Infrastructure

What is urban resilience?

Urban resilience refers to the capacity of individuals, communities, institutions, businesses and systems within a city to survive, adapt and grow no matter what kind of chronic stresses and acute shocks they may experience.¹

Chronic Stresses

Stresses weaken the fabric of a city on a daily or cyclical basis. Examples include:

- Ineffective public transport system
- Climate change
- High unemployment

Acute Shocks

Shocks are sudden, sharp events that threaten a city. Examples include:

- Natural disasters
- Disease pandemics
- Extremist acts

Urban resilience and our critical infrastructure

Most Australians are accustomed to a high level of service from our critical infrastructure, such as utilities, transport networks and the healthcare system. Particularly in cities, rapid population growth is putting these expectations to the test, requiring significant investment from governments with constrained access to capital. Addressing this will require a broader conversation about funding models, as well as more interconnected and multipurpose infrastructure.

Natural disasters add to these pressures – the Australian Business Roundtable for Disaster Resilience and Safer Communities estimates that $17 billion will be spent on rebuilding critical infrastructure after natural disasters by 2050. This figure does not take into account other emerging risks to our critical infrastructure, such as cyber-attacks and extremist acts. Climate change also imposes a greater uncertainty over future infrastructure investment decisions, requiring a new model for decision-making.

What we think of as critical infrastructure is also changing. Rapid advancements in technology mean broadband is rapidly outmoding landline telephones. We are increasingly realising the importance of our natural assets and the ecosystem services they provide. These shifts provide a major opportunity to improve the wellbeing of all Australians, especially those who were left behind by our old models of service delivery.

The principles of urban resilience offer organisations a new lens through which to view their operations and realise these opportunities. It encourages those with a stake in critical infrastructure to consider not only how to maintain functioning in emergency situations, but also to focus on how services they deliver can contribute to a higher quality of life by enhancing economic, environmental and social outcomes. It is a model for good times, as well as bad.

Throughout the development cycle – from design and planning, to construction, operation and decommissioning – the critical infrastructure sector has a significant role to play in the future of our cities. This fact sheet has been designed to help organisations in this sector begin the journey.

See overleaf for information on the attributes of resilient systems, along with a series of self-assessment questions for organisations.

¹ Definition from 100 Resilient Cities – Pioneered by the Rockefeller Foundation (100RC)
### How can your organisation contribute to a more resilient society?

Resilient systems share certain attributes.

To help you embed resilience principles into your organisation’s decision-making, consider these questions in relation to each attribute of a resilient system.

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<tr>
<th>Flexible</th>
<th>Reflective</th>
<th>Robust</th>
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<td><strong>Past experiences inform future decisions and actions.</strong></td>
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<td>How does our organisation measure its performance in delivering critical infrastructure services?</td>
<td>How have previous shocks or stresses affected critical infrastructure designed, built, operated or maintained by our organisation?</td>
<td>What external inputs, systems and services does our organisation rely on and what would the consequences be if these were disrupted?</td>
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<td>How can we learn from these events and adapt our infrastructure and services accordingly?</td>
<td>How have previous shocks or stresses affected critical infrastructure designed, built, operated or maintained by our organisation?</td>
<td>Has our infrastructure been designed, constructed and managed in a way that ensures public safety in any event?</td>
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<td><strong>Connections between systems and institutions are harnessed to generate multiple benefits.</strong></td>
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<td>How is our organisation collaborating with other organisations and sectors to maximise benefits for cities?</td>
<td>How can we promote a culture of integration and collaboration within our organisation?</td>
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<td>How can we promote a culture of integration and collaboration within our organisation?</td>
<td>In providing infrastructure services, how can our organisation support social cohesion and community connectedness?</td>
<td>How can the infrastructure we design, construct and manage take into account current climate change projections?</td>
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<td><strong>Integrated</strong></td>
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The attributes on this page are adapted from the qualities of resilient systems, available through [www.cityresilienceindex.org](http://www.cityresilienceindex.org).

If you’re interested in reading more about how cities around the world are building their resilience, see [www.100resilientcities.org](http://www.100resilientcities.org).