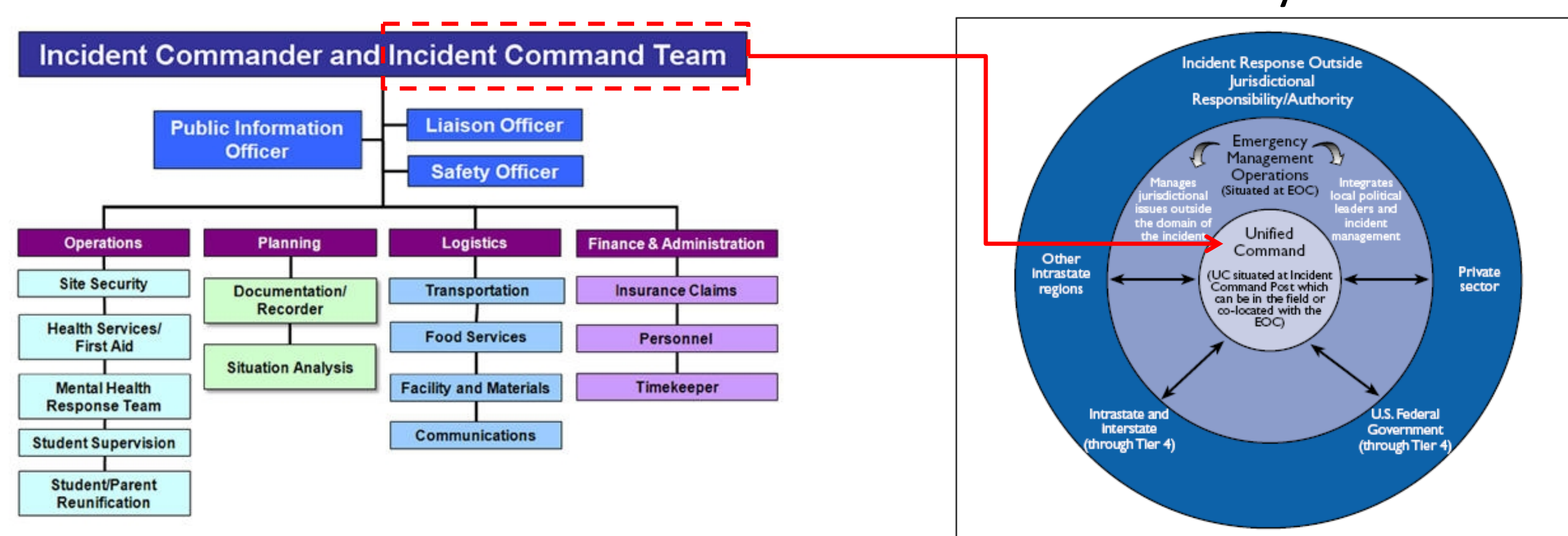
The Analysis of Incident Command System



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Introduction

Since its establishment in the 1980's, many ICS discussions have focused on its pros and cons. Most of these discussions are related to the idea that ICS is a type of mechanistic system. ICS proponents often prefer its mechanistic design elements to command and control all responders. ICS critics, however, believe that they are a hindrance to disaster response activities, and advocate using more organic elements to design a new response system. It is important to note however that these two concepts are "types" but real systems are not so dichotomous. It is consequently possible that the ICS has some organic design elements and thus cannot be viewed as an entire command and control system.



ICS structure looks like a mechanistic system (left), but the operation of Incident Command Team (or the Unified Command) is more like an organic system.

