

Building a connected and resilient Australia by measuring our invisible infrastructure

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Australian Government

National Emergency Management Agency

Contents

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Acknowledgement of Country

We acknowledge the Traditional Custodians and their enduring connection to Country across all lands, waters, skies and communities throughout Australia. We pay our deepest respects to Aboriginal and Torres Strait Islander Elders past and present, and emerging leaders.

We honour their enduring connection to Country and recognise their unbroken custodianship, rich cultural knowledge, and continued contributions to the resilience and wellbeing of communities. We acknowledge the strength and diversity of Aboriginal and Torres Strait Islander people and affirm their vital role in shaping Australia’s future.

Project acknowledgements	4	Talking about Social Infrastructure	17
Foreword	5	What is social infrastructure	17
Why Australia needs this now	5	Why measuring social infrastructure matters	17
Framework snapshot	6	3 steps to measuring social infrastructure	19
		What we measure	20
		Tool snapshot: Sociabli for social infrastructure	25
A future where every connection counts	10	Pilot communities	26
What we’ve been missing	10	Adelaide City	27
Filling the gap	10	Whyalla	31
Rising need for connection	11	Kangaroo Island	35
Lessons from past disasters	11		
A national challenge needs a national framework	12	How to use the framework	40
Connecting social capital and social infrastructure	12	Guiding principles	42
		National and international policy relevance	42
Talking about Social Capital	13	Glossary	46
What is social capital	13		
Why measuring social capital matters	13	References	48
What we measure	14		
3 steps to measuring social capital	15	Appendix	49
Tool snapshot: Sociabli for social capital	16		

Project acknowledgements

This framework is the result of a long-standing collaboration between Renae Hanvin and Professor Daniel Aldrich, who have worked together since 2019 to champion the role of social capital in disaster resilience in Australia.

Their shared commitment to evidence-based, community-led approaches has shaped this visionary work, drawing on years of research, practice and on-the-ground engagement across Australia and internationally.

Together, they have brought academic insight and practical innovation to a national challenge – demonstrating that as disasters evolve, so too must our approach. And it is only through collaboration that we can create lasting change for all Australian communities.

Early adopters

We recognise the leadership of the South Australian Fire and Emergency Services Commission (SAFECOM), and in particular the contributions of Miriam Lumb and Johanna Garnett, in advancing understanding and action around social capital and social infrastructure across Australia. Their commitment has laid the foundation for this national approach.

Funders

We thank the Australian Government for funding the development of this framework through the Disaster Ready Fund (Round 2) – an investment in the people and places that make our communities stronger before, during and after disasters.

Steering group

We acknowledge Johanna Garnett from the South Australian Fire and Emergency Services Commission (SAFECOM) and Gary Pike from the South Australian Department of Human Services for their leadership, insights and ongoing guidance throughout this project.

National advisory group

We thank the members of the national advisory group, listed below, for recognising the importance of this work. Their valuable feedback has helped us ensure the framework remains nationally relevant and well-positioned to contribute to meaningful outcomes for communities across Australia.

- Department of Children and Families Northern Territory
- Department of Communities Western Australia
- Department of Education Northern Territory
- Department of Fire and Emergency Services Western Australia
- Department of Human Services South Australia
- Department of Premier and Cabinet Tasmania
- Department of State Development, Infrastructure and Planning Queensland
- Emergency Management Victoria
- Justice and Community Safety Directorate Australian Capital Territory
- National Emergency Management Agency
- Northern Territory Police, Fire and Emergency Services
- New South Wales Reconstruction Authority
- Premier’s Department New South Wales
- Queensland Reconstruction Authority
- South Australian Fire and Emergency Services Commission

Pilot communities

Thank you to the communities of Adelaide City, Whyalla, and Kangaroo Island for supporting us to pilot test the data locally.

Communities

Finally, we acknowledge the strength and determination of every Australian community working to prepare for, respond to, or recover from disasters. Your experiences, knowledge and resilience are at the heart of this work.

FOREWORD

Why Australia needs this now

By Renae Hanvin and
Professor Daniel Aldrich



Let’s build a future
where social
capital and social
infrastructure are
recognised, measured
and valued as core
to resilience.

Australia’s resilience depends not only on the strength of our physical infrastructure and emergency systems – but on the strength of our people and the places that bring them together.

We’ve long measured what’s easy: roads, bridges, levees, and logistics. But we haven’t measured what matters most in a crisis – the human networks, trusted connections, and everyday gathering places that help communities stay safe and bounce forward.

We overlook the human connections. We miss the power of local places and spaces. And if we don’t measure it, we can’t value it.

The **National Social Capital + Social Infrastructure Measurement Framework** fills this gap. It brings together decades of global research and lived experience to embed social capital and social infrastructure into how we define, measure and invest in resilience in Australia.

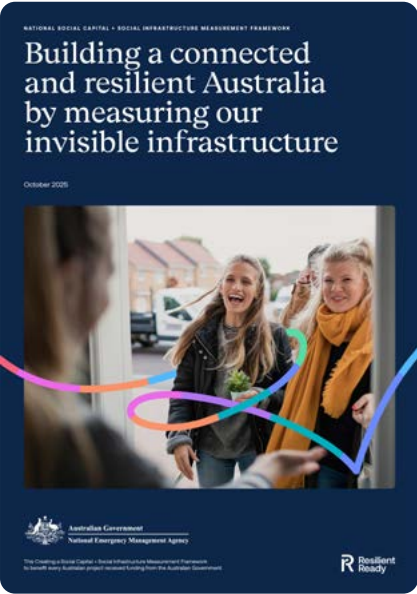
Aligned with the National Disaster Risk Reduction Framework, the Second National Action Plan, the Colvin and Glasser Reviews, and the AIDR Systemic Risk Handbook, it recognises that social systems are vital to reducing risk and strengthening communities.

Disasters are changing – so must our response. We need to shift from reactive systems to proactive investment in connection, cohesion and capability. That starts with seeing, valuing and measuring the invisible.

This framework is a national foundation for how we plan, fund and foster the connections that protect and strengthen communities – before, during and after disaster.

Together, we can build connected and resilient communities. We invite every government, council, business, not-for-profit, researcher, funder and community to join us.

Framework snapshot



Australia’s resilience relies on more than roads, bridges and warning systems. It relies on people – the neighbours who check in, the volunteers who step up, and the local places and spaces that bring us together.

The **National Social Capital + Social Infrastructure Measurement Framework** makes these invisible strengths visible. It introduces consistent, evidence-based ways to measure social capital (the connections, trust and cooperation between people) and social infrastructure (the places and spaces that enable people to connect).

The accompanying **online measurement tool** brings the data to life – mapping where connections are strong or at risk, and guiding investment to strengthen community resilience.

Together, these are critical levers of resilience.

These human and place-based connections are often invisible, yet they are the foundation of how we prepare for, respond to and recover from disasters.

Why this Framework matters



What the Framework offers

- **Consistent national indicators** – drawn from ABS data and mapped at the neighbourhood (SA1) level.
- **Comparable insights** – showing where community ties and shared places and spaces are strong and where gaps exist.
- **Validation in practice** – through surveys, conversations, statistical tests such as Cronbach’s alpha and comparisons with other studies, we have ensured the indicators reflect lived realities.
- **Alignment with policy** – directly supporting the National Disaster Risk Reduction Framework, the Second National Action Plan, the AIDR Systemic Risk Handbook, Colvin and Glasser Reviews, and international commitments such as the United Nations’ Sendai Framework for Disaster Risk Reduction (2015–2030).
- **A digital bridge between research and practice** – the online measurement tool visualises the data, helping governments, communities and other supporters turn evidence into action to strengthen connection and resilience.

Pilot communities:
testing the approach

To ensure the framework works in practice, we piloted it in three very different South Australian communities:

- **Adelaide City** – a metropolitan centre with established systems and diverse populations.
- **Whyalla** – a regional centre facing economic transition.
- **Kangaroo Island** – a remote community still rebuilding after the 2019-2020 Black Summer bushfires.

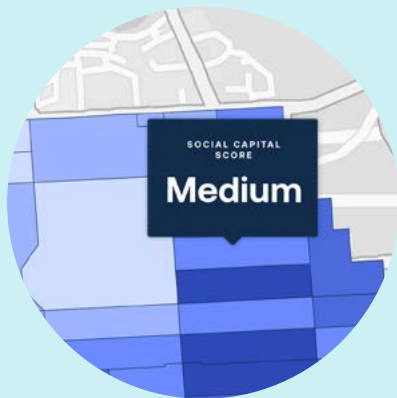
In each pilot, we:

- Sourced reliable and nationally consistent data to enable future comparable measurement across Australia over time.
- Actioned internal and external validation methodologies to check whether the data matched lived experience.
- Mapped social infrastructure categories – from community places and open spaces to social businesses and places of culture & faith.

Findings

The new online measurement tool gives pilot communities a clear picture of their social capital and social infrastructure, helping identify local strengths and gaps. Unlike most datasets, it provides insights at the SA1 – or neighbourhood – level.

Using a very low to very high measurement ratio across both social capital and social infrastructure, we can easily see:



Social Capital

Each form of social capital (bonding, bridging and linking ties) is measured separately, as well as through a combined overall rating.



Social Infrastructure

All categories of social infrastructure (community places, open spaces, social businesses, and places of culture & faith) are mapped, including density scores.



Social Capital + Social Infrastructure

Both bridging ties and social infrastructure are analysed together to identify correlations between where people connect and where places and spaces exist.

What this means for Australia

This framework is designed for everyone. It offers a shared national language, and a data asset and measurement approach that can be:

- **Used for planning** – embedding people and connection into resilience strategies.
- **Applied for measurement** – tracking trends and evaluating the impact of programs and investments.
- **Shared for communication** – shifting narratives to recognise social strength alongside physical infrastructure.

The accompanying online measurement tool brings this to life – making it easy to explore, visualise and compare connections and resilience across communities nationwide.

Moving forward

This is not a one-off project. The framework provides a foundation for ongoing national measurement and local action.

Over time, it can expand to include new forms of social capital. This may include Aboriginal and Torres Strait Islander peoples’ kinship and cultural ties, as well as digital connections. It will also adapt to reflect emerging risks and opportunities.

By making the invisible visible, we can invest in stronger, fairer and more connected communities – before, during and after disaster.



A future where every connection counts

Australia has developed strong systems for tracking hazards, mapping known risks and responding to disasters. But one critical piece has long been overlooked: the human factor.

What we've been missing

When bushfires, floods, or unexpected disasters such as pandemics hit, it's not just emergency alerts, helicopters or sandbags that protect lives and livelihoods – it's people.

Neighbours who check in. Community groups who organise. Volunteers who step up. Local leaders who understand what matters most. Familiar faces in familiar places.

And yet, Australia's disaster planning and resilience frameworks have often prioritised the physical over the social. Roads and levees are easier to map. Early warning systems are easier to justify for funding. But the invisible networks of trust and connection that shape how communities respond, and recover have been overlooked.

We measure the risks, but not the relationships that help communities survive them. Our invisible infrastructure of networks.

Filling the gap

This **National Social Capital + Social Infrastructure Measurement Framework** fills that gap. It brings social systems into the centre of disaster planning by making social capital and social infrastructure visible, measurable and actionable.

