

MEMORANDUM
Addressing Infrastructure Issues in Hosting Communities Post-Disaster

Natural disasters can result in the displacement of populations. In turn, hosting communities, or areas that receive these populations, are challenged with accommodating a sudden influx of people, stressing existing infrastructure services. Of utmost importance are water and wastewater services, which provide basic human needs and guarantee the public health of the population. As utilities must quickly adapt existing systems to meet demand without front-end planning, post-disaster federal funding should be available to utilities in hosting communities to aid in providing water and wastewater services.

The Problem

Water and wastewater systems are designed to serve the current population and planned for long-term population changes. Therefore, when an influx of users are suddenly added to these systems, utilities encounter challenges to meet increased demand and maintain adequate levels of service. This population change is evident in the migration to hosting cities after natural disasters. For example, in 2005 Hurricane Katrina resulted in the displacement of at least 400,000 residents from New Orleans, of which as many as 250,000 migrated to the Houston area. In turn, Houston suddenly had to provide services to both the displaced and established populations, leading to operational and technical challenges.

In 2017, the United States and its territories were struck by ten hurricanes, six of which were category three or stronger. Hurricanes Harvey, Maria, and Irma alone displaced over 1.1 million people. It is evident that natural disasters are increasing in duration and intensity, emphasizing the need to create federal policy to support utility providers in hosting communities as they work to meet increased demand. Studies have shown that to do so, utility providers may have to expand existing infrastructure systems (e.g., increasing pipe size, adding additional pumps), and increase supply by importing water or drawing from reserves. In many cases, a dramatic increase in demand may lead to decreased fire protection and level of service to existing residents

Although utilities see increased revenues, the steps hosting cities must take to provide services require additional funding and resources. Displaced populations are often not required or unable to pay utility bills, but in order to provide services, utilities may be burdened to provide services without compensation. Additionally, utilities face uncertainty of future demands and revenue because the displaced population may be transient. Issues may be exasperated if the displaced population becomes permanent. For instance, temporary housing units may become people's permanent home, leading to possible operational issues.

Current Status and What Has Been Done

Currently, there is not a formal mechanism that provides federal funding to utilities in hosting communities. In the past fifteen years, disaster policy changes have occurred as a result of catastrophic disasters. For instance, the 2006 Post-Katrina Emergency Management Reform Act put FEMA as the lead for emergency management and the Sandy Recovery Improvement Act of 2013 made changes to the way FEMA provides public and individual assistance. More recently, under the Trump Administration, the Disaster Recovery Reform Act of 2018 was passed. Although the provisions include sections about utility providers, they do not provide a mechanism for hosting

cities to receive funding. Similarly, America's Water Infrastructure Act of 2018 lays out funding through state revolving loan funds but does not apply to projects as a result of challenges due to population migration to hosting cities. In turn, neither utility providers nor impacted populations are receiving federal funds to pay for infrastructure services.

Proposed Recommendation

Hosting cities require immediate financial support to meet massive increases in demand due to disaster migration. As such, Congress should implement a formal mechanism to provide funding to cities that receive displaced persons from a natural disaster. Section 2020 of America's Water Infrastructure Act of 2018 should be expanded to make hosting cities an eligible system for the state revolving loan funds. To ensure funding is allocated appropriately, supporting organizations should set prerequisites such as a minimum percentage increase in population in a set amount of time. For example, cities experiencing a population growth of 20 percent within six weeks of a disaster could be considered eligible.

Additionally, the need for funding depends on the current status of a hosting city's infrastructure systems. Cities that are currently experiencing a decrease in population typically have underutilized systems, meaning an increase in population would benefit both the new and current population. In cases like this, it is likely that federal funding would not be necessary. To address this, requesting cities should be required to justify why they need funding and explain how the funds will be allocated.

Conclusion

Knowing that the United States will experience natural disasters in the future, it is critical to develop mechanisms to mitigate potential impacts. In turn, it is essential that immediately post-disaster, displaced populations have access to clean water and sanitation and quality service to the pre-existing population is not compromised. Local utility providers often do not have the capital to achieve this, so Congress should allocate federal funding to aid water and wastewater utilities in hosting cities.