Research Questions

Given that ICS likely has some degree of both organic and mechanistic design elements; this work will explore two questions around this topic:

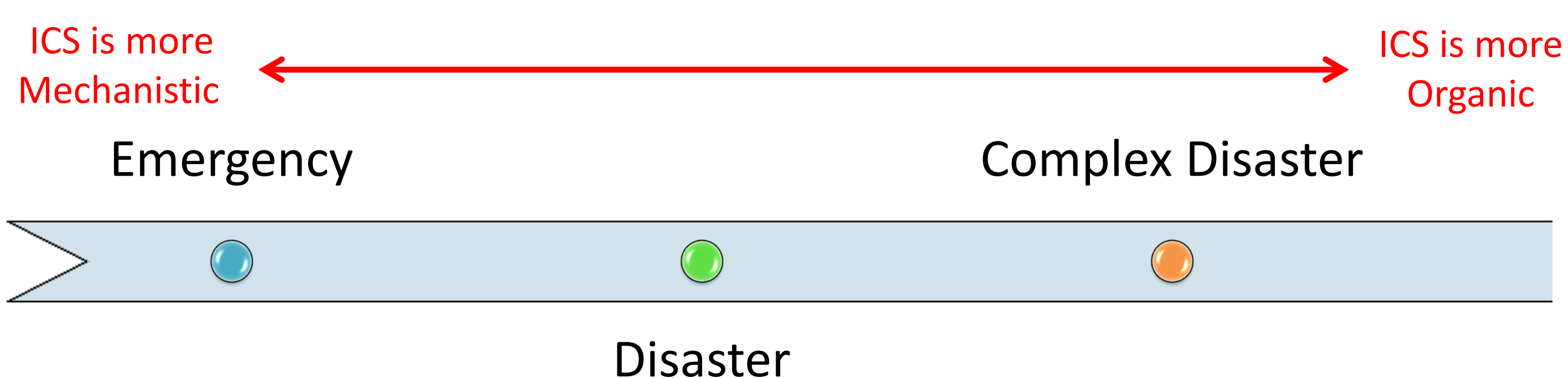
- ❖ To what degree is the ICS mechanistic versus organic?
- ❖ How do disaster responders implement ICS mechanistic and/or organic elements at the scene of disaster?

Literature

Many ICS discussions regard this system as a command and control system (Harrald, 2006; Neal & Webb, 2006; Wenger, Quarantelli, & Dynes, 1990). Most often this idea of command and control is connected to ICS's similarities to a mechanistic system. Organizational theorists, however, have concluded: "the two forms of system [mechanistic and organic] represent a polarity, not a dichotomy...A concern may (and frequently does) operate with a management system which includes both types (Burns & Stalker, 1972)."

Generally speaking, we find people who focus on coping with large-scale disasters prefer to use an organic disaster response system (Harrald, 2006; Neal & Phillips, 1995; Neal & Webb, 2006; & Quarantelli, 2002), but people emphasizing on dealing with day-to-day operations and small-scale emergencies appreciate to a mechanistic response system (Bigley & Roberts, 2001; Cole, 2000; & Goldfarb, 1997).

The question is how mechanistic or organic is the system's design and to what degree does on scene implementation affect that reality.