This framework gives governments, councils, businesses, not-for-profits and communities the tools to see, measure and strengthen the social side of disaster resilience.

It enables decision-makers to understand where community connections thrive, where they're under strain and where targeted investment can make the biggest difference.

It puts people and places at the centre of disaster resilience – because that's where real recovery begins.



Rising need for connection

Natural hazards are happening more often, affecting more areas at once and causing problems that pile up on each other. Communities are under pressure – not just from extreme weather, but also from economic uncertainty, climate stress, isolation and disconnection.

Australians are telling us they feel less connected than ever¹. Social cohesion is fraying. Loneliness is rising. And vulnerable groups are at risk of being left behind – in everyday life and especially in times of crisis.

The need for stronger community ties and more inclusive connection spaces is more urgent than ever.

Social capital and social infrastructure are not nice-to-haves. They are critical levers in building a safer, fairer and more disaster-ready nation.

To value connection, we first need to be able to see it. This framework explains how we measure social capital and social infrastructure across Australian communities, using indicators that are meaningful, measurable and scalable.

Measurement grounded in evidence

Our approach is grounded in research, shaped by evidence, and aligned with global best practice led by the work of Professor Daniel Aldrich. It combines what we can count (objective data) with what we can experience and feel (subjective insights), giving a fuller picture of community connection and resilience.

Built for Australia

Importantly, this is an Australian framework – built with and for Australian communities. It reflects our unique context, diverse geographies, and lived experiences of disaster, disruption and recovery.

By drawing on national datasets, lived experience and local testing, the indicators are relevant, culturally appropriate and practical across urban, regional and remote settings.

Neighbourhoods at the heart

Every neighbourhood is different. Measuring only at a state or national level risks losing the unique character of local communities, where connection actually happens.

That's why our framework maps social capital and social infrastructure at the smallest Australian Bureau of Statistics (ABS) geographic unit – the Statistical Area 1 (SA1) level.

This place-based approach delivers insights that are more useful and actionable. It helps identify strengths and gaps at the neighbourhood level, enabling investment and action that are localised, tailored and meaningful – rather than one-size-fits-all.

Lessons from past disasters

We've seen this play out again and again.

- After the 2019-2020 Black Summer bushfires, communities with strong local groups and trusted leaders recovered faster and more equitably.
- During COVID-19, informal networks delivered food, connection and care long before formal services could mobilise.
- During the recent floods across Queensland, Victoria and New South Wales, it was neighbours and local volunteers who often arrived first – like the “tinny army” in Lismore.

And research – including the work of Professor Daniel Aldrich² – consistently shows that social capital is the biggest single predictor of disaster recovery. More than income. More than education. More than a government response.

Disasters expose cracks in our systems, but they also highlight what holds us together. And what holds us together are people and place-based connections.

¹ O'Donnell, J. (2023). Mapping Social Cohesion 2023. Scanlon Foundation Research Institute. <https://scanloninstitute.org.au/wp-content/uploads/2023-Mapping-Social-Cohesion-Report.pdf>

² Aldrich, D. P. (2012). Building Resilience: Social Capital in Post-Disaster Recovery. University of Chicago Press.



A national challenge needs a national framework

This is not just a local issue. From suburban communities to remote towns, every neighbourhood in Australia needs to understand and strengthen its social capital and social infrastructure.

To get there, Australia needs a shared language we can all use, a consistent set of indicators and an approach that is scalable, inclusive and responsive to the local context.

That's what this framework delivers. It's not just about measurement. It's about mobilising a whole-of-nation approach to resilience, with people and places at the centre.

Because in the next disaster – and the one after that – it won't be just the systems that save us. It will be each other.

Connecting Social Capital and Social Infrastructure

Social capital grows through everyday interactions with people we know, trust, and work with to solve problems and support each other. But these connections don't form in isolation. They need places and spaces to form and grow.

Social infrastructure provides the settings where people connect, build trust and cooperate.

People are more likely to build and maintain bridging social ties when they have welcoming, accessible places to gather. Whether it's a park, café, local sports club, library,³ ceremonial site or church – these places and spaces create the conditions where connections can form and flourish.

Measuring social capital alongside social infrastructure provides a clearer picture of how and where communities connect, guiding investment to strengthen resilience.

Social Capital vs Social Cohesion

Social cohesion is the outcome, but social capital is what gets us there – connections, trust, and mutual support.

³ Garnett, J. (2021). Resilient libraries. *Journal of the Australian Library and Information Association*, 70(3), 307-312.

Talking about Social Capital



This framework uses simple descriptors so everyone can understand social capital, and talk about it in everyday life.



WHAT IS SOCIAL CAPITAL

Social Capital refers to the connections, trust and cooperation between people

It lives in our relationships: who we know, who we trust, how we show up for each other, how we share information and how we act together in times of need.

These invisible networks of people help communities thrive – socially, economically and in times of crisis. It improves the daily lives of individuals, and in doing so, makes communities stronger, more connected and more resilient.

Social capital is something we should all understand, value, and invest in. That's because it strengthens social cohesion, builds disaster readiness, and makes for happier people and places.

But understanding social capital is only one piece of the puzzle. To make social capital part of our everyday conversation, we need to measure and track it.

WHY MEASURING SOCIAL CAPITAL MATTERS

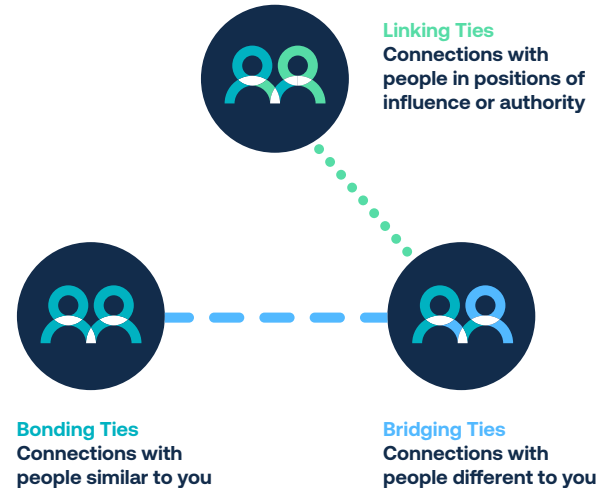
If we don't measure it, we don't value it

- **Identify** strengths and gaps in community connection, trust, and collaboration.
- **Target** support where it's needed most, especially for at-risk or disconnected groups.
- **Invest** in programs, infrastructure and services to strengthen community connection.
- **Track** improvements in social connections and identify opportunities for more investment.
- **Build** shared understanding and collaboration between government, business, and communities.

Social Ties: the building blocks of Social Capital

Social ties are the various connections people have with others, and are what we use to measure social capital.

There are three main types of social ties: **bonding ties**, **bridging ties** and **linking ties**. Each plays a unique role in how we connect, support each other, and strengthen communities.



Adaptation of social capital ties diagram, Professor Daniel Aldrich



BONDING TIES	BRIDGING TIES	LINKING TIES
Connections between people who are close, often through shared experiences or backgrounds.	Connections between people from different backgrounds such as cultures, generations, languages, beliefs, professions, geographies and life experiences.	Connections between community members and people or organisations with power, influence or authority.
They provide emotional support, everyday help and strong mutual aid in times of crisis.	They help build understanding, reduce division and open access to new ideas, perspectives and opportunities.	They help communities access resources, information and decision-making pathways.
For example:	For example:	For example:
- Family members - Friends including at work - Trusted neighbours - Kinship networks	- Members of your sports club - Parents at your kids' school - People you meet at church, the pub or local café	- Local mayor, senior council personnel, or state, territory or regional government representative - Local business or industry leaders - Faith or cultural leaders such as pastors, rabbis, or Aboriginal and Torres Strait Islander Elders

3 steps to measuring Social Capital

Social capital can be hard to see. It exists in how people connect, trust each other and work together. Social capital measurement will highlight where we should invest to build more connected, resilient communities.



Track indicators	Measure neighbourhoods	Validate and publish
We measure social capital by tracking 18 indicators that show how connected a neighbourhood is and how likely it is to mobilise quickly and effectively during a crisis.	From these indicators, we measure how strong (or weak) bonding, bridging, linking and combined social ties are at the neighbourhood level. A neighbourhood is an area of around 200 to 800 people.	Findings are tested and validated through internal and external validation. ⁴ Results are published on our mapping tool, where each neighbourhood (SA1 area) has a social capital rating from very low to very high.

18 Social Capital indicators		
BONDING TIES INDICATORS	BRIDGING TIES INDICATORS	LINKING TIES INDICATORS
We measure bonding ties by looking to see how similar a group of people are to each other.	We measure bridging ties by looking at the differentiation between people living within the same neighbourhood.	We measure linking ties by looking at connections to decision-makers like government and community leaders.
The indicators used are:	The indicators used are:	The indicators used are:
- Birthplace similarity - Indigenous similarity - Employment equality - Education equality - Gender-income similarity - English proficiency similarity - Share of the population who are non-elderly - Income inequality - Share of the population who are married/de-facto - Age grouping similarity	- Share of social welfare in the population - Volunteering rate - Share of the population that live in same address - Share of the population who are healthy (no long-term health condition) - Share of the population who are homeowners	- Share of population that are government employees - Share of population in the defence force (currently serving or previously served) - Share of population that are eligible electors

Sociabli for Social Capital

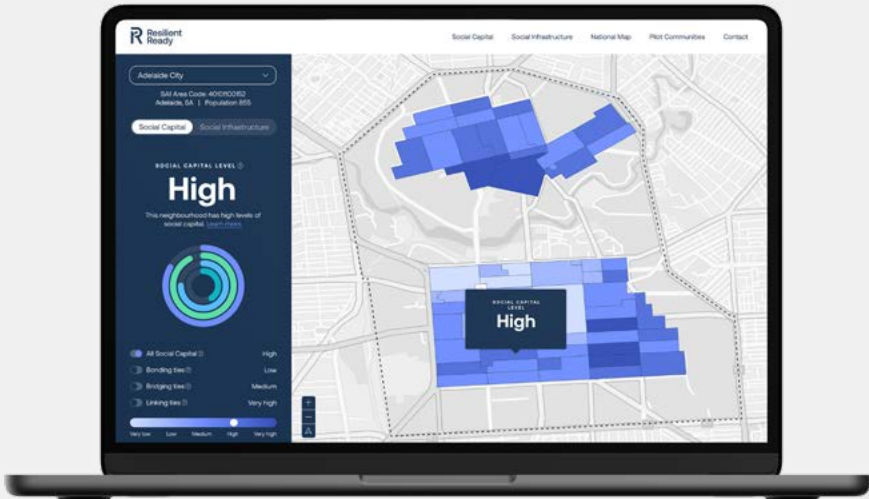
For the first time, Australians can explore the strength of their community connections through **Sociabli**.

Social capital data is now available for Australia's pilot communities.



Talking about Social Infrastructure

This framework uses simple descriptors so everyone can understand social infrastructure, and talk about it in everyday life.



What the tool measures

Sociabli combines national data sources and world-leading research to measure:

- Bonding ties
- Bridging ties
- Linking ties
- Combined social capital

Neighbourhood-level insights

Sociabli measures social capital at the SA1 level, which is roughly the size of a neighbourhood block of around 200 to 800 people.

