Researchers at the University of Pennsylvania’s School of Design are initiating a major research effort to identify and demonstrate solutions to one of the major challenges facing America’s metropolitan regions and megaregions today: managing extreme and growing levels of metropolitan traffic congestion.

The highways, city streets, and transit systems of America’s metropolitan regions have congealed. Unless effective measures are taken to address traffic congestion, these places—which are home to the vast majority of US population, employment and GDP, and nearly all of the nation’s innovation and tech economy—will experience declining productivity. They will also experience reduced quality of life and an increase in a range of other ills, including rising social inequity, carbon production and incidence of chronic diseases.

It’s not an accident that all-news radio stations from Philadelphia to Los Angeles have traffic and weather reports every 10 minutes, 24 hours a day. This is because traffic and weather are the only two features of daily life that are vitally important to everyone living in these places, but are also seen as “acts of God”, beyond the control of mere mortals.

Our goal of our work over the decades has been, and remains, to advance transformational infrastructure projects that can be implemented across political boundaries to achieve greater equity, economic competitiveness, and respond to climate change. This project will build our previous work, which has explored the potential to expand and modernize infrastructure systems and to introduce new systems as well.