Methods

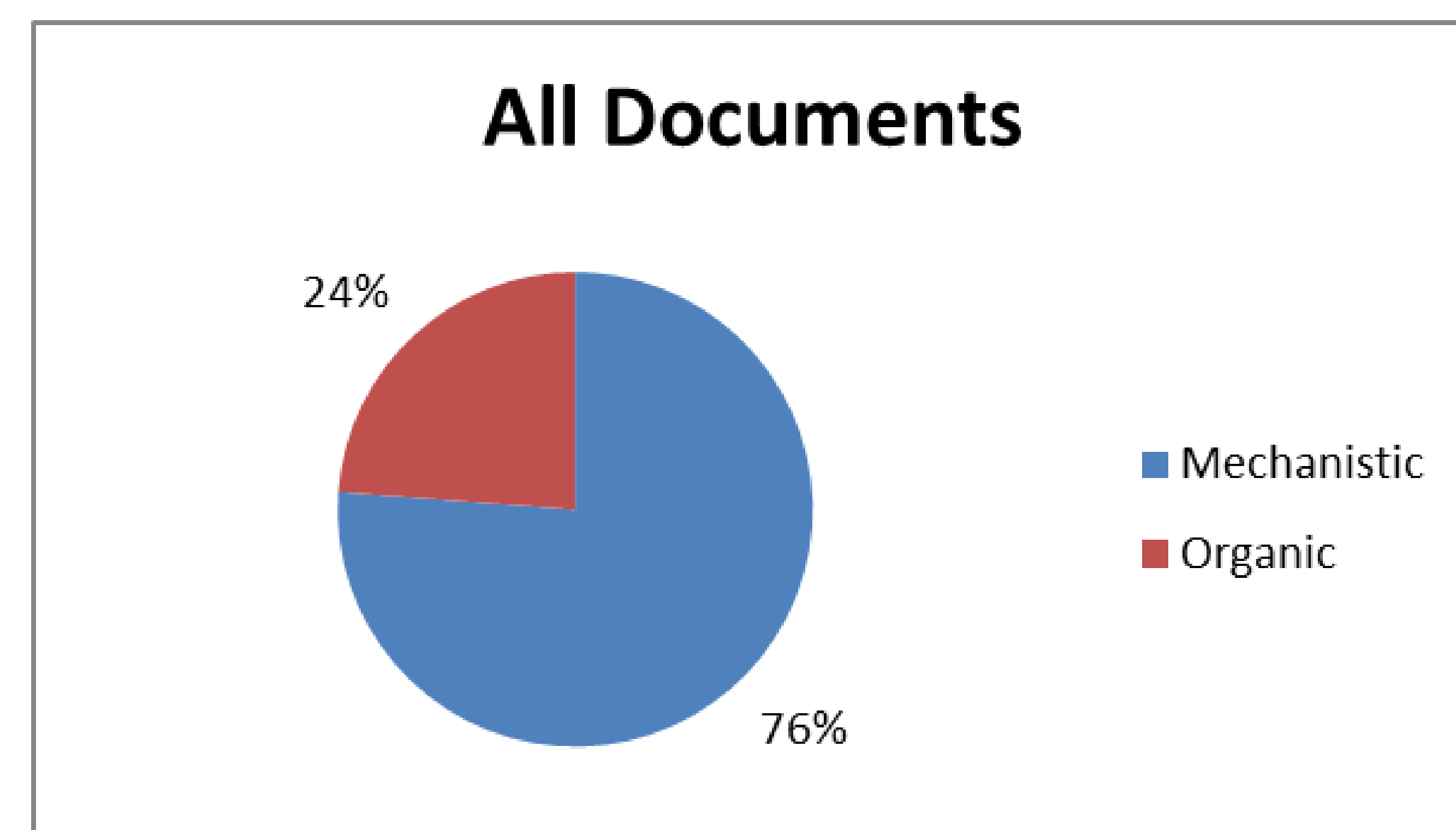
Content Analysis

- 2 official ICS documents (NIMS & ICS Review), and 3 ICS online training courses (ICS-100b, ICS-200b, & ICS-100HE)
- Directed coding method
- Codes are derived from classical organizational definitions (Burns & Stalker, 1972)

Qualitative Interviews

- 3 locations, and more than 30 disaster responders
- Responders of various backgrounds (Firefighters, Police officers, Emergency Managers, EMTs, & Volunteers)

Preliminary Results from Content Analysis



- ❖ ICS incorporates both organic and mechanistic design elements, but is far more mechanistic than organic.
- ❖ ICS online training courses (which focus on using this system on single organization) put more emphasis on ICS mechanistic design elements.
- ❖ The NIMS document (which focuses on working with multiple organizations) put more emphasis on ICS organic design elements.
- ❖ ICS organic and mechanistic design elements sometimes come together. For instance, maintaining a manageable span of control is a key concept of the ICS; it aims to facilitate the command and control function of ICS (Mechanistic). To define a manageable span of control, however, relies on the disastrous environment and the "needs" of the Incident Commander (Organic).
- ❖ There are several points where individuals make key choices that impact how mechanistic or organic the system will be