This means the data is highly local, showing the average level of connection in each community.

Simple, clear results

Sociabli makes complex data easy to understand.

By simply hovering over a neighbourhood block, you can instantly see the level of bonding, bridging, linking and combined social ties.

To make it simple to understand, we display social capital results in each neighbourhood on a scale from very low to very high.

This means anyone – from community members to policy makers – can quickly see how connected an area is and where there are opportunities to strengthen it.



sociabli.resilientready.org



WHAT IS SOCIAL INFRASTRUCTURE?

Social infrastructure refers to the shared places and spaces that create opportunities for people to connect, build trust, and work together every day

WHY MEASURING SOCIAL INFRASTRUCTURE MATTERS

If we don't measure it, we don't value it

This data helps us shift from reactive recovery to proactive connection-building, giving decision-makers a clearer picture of what drives resilience from the ground up.

- **Identify** where communities can access connection-enabling spaces and where gaps exist.
- **Target** investment in social infrastructure to strengthen social ties and community resilience.
- **Support** equitable access for regional and remote Aboriginal and Torres Strait Islander communities.
- **Ensure** shared places are safe, welcoming and well-used by diverse groups.
- **Track** how social infrastructure overlays with risk and hazard mapping.
- **Foster** collaboration across planning, health, emergency management and social services.

These physical places and spaces form the foundation for social capital to grow. They play a vital role in building bridging ties by enabling everyday connections. And become critical support hubs in times of crisis.

There are 4 categories of social infrastructure.⁵



 Community places

Shared physical places like schools, libraries, sports clubs and community centres where people gather, connect and build relationships.

While people increasingly connect through digital means, our focus is on physical, social infrastructure. We acknowledge digital connection, but we haven't included it in this scope.



 Open spaces

Outdoor spaces like parks, playgrounds and dog parks where people can meet, exercise, relax, and connect with others.



 Social businesses

Commercial premises bringing people together through everyday services and shared spaces, like cafes, pubs, gyms, hairdressers, and caravan parks.



 Places of culture & faith

Aboriginal and Torres Strait Islander cultural and sacred sites led by connection to Country, alongside churches, mosques and synagogues that bring people together for spiritual connection.

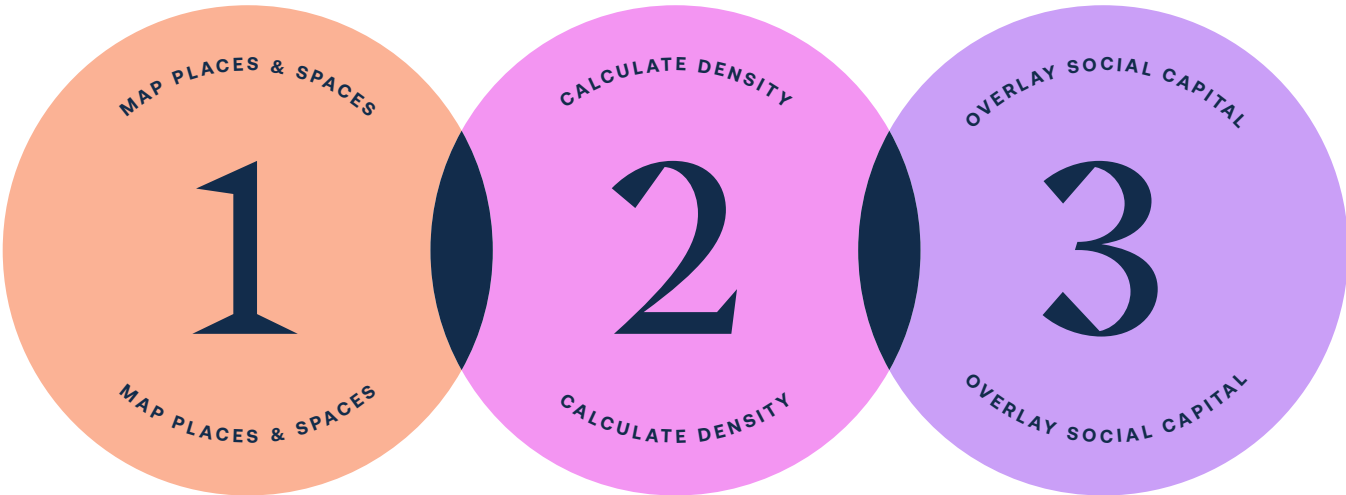
HOW WE MEASURE SOCIAL INFRASTRUCTURE

3 steps to measuring Social Infrastructure

Social infrastructure is measured by mapping the location and density of these places and spaces within a neighbourhood.⁶

We can't map every type of social infrastructure because of its diversity, rapid turnover (especially among businesses), and limited resources to capture it all. We also can't measure the places and spaces we can't put on a map.

We focus on the places and spaces most directly linked to everyday connection. Many others, such as health services, crisis support, media and transport, also contribute to community life and wellbeing, but they aren't included in this scope.



Map places and spaces

We carefully map locations in each neighbourhood. A neighbourhood is an area of around 200 to 800 people, with its size and spread varying across metro, regional and remote areas.

Calculate density

We calculate the places and spaces in each social infrastructure category, and overall. This creates a neighbourhood-level 'density score,' showing whether there are many or few opportunities to connect.

Overlay social capital

We compare density with bridging ties. This reveals gaps and strengths, and points to where investment can build more connected, resilient communities.

⁵ Joshi, A., & Aldrich, D. P. (2025). Corraling a chimera: a critical review of the term social infrastructure. Sustainable and Resilient Infrastructure, 10(3), 284-294.

⁶ Fraser, T., Awadalla, O., Sarup, H., & Aldrich, D. P. (2024). A tale of many cities: Mapping social infrastructure and social capital across the United States. Computers, Environment and Urban Systems, 114, 102-195 and Fraser, T., Cherdchaiyapong, N., Tekle, W., Thomas, E., Zayas, J., Page-Tan, C., & Aldrich, D. P. (2022). Trust but verify: Validating new measures for mapping social infrastructure in cities. Urban Climate, 46, 101-287.

WHAT WE MEASURE

We measure social infrastructure in 4 categories covering the places and spaces we track

By mapping all four categories of social infrastructure, we can determine the density score, i.e. how many social infrastructure sites exist per 100 people.⁷

This gives a better idea of where connection is being enabled and where we need to invest to strengthen inclusive, accessible gathering spaces.



⁷ Refer to Appendix for data sources, limitations and validation.

Community places

Shared physical places like schools, libraries and community centres where people connect through education, learning, events or support programs. They are typically government-owned, though some are independently operated.



-  **Schools**
including independent, government and religious primary, secondary and combined schools
-  **Indigenous community schools**
including Aboriginal-only schools and schools on Mission lands
-  **Early childhood centres**
including kindergartens, daycare centres and preschools
-  **Higher education**
including universities and TAFE campuses
-  **Arts, culture & knowledge centres**
including libraries, galleries and museums
-  **Community centres & halls**
including neighbourhood houses, youth and multicultural centres
-  **Council or community-owned sport & recreation facilities**
including public swimming pools, sports clubs and surf lifesaving clubs
-  **Aboriginal community & cultural centres**
-  **Membership-based organisations with dedicated premises**
including Men's Sheds, Returned and Services League (RSL) clubs, Rotary and Lions clubs, Country Women's Associations
-  **Language and settlement support services**
including migrant resource centres and English language centres
-  **Emergency services stations**
including fire service sheds and State Emergency Services (SES) stations
-  **Regional & remote health centres**
including bush nursing centres and community health centres
-  **Aboriginal Community Controlled Organisation centres**
including Aboriginal Community Controlled Organisations and National Aboriginal Community Controlled Health Organisation centres
-  **Transit hubs**
including airports

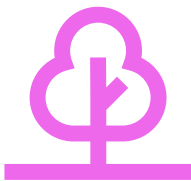
While we recognise these community places, we didn't include them in the framework because:

- **Health services** such as GPs and hospitals are vital to community wellbeing. Their core role is delivering a health service, so they sit outside the scope of this work.
- **Relief and support services** including food banks, domestic violence and homelessness shelters, and disability support centres provide essential crisis support, but their core focus differs from this work.

- **Traditional media** such as community radio and newspapers keep people informed and connected to local stories, but they are not physical gathering places.
- **Transit hubs** such as train stations, bus stops and ports primarily focus on moving people. We are mapping airports, as they often include business lounges, cafés and shared spaces that encourage interaction and connection between travellers.

Open spaces

Outdoor areas like parks, playgrounds and dog walking trails where people can meet, exercise, relax, and connect with others. They are often managed by local councils and are freely accessible to the public.



Suburban & local parks
including dog parks and small reserves



Community gathering spaces
including town squares and plazas, community gardens and patrolled public beaches



Informal sports & recreation courts
including public ovals, tennis courts and basketball courts



Play & youth activity spaces
including playgrounds and skate ramps



Outdoor activity areas
including camping grounds and jetties

While we recognise **national and state parks, coasts, boardwalks, trails, reserves and rivers** as open spaces, we didn't include them in the framework because there are so many of them and they cover such large areas.



Social businesses

Connection-friendly businesses offering goods, services and a place to connect, such as cafés, pubs, gyms, hairdressers, and caravan parks. These are privately owned but often act as informal community hubs.



Core essentials
including general stores, post offices, bakeries and chemists



Everyday connectors
including pubs, cafés, restaurants, op shops, hairdressers and barbers



Social retail precincts
including shopping centres and malls, plazas, markets and farmers markets



Tourism, arts & entertainment venues
including theatres and cinemas, conference centres, zoos and theme parks



Sports & recreation venues
including stadiums, gyms and fitness studios, bowls' clubs



Social accommodation
including caravan parks, hotels and resorts



Co-working spaces
including co-working hubs and incubator, business hubs and chambers of commerce



While we recognise the following businesses, we didn't include them as social businesses in the framework because their focus is commerce and service delivery:

- Banks and financial institutions
- Hardware chains
- Large supermarkets
- Professional or logistics services



Places of culture & faith

Aboriginal and Torres Strait Islander cultural and sacred sites led by connection to Country, alongside churches, mosques and synagogues that bring people together for spiritual connection.



Faith & spiritual sites
including churches, mosques, synagogues and temples



Sites of remembrance & reflection
including cemeteries, war memorials and remembrance gardens



Aboriginal & Torres Strait Islander cultural places



While we recognise there are many other places of culture and faith that hold deep significance for Aboriginal and Torres Strait Islander peoples, these have not been included in the framework due to limited access to relevant data.

We acknowledge that Western data systems often fail to capture places of profound importance – such as ceremonial grounds, songlines and sacred water places.

