

| UTC Project Information | |
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| Project Title | Agent-based Modeling of Emergency Management Networks with Public Mobilization after a Disaster |
| University | Oregon State University |
| Principal Investigator | Erica Fischer |
| PI Contact Information | erica.fischer@oregonstate.edu |
| Funding Source(s) and Amounts Provided (by each agency or organization) | University of Washington PacTrans \$28,665 Oregon State University \$28,665 |
| Total Project Cost | \$57,330 |
| Agency ID or Contract Number | 69A3551747110 |
| Start and End Dates | September 1, 2018-August 31, 2020 |
| Brief Description of Research Project | The goal of this study is to measure the impact of stated public behavior on the response time and operability of the Emergency Response Network (ERN) due to interactions between the public and ERN, and propose changes to the status quo that will improve the ERN's efficiency to respond. The international community has begun to recognize that flexible post-disaster response is necessary to address and solve challenges. Flexible ERNs need to consider the potential behavior patterns from local communities. Lessons learned from the emergency response to previous crises demonstrates that regardless of the cultural differences between communities, and nature of the crisis (i.e. natural disaster versus public health), planning for emergency response is essentially the same. |
| Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here | There are no implementations of the research outcomes. This project was a feasibility study to demonstrate the feasibility of: (1) simulating an emergency management network using agent-based models, and (2) including spontaneous volunteers into the agent-based model to examine the negative and positive influences they could have on emergency management networks. Currently, emergency management networks do not use agent-based models to simulate the efficiency of their network. |

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| <p>Impacts/Benefits of Implementation (actual, or anticipated)</p> | <p>Some of the anticipated benefits on using the developed framework is to quantify the benefits of spontaneous volunteers as explicit members of the emergency management network. Particularly today as emergency management networks are working through COVID-19 protocols, this could demonstrate how private citizens of communities can contribute to the emergency management network even in a disaster that is not caused by a natural hazard.</p> |
| <p>Web Links</p> <ul style="list-style-type: none">• Reports• Project Website | <p>None</p> |