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Volcanic Ash Contingency Planning in the Transportation Sector: The Case of Indonesia

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Contingency planning is one of the tools that can be used to ensure that urban services keep operating during catastrophic events. As the backbone of urban activities, it is especially important that transportation networks have a well-developed contingency plan because, in addition to their role in socio-economic development, they are also essential to disaster relief operations. Developing contingency plans requires identifying the potential impact of the hazard, developing disruption scenarios and foreseeing what activities can minimize disturbances, not only during the event but also during the recovery phase. This presentation reviews how urban transport systems from different parts of the world can be disrupted by volcanic ash presence and the possible contingency measures that can be taken. The contingency measures are considered for three sectors of transportation, i.e. aviation, road, and railway. It is found that there are four contingency measures that can be deployed for different transport disruptions caused by volcanic ash, namely reducing the traffic, shutting down, rerouting, and modal shifting. The presentation also addresses the challenges of how such contingency measures can be translated into contingency planning scenarios by considering the policy framework for the case of Indonesia. It concludes by identifying potential improvements which involve better coordination of modal shifts between the three sectors and better collection of data relating to both the hazard and the disruption. It also suggests that to achieve this, effective stakeholder engagement and supporting tools are required. It is argued that the insights from the Indonesian case study are an important starting point for improving effective disaster management and contingency planning for volcanic ash events.