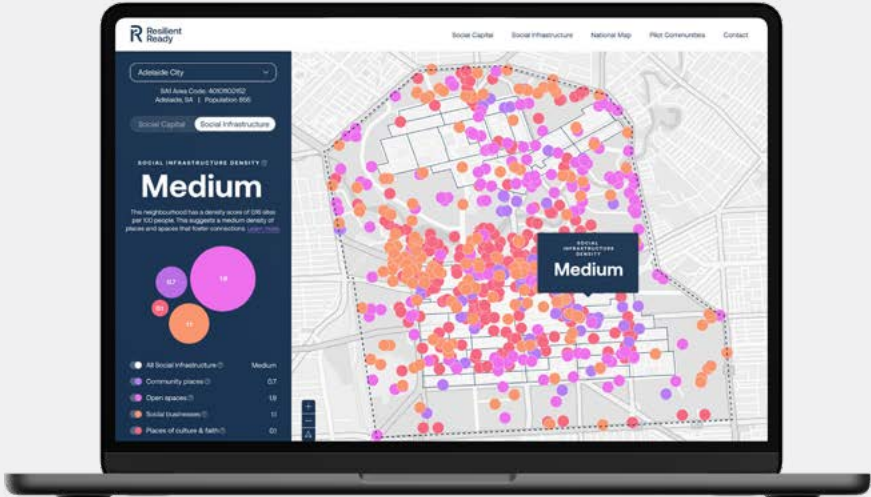
We also recognise that many social infrastructure sites today stand on Aboriginal and Torres Strait Islander lands. More work would be needed to gather this data in line with Indigenous data sovereignty principles and culturally responsive community engagement.

TOOL SNAPSHOT

Sociabli for Social Infrastructure

For the first time, Australians can explore the places and spaces that bring communities together through **Sociabli**.

Social infrastructure data is now available for Australia’s pilot communities.



What the tool measures

Sociabli brings together national data sources and world-leading research to measure social infrastructure across four categories:

- Community places
- Open spaces
- Social businesses
- Places of culture & faith

Neighbourhood-level insights

Sociabli maps social infrastructure at the SA1 level, which is roughly the size of a neighbourhood block of around 200 to 800 people.

This means the data is highly local, showing the average availability of places and spaces that support connection in each community.

Simple, clear results

Sociabli makes complex data easy to understand.

By simply hovering over a neighbourhood block, you can instantly see the level and density of social infrastructure in that area.

To make it simple to understand, we display social infrastructure results in each neighbourhood on a scale from very low to very high.

The density score shows how much social infrastructure is available per 100 people.

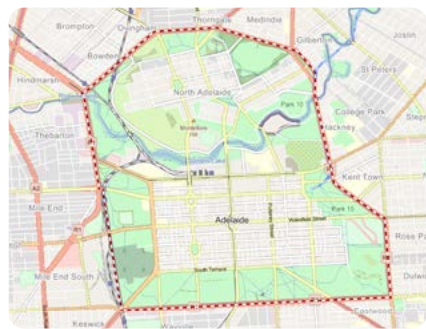
This means anyone – from community members to planners and policy makers – can quickly see how well an area is supported by social infrastructure and where there are opportunities to enhance it.



sociabli.resilientready.org

Pilot communities

To test the measurement of social capital and social infrastructure, we collected data from three pilot communities in South Australia – Adelaide City, Whyalla and Kangaroo Island.



Adelaide City
including North Adelaide



Whyalla



Kangaroo Island

Selecting the pilot communities

In partnership with SAFECOM, we selected three distinctly different communities to ensure a diverse and meaningful pilot.

- **Adelaide City** – a metropolitan centre with established systems and diverse populations.
- **Whyalla** – a regional centre facing economic transition and a higher proportion of Aboriginal and Torres Strait Islander people.
- **Kangaroo Island** – a remote community still rebuilding after the 2019–2020 Black Summer bushfires.

Collaborating with locals

As part of the validation process⁸ we collaborated with local businesses to gather surveys from residents of the pilot communities.

We thank McGregor Tan Research (Adelaide), Corporate Connect.AB (Whyalla) and STF Associates (Kangaroo Island) for their partnership, local expertise and support in engaging communities to ensure the data reflected lived experience.

As a certified social enterprise, Resilient Ready is proud to engage local people and businesses wherever possible.

⁸ Refer to Appendix for data sources, limitations and validation.

KEY FINDINGS

Adelaide City

As South Australia's capital and cultural heart, Adelaide – together with North Adelaide – represents a dynamic urban centre where people live, work, study and connect across diverse neighbourhoods.

Known for its accessible design, thriving arts scene and abundance of parks and public spaces, this “city of churches” offers an ideal setting to explore how social capital and social infrastructure function in a metropolitan environment.

From established community hubs and multicultural precincts to everyday gathering places like cafés, sports clubs and libraries, the city reflects the many forms of connection that shape resilience in urban Australia.

“Adelaide is a friendly city, and people are often connected in some way – but sometimes, those circles don't mix much. It can feel close-knit if you're part of a network, but harder to find your place if you're new or on the outside.”

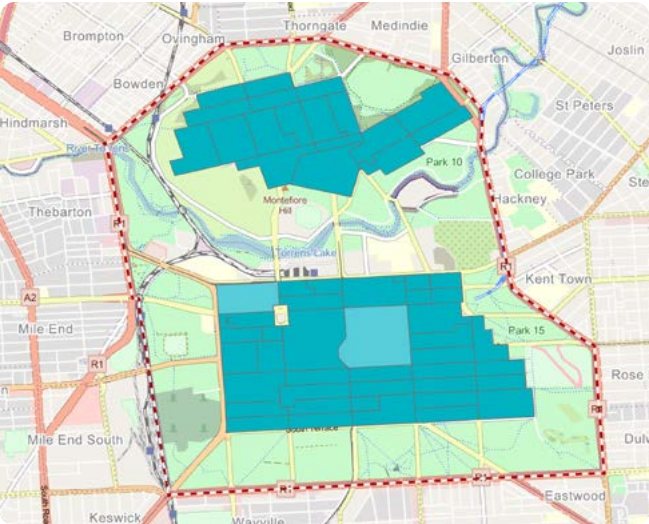


Social Capital findings

Data from Adelaide City shows stronger close-knit networks (bonding ties) but fewer connections between different groups (bridging ties). Connections with people of influence are also low, highlighting opportunities to strengthen these ties.



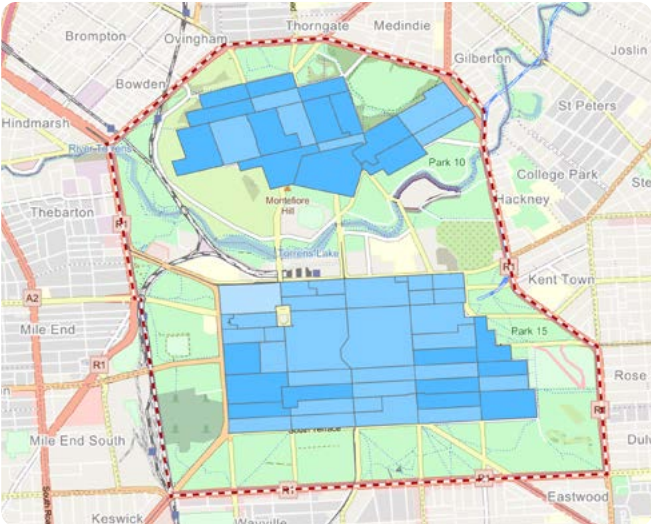
- Bonding ties
- Bridging ties
- Linking ties
- Combined social ties



Bonding ties

Adelaide City shows generally **medium** levels of bonding ties, with two SA1 blocks recording low levels – including the main shopping district. This may reflect high foot traffic and resident turnover, leading to fewer closer relationships.

Overall, there is a solid base of trust and support, with opportunities to strengthen personal connections and everyday relationships that build resilience.

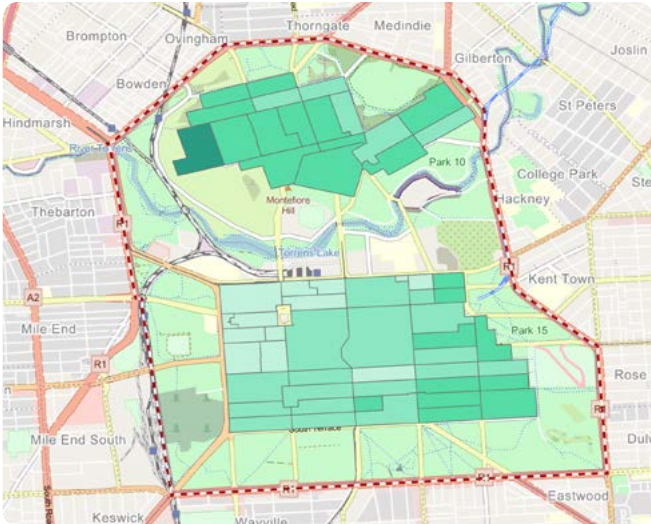


Bridging ties

Across Adelaide City, bridging ties range from **very low to medium**, with most neighbourhoods falling in the low range. This may reflect the high proportion of international students living in the area short-term, with fewer chances to connect beyond close networks.

Neighbourhoods with medium levels of bridging ties tend to have single-level housing rather than high-rise apartments. As a result, they can encounter more opportunities for connection.

Overall, residents appear to have stronger familiar circles but weaker links beyond them – highlighting the value of creating opportunities for people who might not otherwise meet to foster inclusion and resilience.



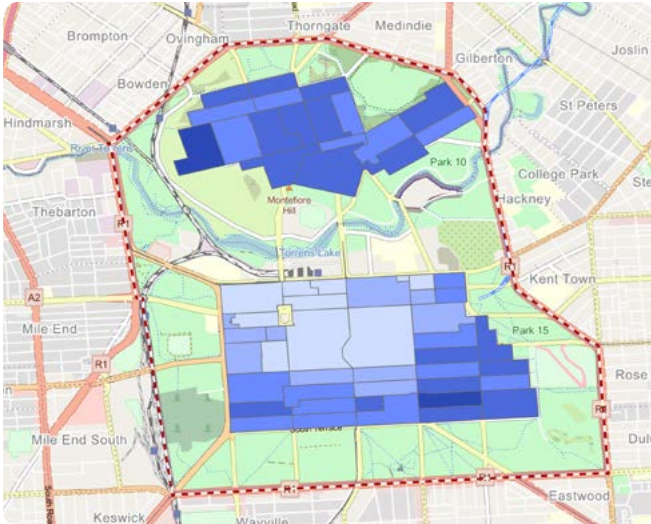
Linking ties

Within Adelaide City, levels of linking ties vary widely – from **very low to high**.

Only one neighbourhood records high levels, likely reflecting North Adelaide's long-established, higher-income residents.

Areas with medium levels tend to have active resident associations that give locals a voice.

However, several SA1 blocks show very low or low levels. Strengthening these connections can help ensure all residents are linked to the systems and decisions that build community resilience.



Combined social ties

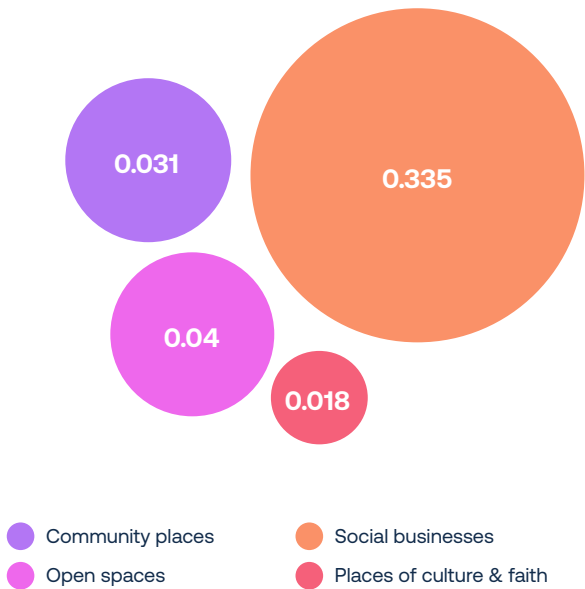
Looking at all social ties combined, Adelaide City ranges from **very low to very high** levels of social capital.

