

Modernization Should Include Adaptations to Climate Impacts

Transit agencies around the world grapple with the impacts of climate change on aging systems that were not designed for today's everchanging weather patterns.

Climate change has begun to increase the frequency and intensity of extreme weather events, which are harder to manage than gradual effects, such as a rise in average temperatures. Agencies are facing new operational challenges due to higher and longer heat waves, increased flooding from intense downpours or rising sea levels, and more wind, ice, and snow.

These weather conditions increase the risk – and occurrence – of delays, disruptions, damage, and failure of our transport systems. Environmental stressors also deteriorate assets more quickly, which increase the costs to maintain, repair, and replace infrastructure.

The need for climate adaptation also presents an opportunity. When undertaking system modernization projects, agencies can incorporate climate adaptive strategies into the design. Doing so is simply responsible risk mitigation and can be integrated into transit asset management programs. Agencies can address risk without over-engineering assets, which both saves money in avoided damages and costs less than retrofitting or doing nothing at all.

While climate adaptation is gaining even more traction as a transit industry conversation, several agencies worldwide have already begun adaptation work and can provide valuable examples. The London Underground and the New York State Metropolitan Transportation Authority have created physical barriers such as raised ventilation grates and extended portal walls so that water cannot enter from flooded sidewalks. Kansas City's bus rapid transit system has 30 stations with rain gardens to collect and filter storm water runoff. Portland's Tri-Met installed expansion joints in the track that permit the rail to expand in high heat. UITP North America members can learn from frontrunners like these agencies.

The driving force behind system modernization efforts should always be respect for our riders. Whether responding to climate impacts or incorporating technological advances, the upgrades we make will increase the safety and reliability of our systems so that our customers have the best journeys possible.



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