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SUPPLY CHAIN RESILIENCE AND CIVIL CRITICAL INFRASTRUCTURE SYSTEMS

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ABSTRACT:
The resilience of a supply chain, whether within the public or the private sector, can be considered to be a function both of the ability to resist the impact of a disruption and of the ability to quickly recover functionality after such a disruption occurs. This is particularly important in the context of supply chains that play a role in critical infrastructure systems, since it is crucial that these systems are able to maintain resilience even in the face of major disruptions to their normal operating conditions.

Humanitarian relief supply chains are a specific category of supply chain that are focused on providing aid to individuals and communities who have been adversely impacted by disruptive events such as natural or man-made disasters, rather than on generating profits for their stakeholders. Such supply chains typically operate under conditions of great uncertainty, changing conditions, limited resources, and significant time pressure, and thus they must be inherently resilient in order to complete their missions successfully. Because these supply chains are typically operated by not-for-profit organizations, they also are responsible to donors for managing resources as efficiently as possible while still maintaining the effectiveness of their operations under frequently changing conditions.

There thus is great value in examining the characteristics of humanitarian relief supply chains that allow them to operate in the midst of disaster situations, as well as in exploring analytical modeling approaches which seek to improve the efficiency and effectiveness of these operations under the uncertain conditions within which they exist. The resulting lessons learned have the potential to have a significant impact on improving civil critical infrastructure systems, particularly given their shared focus on public service and the inherent complexities associated with that orientation.