North Adelaide shows stronger ties, likely because it is less transient than the CBD.

This highlights opportunities to strengthen social capital among more transient populations to build resilience for all residents across Adelaide City.

Social Infrastructure findings

Looking at density scores within the Adelaide City CBD area, it's clear social businesses are significant places to foster connections.



Social infrastructure density

As an urban centre, Adelaide City is home to many places of social infrastructure. Surrounded by parklands, the city offers many opportunities for connection across all four social infrastructure categories.

Across Adelaide City, the density scores for social infrastructure range from 0 to **2.61 sites per 100 people**.



Bridging ties + social infrastructure

We can see this SA1 block in North Adelaide (Adelaide City) has a medium density of social infrastructure and medium levels of bridging ties. In this case, we see a positive correlation suggesting a balanced foundation where both social connections and the places that support them are strong.

Whyalla

Located on South Australia’s Upper Spencer Gulf, Whyalla is a proud regional city with deep community roots. It has a growing multicultural population, including many Aboriginal and Torres Strait Islander residents and newcomers from countries such as the Philippines and India. As a city in transition, Whyalla is experiencing new residential developments in the west – areas still establishing social infrastructure – while long-term residents in the east contribute to strong local networks and community life.

“There’s a real mix of old and new in Whyalla now. But the people being the heart of the town hasn’t changed.”

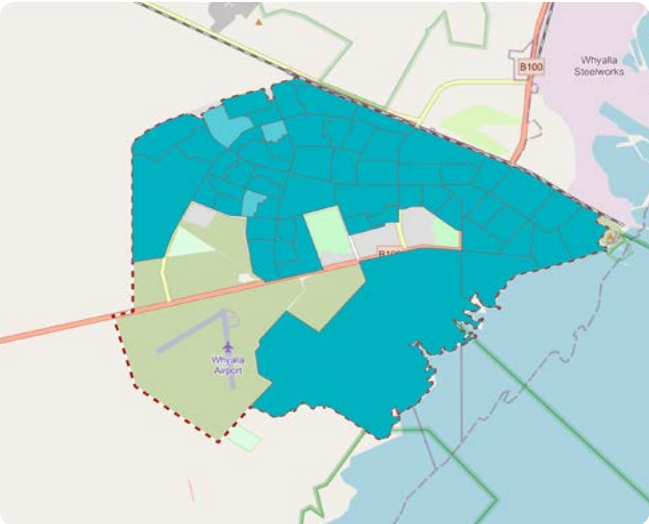


Social Capital findings

The results from social capital measurement in Whyalla shows the significance of close-knit relationships (bonding ties) and highlights the opportunity to strengthen connections with others of different backgrounds (bridging ties) or those who are local leaders (linking ties).



- Bonding ties
- Bridging ties
- Linking ties
- Combined social ties

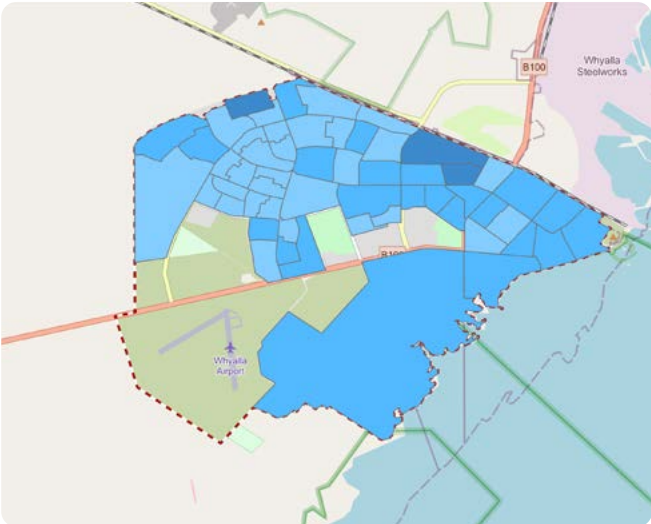


Bonding ties

In Whyalla, most neighbourhoods show **medium** levels of bonding ties.

Bonding ties appear to be lower in the lower socio-economic areas where some social housing is located.

This highlights the need for more research to understand how social capital can be strengthened within lower socio-economic communities.

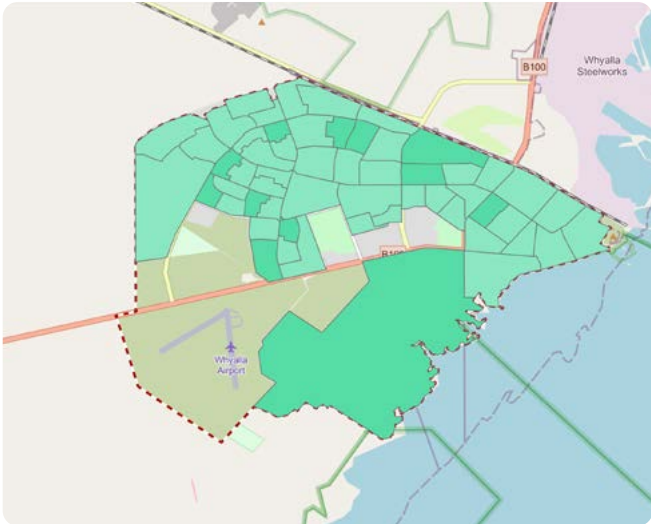


Bridging ties

Bridging ties across Whyalla range from **low** to **high**, indicating varied levels of connection between different social, cultural and age groups.

Some areas are showing stronger interaction than others. The eastern part of Whyalla is home to many long-term and retired residents who are deeply involved in local life, reflecting stronger bridging ties and community participation.

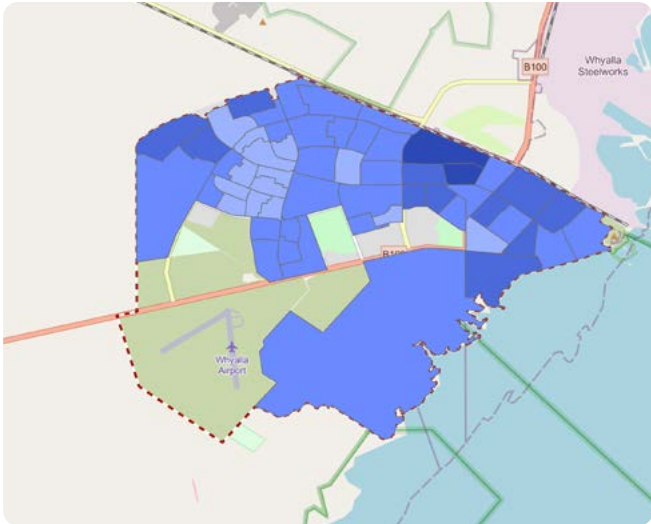
This indicates that some neighbourhoods may benefit from events, initiatives and places that will encourage people from different backgrounds to connect.



Linking ties

Across Whyalla, linking ties are mostly **low** with some neighbourhoods, **medium**.

This indicates that there is significant opportunity to build stronger trust and connection between community members and people in positions of influence.



Combined social ties

Social capital in Whyalla varies from **very low** to **very high**.

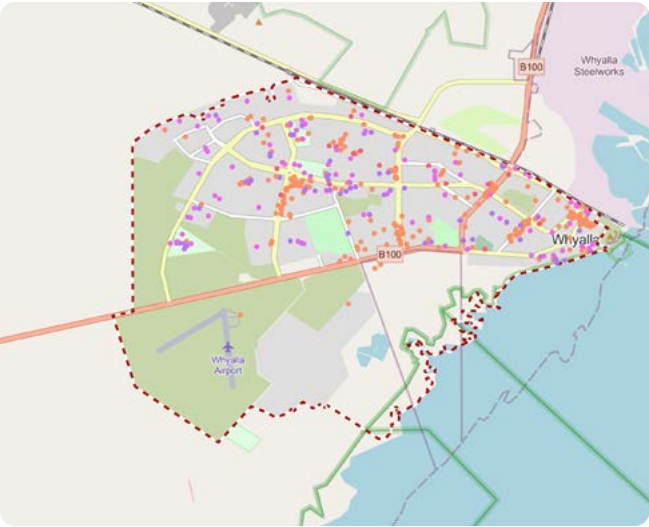
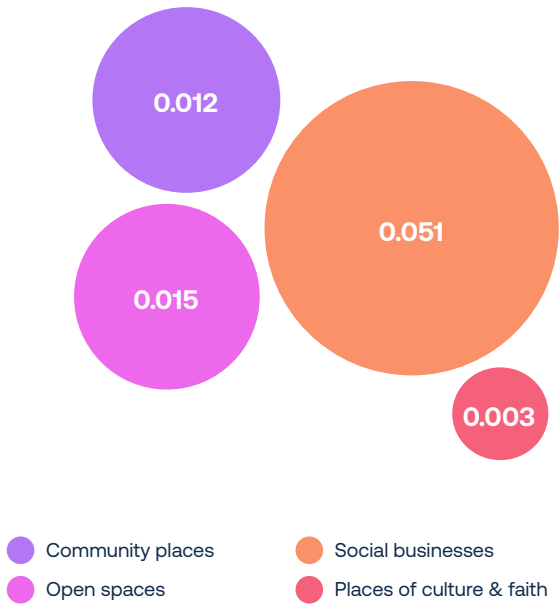
Similar to bonding ties, the blocks which show very low social capital are concentrated in lower socio-economic areas.

Thus, more research would be needed to understand how we can strengthen connections within these areas and build more resilient neighbourhoods across the whole of Whyalla.

WHYALLA

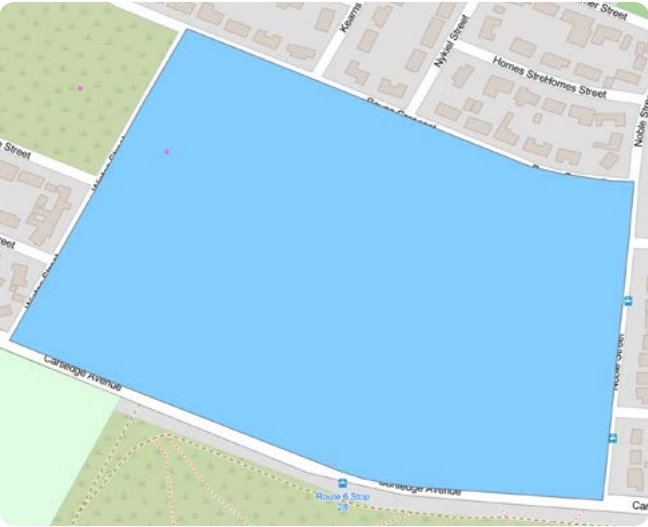
Social Infrastructure findings

In Whyalla, social infrastructure is led by social businesses, open spaces and community places driving opportunities for bridging tie connections.



Social infrastructure density

In Whyalla, the density of social infrastructure varies from **0 to 0.7 sites per 100 people**. The scores being lower in newly developed areas.



