BUILDING TOMORROW'S HIGHWAYS: MAINSTREAMING RESILIENCE IN TRANSPORT PLANNING

ABSTRACT Climate change is no longer a distant threat. Extreme weather it is already reshaping infrastructure globally, affecting travel, affecting daily life, economic productivity, and national connectivity. In 2024 alone, the UK experienced a record-breaking year of extreme weather, including unusually high temperatures, nine named storms, and heavy rainfall contributing to flooding and transport disruption.

Despite this growing urgency, many local highway authorities and transport bodies continue to face barriers to embedding resilience into planning, design and operations. Tight budgets, ageing assets, and the pressure to address immediate issues like congestion often sideline long-term climate adaptation.

To address this, clients, designers, and decision makers must act early to prepare for increasingly frequent and severe climate related disruptions to become truly Future Ready.

WSP's Highway Network Resilience Framework offers a practical, strategic solution, helping transport authorities anticipate the occurrence of extreme weather and adapt processes, procedures and assets. The framework process is detailed in the image below

The framework is support by WSP's Highway Network Resilience Toolkit, which combines two powerful tools into one visual platform to help organisations and design teams to understand the climate data, assess its vulnerabilities, and take meaningful action to embed resilience into strategic planning and processes:

- The Network Resilience Maturity Assessment – helps organisations to evaluate their current level of resilience to climate change, and set improvement priorities to drive cultural change.
- Climate Risk Early Screening Tool (CREST) – helps scheme designers to collaboratively identify climate impacts that could impact a scheme at the earliest stages of project development.

By leveraging WSP's Highway Network Resilience Toolkit, transport bodies and highway authorities gain clear understanding of their preparedness and the steps needed to strengthen resilience across organisational, programme, and scheme design. These resources empower decision-makers to identify vulnerabilities, allocate investment strategically, and safeguard critical networks against future disruption.