Bridging ties + social infrastructure

This SA1 neighbourhood in Whyalla appears to have a low density score for social infrastructure. Within this same block, bridging ties are also classified as low. This suggests that in areas with fewer places to connect, people are less connected to people different to themselves.

KEY FINDINGS

Kangaroo Island

Kangaroo Island is one of South Australia’s most unique and close-knit communities, known for its natural beauty, strong local identity and deep connection to place. Home to a small but resilient population spread across rural towns and coastal settlements, the island has long relied on close relationships and community cooperation to thrive.

The devastating 2019-2020 Black Summer bushfires left lasting impacts on the island’s people, environment and economy.

They also revealed the strength of local community ties and the need for ongoing support to sustain recovery and connection.

From volunteer groups and local businesses to sports clubs and the airport community event space, Kangaroo Island reflects how shared spaces and strong relationships underpin resilience in regional Australia – especially in the face of adversity.

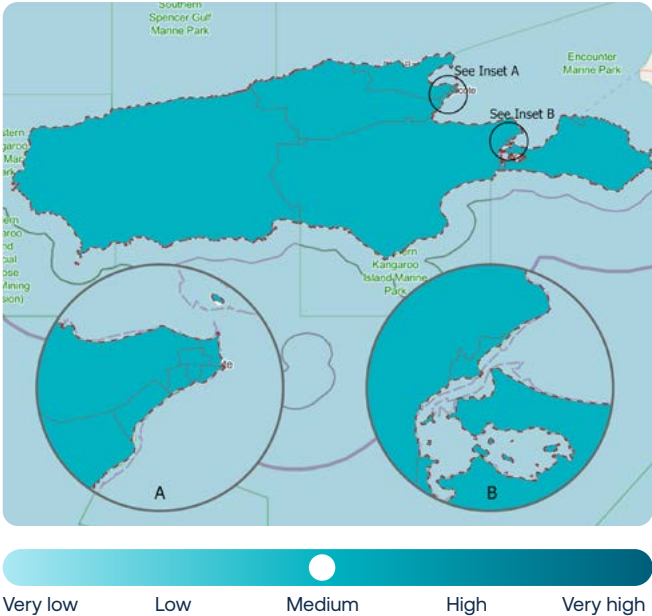
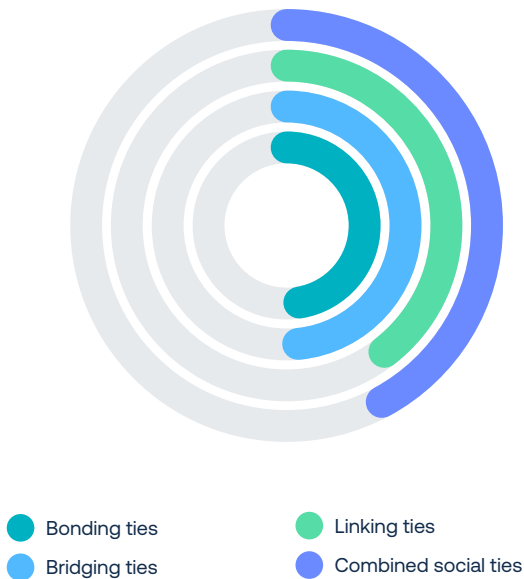
“Kangaroo Island is a really close community – for the most part. Everyone pulls together, especially when things get tough. But being small can also means it takes time for new people to feel part of it and your connections can be limited.”



KANGAROO ISLAND

Social Capital findings

Across Kangaroo Island, locals are well-connected across all social ties – bonding, bridging and linking social capital all averaging at medium levels.

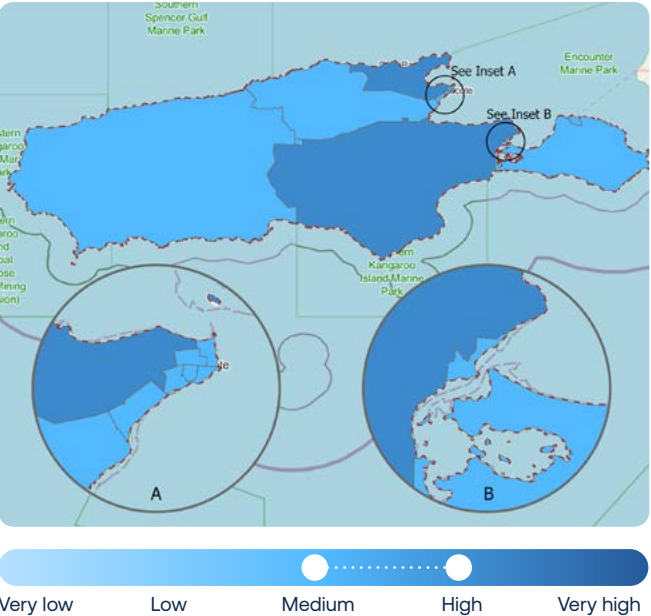


Bonding ties

On Kangaroo Island, SA1 bonding ties are at **medium** levels which is likely attributed to the fact that families have lived on the Island through several generations.

Whilst young people may move away from Kangaroo Island for travel and study, many return to start their own families.

This suggests that there are strong, close-knit communities across Kangaroo Island.

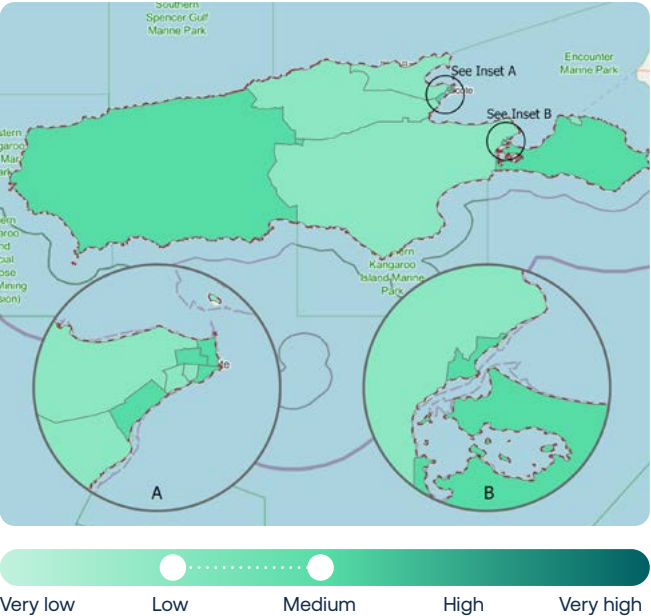


Bridging ties

Bridging ties on Kangaroo Island range from **medium to high**.

Given the hospital and council are both located in Kingscote, the area is more transient than the rest of the island. This may contribute to the medium levels of bridging ties, which is relatively lower than some other SA1 blocks in Kangaroo Island.

This suggests that there remains opportunity to strengthen bridging ties so that people are connected before, during and after a disaster hits.



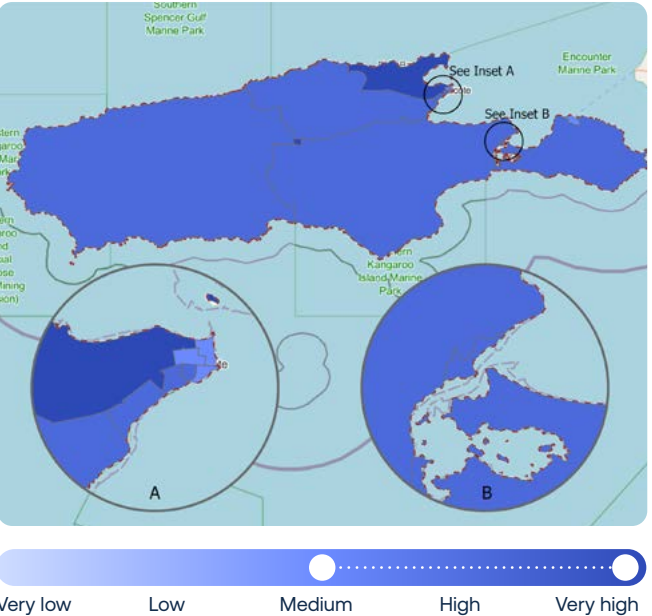
Linking ties

On Kangaroo Island, linking ties range from **low to medium**.

The medium levels appear in several areas including the remote western region (an area which was impacted by the 2019/2020 bushfires) which may be higher than normal due to an increased number of official recovery workers.

The Kingscote area level is also medium likely due to where council office personnel are based.

This data shows an opportunity to build stronger linking ties across all communities.



Combined social ties

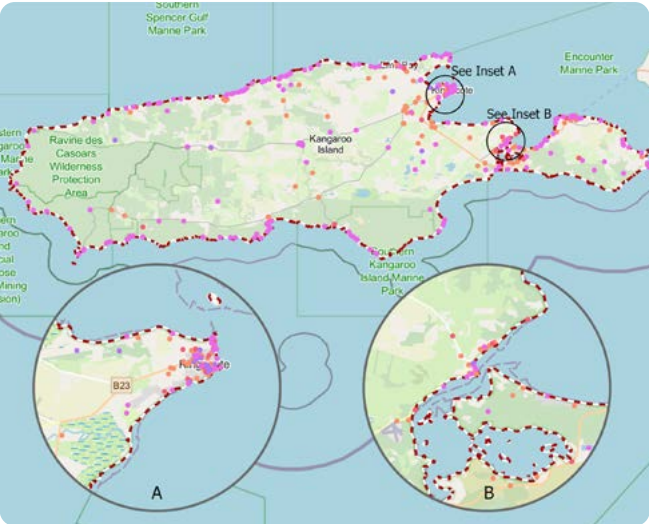
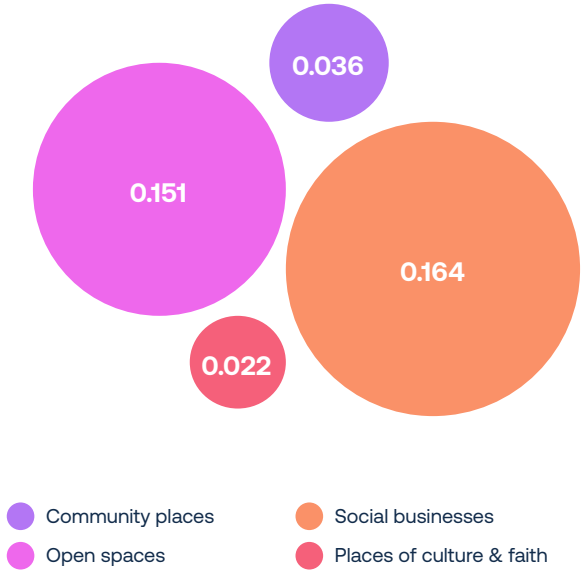
When combining all social ties together, we see that Kangaroo Island has **medium to very high** levels of social capital.

Given its remoteness, Kangaroo Island shows strong connections, reflecting the way community members depend on one another.



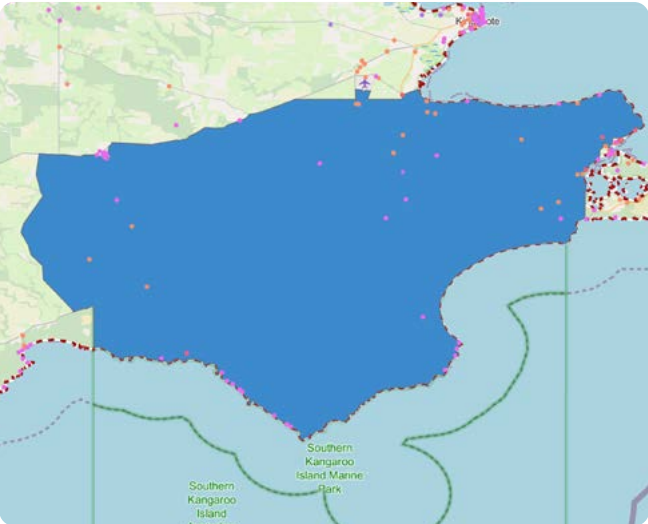
Social Infrastructure findings

Social infrastructure results from Kangaroo Island highlight a correlation between higher density scores and stronger bridging ties. This suggests that the availability of shared places and spaces is helping to foster connections between different groups, supporting a more cohesive and resilient island community.



Social infrastructure density

Social infrastructure is largely concentrated in Kingscote, the main town of Kangaroo Island. While there are many open spaces across Kangaroo Island, places of culture and faith are limited due to the Island's history and demographics. The total density of social infrastructure places on Kangaroo Island starts from **0.04** and goes to **0.84 per 100 people**.



Bridging ties + social infrastructure

In this SA1 block on Kangaroo Island, the density score of social infrastructure is high. The bridging ties are also at high level. This indicates that in areas with more places for people to gather and connect, relationships between people from different backgrounds are forming.

Every individual, group and organisation benefits from understanding and measuring social capital and social infrastructure.



How to use the Framework

We've designed this framework to be practical, scalable and accessible to anyone invested in building more connected and disaster-resilient communities.

Whether you're a policymaker, council planner, business leader, community organisation or funder, this framework offers a consistent way to understand, measure and apply insights about social capital and social infrastructure. It helps you do this in a way that's relevant to your role, your community and your context.

You can use the framework in 3 ways:

1. **For Measurement**
2. **For Planning**
3. **For Communication**

1. For Measurement

To understand where connections exist and where they need to be strengthened.

Measuring social capital and social infrastructure gives us a baseline view of a community's connectedness and its capacity to respond to and recover from disasters, designed to measure increases and decreases in social capital over time.

- **Conduct local assessments and map hotspots**
Councils, communities and agencies can map the distribution of social infrastructure, assess the presence and strength of social capital, and identify areas of high or low connectedness. These insights can highlight gaps, strengths and opportunities for targeted action.
- **Track trends and assess impact**
Regular measurement allows users to track trends in community connection and resilience – especially when overlayed with hazard risk mapping. It helps assess the impact of policies, programs, disruptions such as disasters, development or demographic change. It also ensures efforts are responsive and adaptive.
- **Compare consistent data**
The framework provides a clear structure for selecting indicators, interpreting results and using consistent data sources. This ensures that data collection is appropriate, repeatable and comparable over time. This will allow users to monitor change, evaluate progress and make informed decisions at local, regional and national levels.

2. For Planning

To embed people and community connection as a key part of planning and making future decisions.

Social capital and social infrastructure are not just reactive tools for recovery. They're proactive levers for planning stronger, safer and more inclusive communities.

Professor Daniel Aldrich's global research emphasises the importance of building social capital during everyday life so it can be used when shocks occur.

This concept highlights its value across all phases – before, during and after a disaster. It also underscores the opportunity to strengthen and invest in social capital long before a disaster hits.

- **Embedding into resilience strategies**
Councils and governments can integrate social capital and social infrastructure indicators into existing disaster resilience, wellbeing and liveability frameworks. This ensures connection is part of every plan, not just every emergency.
- **Aligning investment and program design**
Data from this framework helps direct resources to where they'll have the most impact. It supports funding applications, informs grant targeting and ensures infrastructure, services and programs are delivered where people need them most.

3. For Communication

To make the invisible visible, and change the way we talk about resilience.

We often take connection for granted and rarely include the strength of social capital in traditional reporting. This framework helps bring those strengths to light.

- **From invisible to measurable**
Social capital and social infrastructure are often overlooked because they're hard to see, measure or value. This framework includes indicators around trust, connection and shared places to make these vital social strengths visible, measurable and actionable.
With clear indicators and consistent data, stakeholders can communicate their value in compelling, evidence-based ways. This helps shift perceptions, guide targeted investments, and ensure social strength is recognised alongside physical infrastructure in planning, funding and policy decisions.
- **Shifting narratives around connection and preparedness**
The framework enables governments, businesses and communities to talk about disaster resilience not just in terms of risk and infrastructure but in terms of people, connections and inclusion. It builds a shared language, reinforcing the importance of investing in social strength before the next crisis.

By focusing on social capital, we recognise communities can be more resilient and prepared. However, they still need government support through investment, policy and partnership.

Moving forward with confidence

This framework is not a one-size-fits-all tool. It’s designed to be flexible, place-based and adaptable. Whether you’re using it to guide long-term strategy, identify local needs or tell a better story about community strength, the framework puts connection at the heart of resilience.

This is not a static document to be left on the shelf. The framework will be reviewed and updated over time to ensure it remains relevant, practical and responsive to emerging challenges and opportunities across Australia.

What it’s not

This framework is focused on measuring the social foundations of disaster resilience – people connections and the places that support connections to form and grow. To ensure clarity, it’s equally important to understand what this framework is not designed to do.

- **It’s not a social cohesion framework**
While stronger social capital can support social cohesion, this framework focuses specifically on measuring relationships, trust and connection – not broader population-level attitudes of identity-based cohesion.
- **It’s not a health or mental health services framework**
We recognise the strong link between connection and wellbeing, but this framework does not assess clinical outcomes or service delivery. Instead, it highlights how social ties and inclusive spaces can support physical, mental and emotional health.
- **It’s not about grey physical infrastructure**
Roads, bridges and hospitals are vital – but unless they primarily enable connection between people, they sit outside this framework. Our focus is on the shared places and spaces that foster interaction, trust and community life.
- **It’s not a digital or online connections framework**
We recognise the growing importance of digital connection in people’s lives and its role in supporting community – especially in remote areas. While this framework focuses on physical, place-based connection, we see digital connection as a complementary area and an exciting opportunity for future exploration.

Guiding principles

This framework is built on clear principles to ensure it is meaningful, usable and trusted by everyone – from communities and councils to all levels of government.

These principles guide how we source data, engage people and deliver insights that build long-term, place-based resilience.

- **Consistency across Australia**
Indicators use data available nationwide, ensuring fair comparison and meaningful local insights.
- **Balancing data and lived experience**
Objective sources (like ABS data and mapped infrastructure) are combined with community insights to ground results in both evidence and reality.
- **People at the centre**
The focus is on what matters most – people, trust and connection. Physical infrastructure alone isn’t enough; connection gets us through.
- **Measured over time**
Indicators are chosen for ongoing tracking so users can monitor change, assess impact and guide investment.
- **Transparent and open**
We explain what’s measured, how and why – building trust and confidence for others to use and build on this work.
- **Scalable and adaptable**
The approach works locally, regionally and nationally – from small towns to whole jurisdictions.
- **Equity and inclusion**
The framework highlights where groups or places are under-supported or at risk of disconnection, enabling fairer investment.
- **Aboriginal and Torres Strait Islander foundations**
Grounded in connection to Country, kinship, cultural continuity and collective responsibility, enduring strengths that guide how we measure, engage and act.

Together, these principles make the framework not just a measurement tool, but a trusted foundation for planning, investment and action.

National and international policy relevance

Australia’s **National Social Capital + Social Infrastructure Measurement Framework** directly supports and aligns with broader national and international policies and commitments. It will help to fill critical gaps identified across multiple inquiries and strategies.

National relevance

Alignment with the Australian Disaster Risk Reduction Framework (DRRF)

The Australian Disaster Risk Reduction Framework (2018) outlines the nation’s vision for a disaster-resilient future, structured around shared responsibility and risk-informed decision-making.⁹

In the complex nature of disaster impacts, the DRRF explicitly mentions social capital as a key factor influencing the ability of a person or community to prepare for, respond to, and recover from disasters.¹⁰

The **National Social Capital + Social Infrastructure Measurement Framework** contributes to all priorities listed in the DRRF:

- **Priority 1: Understand disaster risk**
Mapping social capital and social infrastructure shows where people are less connected and therefore, less resilient to shocks. When combined with hazard mapping, it highlights neighbourhoods most at risk and lacking social ties.
- **Priority 2: Accountable decisions**
Data on social capital and social infrastructure supports better decision-making across all phases of disaster management. It helps us proactively build disaster-resilient communities by strengthening connections before, during and after crises.
- **Priority 3: Enhanced investment**
Using this framework and its data outputs, we can see where investment will be most crucial and impactful, even before disasters occur. Targeted resources will strengthen connections and resilience ahead of future shocks.

- **Priority 4: Governance, ownership and responsibility**
Neighbourhood-level data enables place-based approaches to disaster risk reduction. By understanding what each community needs, we can move away from one-size-fits-all solutions and ensure efforts are locally owned and more effective.

Alignment with the Second National Action Plan (NAP)

The Second National Action Plan to implement the Disaster Risk Reduction Framework (2023) outlines Australia’s national priorities for reducing disaster risk, focusing strongly on collaborative, community-led and systems-based approaches.¹¹

The **National Social Capital + Social Infrastructure Measurement Framework** is directly aligned with the objective of the NAP. It complements its intent to move beyond traditional risk models by incorporating the social dimensions of resilience.

This framework responds to 20 of the 24 National Actions, offering both data and tools to help implement the Action Plan at a local, regional and national level. It provides measurable insights into the social ties and enabling infrastructure that underpin community resilience. And it fills a critical gap in how we currently assess and reduce disaster risk.

As Australia puts the NAP into action, this framework stands ready to support implementation.

Alignment with the AIDR Systemic Disaster Risk Handbook

The Systemic Disaster Risk Handbook (2023), published by the Australian Institute for Disaster Resilience (AIDR), encourages a shift from siloed disaster planning to recognising how risks emerge across interconnected systems – including social systems.¹²

It highlights that while relationships (or connections), trust and local networks significantly influence how communities experience and recover from disasters, these social factors are often difficult to measure.

⁹ Department of Home Affairs. (2018). National Disaster Risk Reduction Framework (DRRF). Commonwealth of Australia.
¹⁰ See DRRF page 5.
¹¹ National Emergency Management Agency. (2023). The Second National Action Plan to implement the National Disaster Risk Reduction Framework. Commonwealth of Australia.
¹² Australian Institute for Disaster Resilience. (2021). Systemic Disaster Risk Handbook (1st ed.). Commonwealth of Australia.

The **National Social Capital + Social Infrastructure Measurement Framework** directly complements the Handbook by making the invisible visible. It provides data on people connections and the places that foster people to connect. This enables governments and communities to better understand how connection, trust and place-based social infrastructure reduce systemic risk.

Anticipating the Colvin Review response

In response to major events such as the 2022 floods and bushfires, the Australian government commissioned a comprehensive review into disaster funding and coordination led by Andrew Colvin AO.¹³

The Colvin Review into disaster funding and coordination recommends a more strategic, data-informed approach to building national resilience. This framework directly supports several key recommendations.

- **Strategic integration:** It enables departments to incorporate social capital into resilience planning (recommendation #3).
- **Advisory representation:** It strengthens the case for including community and social capital expertise in disaster governance bodies (recommendation #8).
- **Data for decision-making:** It leads to providing timely, localised data on connection and places that foster connections to inform risk and investment decisions (recommendation #9).
- **National outcomes:** It can support future disaster funding frameworks by helping track social cohesion and resilience outcomes (recommendation #12).
- **Partnerships:** It highlights the value of place-based partnerships with not-for-profits, community groups and local businesses (recommendations #45 and #46).

This framework offers practical tools to bring the Colvin Review’s recommendations to life by embedding community connection into the core of disaster risk planning and investment.

Complementing the Glasser Review on national resilience governance

The 2024 Glasser Review, led by Dr Robert Glasser, examined how Australia governs resilience across jurisdictions, and recommended a more coordinated, outcomes-focused approach.¹⁴

It called for:

- A national resilience report to track progress against shared goals
- Agreed indicators of resilience to guide funding and reform

This framework answers that call. It offers an evidence-based way to assess social capital – a core part of resilience – alongside the physical and formal systems often prioritised.

It builds on Professor Daniel Aldrich’s approach to measuring bonding, bridging and linking ties, which has been piloted in multiple countries (including Japan and the United States).¹⁵ This approach shows how social capital indicators can guide investment, planning and recovery.

It also supports jurisdictions in monitoring progress over time using a unified set of indicators, enabling meaningful contributions to national reports like the proposed Australian National Resilience Report (ANRR).

International relevance

Supporting the Sendai Framework for Disaster Risk Reduction (UNDRR)

Internationally, this work directly supports the United Nations’ Sendai Framework for Disaster Risk Reduction (2015-2030).¹⁶

- **Priority 1: Understand disaster risk** – by measuring not just hazards and assets, but people, connections and vulnerabilities.
- **Priority 2: Strengthen disaster risk governance** – by enabling all levels of government to identify, fund and foster connection-based resilience.
- **Priority 3: Invest in disaster risk reduction for resilience** – by guiding targeted investments in social capital and social infrastructure to build community capacity.
- **Priority 4: Enhance disaster preparedness for effective response** – by supporting the everyday social systems that underpin spontaneous volunteers, mutual aid and informal support during crises.

The framework also contributes to Sendai Target E (to increase the number of countries with national and local DRR strategies) by providing an evidence-based, measurable layer that can be embedded in both.

Contributing to the Sustainable Development Goals (SDGs)

The **National Social Capital + Social Infrastructure Measurement Framework** brings the United Nations Sustainable Development Goals (SDGs) to life at the community-level.

By highlighting the ties that connect people and the places that enable connection, the framework provides practical, place-based data to support more equitable, healthy and resilient communities.

It helps governments and stakeholders tailor efforts to local strengths and needs, ensuring national progress on goals like health, equality, sustainable cities and climate action reflects the lived realities of communities.

Through this approach, the framework bridges global ambitions with local relevance, making the SDGs actionable in everyday Australian contexts.

Aligned with SDG 17, the framework also strengthens collaboration across sectors, encouraging partnerships between government, businesses, not-for-profits, researchers and communities to drive shared progress toward resilience and wellbeing.

13 Colvin, A. (2024). Independent Review of Commonwealth Disaster Funding: Final report. National Emergency Management Agency.

14 Glasser, R. (2024). Independent Review of National Natural Disaster Governance Arrangements: Final Report. National Emergency Management Agency.

15 Kyne, D., & Aldrich, D. P. (2020). Capturing bonding, bridging, and linking social capital through publicly available data. Risk, Hazards & Crisis in Public Policy, 11(1), 61-86. Also see Fraser, T., & Aldrich, D. P. (2021). The dual effect of social ties on COVID-19 spread in Japan. Scientific reports, 11(1), 1596.

16 United Nations Office for Disaster Risk Reduction (2015). Sendai Framework for Disaster Risk Reduction 2015 – 2030.

Glossary

Glossary of acronyms

ABS	Australian Bureau of Statistics
AIDR	Australian Institute for Disaster Resilience
ANRR	Australian National Resilience Report
DRF	Disaster Ready Fund
DRRF	Disaster Risk Reduction Framework
NAP	Second National Action Plan
RSL	Returned and Services League
SA1	Statistical Area 1
SAFECOM	South Australian Fire and Emergency Services Commission

Glossary of terms

Bonding ties	Connections with people who are similar to you – who are close, often through shared experiences or backgrounds.
Bridging ties	Connections with people who are different to you – from different backgrounds such as cultures, generations, languages, beliefs, professions, geographies and life experiences.
Community places	Shared physical places like schools, libraries, sports clubs and community centres where people gather, connect and build relationships.
Ground-truthing	The process of checking data or indicators against real-world conditions to ensure accuracy and relevance.
Linking ties	Connections with people in positions of influence or authority – between community members and people or organisations with power, influence or authority.
Open spaces	Outdoor spaces like parks, playgrounds and dog parks where people can meet, exercise, relax, and connect with others.
Places of culture & faith	Aboriginal and Torres Strait Islander cultural and sacred sites led by connection to Country, alongside churches, mosques and synagogues that bring people together for spiritual connection.
Social businesses	Commercial premises bringing people together through everyday services and shared spaces, like cafés, pubs, gyms, hairdressers, and caravan parks.
Social capital	The connections, trust and cooperation between people.
Social cohesion	How well people in a community get along, feel included, and work together for common good.
Social infrastructure	The shared places and spaces that create opportunities for people to connect, build trust, and work together every day.
Social ties	The different connections people have with others and are what we use to measure social capital.

References

Aldrich, D. P. (2012). Building Resilience: Social Capital in Post-Disaster Recovery. University of Chicago Press.

Aldrich, D. P. (2019). Black Wave: How networks and governance shaped Japan’s tsunami recovery. University of Chicago Press.

Aldrich, D. P. (2023). How social infrastructure saves lives: a quantitative analysis of Japan’s 3/11 disasters. Japanese Journal of Political Science, 24(1), 30–40.

Australian Institute for Disaster Resilience. (2021). Systemic Disaster Risk Handbook (1st ed.). Commonwealth of Australia.

Bourdieu, P. (1986). The Forms of Capital. In J. G. Richardson (Ed.), Handbook of Theory and Research for the Sociology of Education (pp. 241–258).

Colvin, A. (2024). Independent Review of Commonwealth Disaster Funding: Final report. National Emergency Management Agency.

Department of Home Affairs. (2018). National Disaster Risk Reduction Framework. Commonwealth of Australia.

Fraser, T., & Aldrich, D. P. (2021). The dual effect of social ties on COVID-19 spread in Japan. Scientific reports, 11(1), 1596.

Fraser, T., Awadalla, O., Sarup, H., & Aldrich, D. P. (2024). A tale of many cities: Mapping social infrastructure and social capital across the United States. Computers, Environment and Urban Systems, 114, 102-195.

Fraser, T., Cherdchaiyapong, N., Tekle, W., Thomas, E., Zayas, J., Page-Tan, C., & Aldrich, D. P. (2022). Trust but verify: Validating new measures for mapping social infrastructure in cities. Urban Climate, 46, 101-287.

Frumkin, H. (2024, May 17). Parks have social superpowers. Let’s make more of them. The Seattle Times.

Garnett, J. (2021). Resilient libraries. Journal of the Australian Library and Information Association, 70(3), 307-312.

Glasser, R. (2024). Independent Review of National Natural Disaster Governance Arrangements: Final Report. National Emergency Management Agency.

Hanvin, R. & Aldrich, D. P. (2024). Stronger Communities, Brighter Futures: A snapshot of Social Capital + Social Infrastructure across South Australia. Resilient Ready.

Joshi, A., & Aldrich, D. P. (2025). Corralling a chimera: a critical review of the term social infrastructure. Sustainable and Resilient Infrastructure, 10(3), 284–294.

Klinenberg, E. (2018). Palaces for the people: How social infrastructure can help fight inequality, polarization, and the decline of civic life. Crown.

Kyne, D., & Aldrich, D. P. (2020). Capturing bonding, bridging, and linking social capital through publicly available data. Risk, Hazards & Crisis in Public Policy, 11(1), 61-86.

National Emergency Management Agency. (2023). The Second National Action Plan to implement the National Disaster Risk Reduction Framework. Commonwealth of Australia.

Narayan, D. (2002). Bonds and bridges: social capital and poverty. Social capital and economic development: well-being in developing countries. Northampton, MA: Edward Elgar, 58–81.

O’Donnell, J. (2023). Mapping Social Cohesion 2023. Scanlon Foundation Research Institute.

Putnam, R. D. (2000). Bowling Alone: The Collapse and Revival of American Community. Simon & Schuster.

Resilient Ready. (2025). Creating a National Social Capital + Social Infrastructure Measurement Framework to benefit every Australian: Early Findings for Input.

United Nations Office for Disaster Risk Reduction (2015). Sendai Framework for Disaster Risk Reduction 2015 – 2030.

Woolcock, M. (2002). Social capital in theory and practice: where do we stand. Social capital and economic development: Well-being in developing countries, 1(2), 18–39.

Appendix

Data sources and limitations

To effectively measure social capital and social infrastructure, we sourced reliable and nationally consistent data. This approach enables comparable measurement across Australia over time.

Social capital

- Core data source:**
- ABS 2021 Census of Population and Housing (ABS 2021 Census) – publicly available data, conducted every five years.
- Limitations and considerations:**
- Not all data is available at the Statistical Area 1 (SA1 level) which is the smallest geographic unit used by the Australian Bureau of Statistics (ABS). This may limit some localised insights.
 - The ABS 2021 Census was conducted during a time when COVID-19 restrictions were in place. Restrictions including border closures, lockdowns and capacity limits may have influenced the answers given in the Census survey.
 - Aboriginal and Torres Strait Islander communities – Connection to Country, kinship systems and cultural networks are deeply significant but are not represented in national ABS indicators.
 - People experiencing homelessness – because our data is tied to fixed locations, it cannot capture the networks and connections of people without stable housing.
 - Some informal networks and trust-based connections may not be captured through formal data sources.
 - We have included SA1 blocks with a minimum population of 100 people.

Narrowing our scope allows us to focus on the everyday ties that can be measured most consistently nationwide, while future work will address the bespoke areas identified above.

Social infrastructure

- Core data source:**
- Google Places API
- Other data sources:**
- Adelaide Economic Development Council
 - Australian Men’s Shed Association
 - Australian Migrant Resource Centre
 - Australia Post
 - Basketball South Australia
 - Beachsafe App
 - Cemeteries SA
 - Community Centres SA
 - Country Health Connect
 - Department for Education
 - Department for Environment and Water
 - Department for Housing and Urban Development
 - Department of Human Services
 - Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts
 - Lion’s Club
 - National Aboriginal Community Controlled Health Organisations
 - National Parks and Wildlife Service South Australia
 - Office for Recreation, Sport, and Racing
 - Rotary Club South Australia
 - RSL South Australia
 - SA Heritage Places Database
 - Seasonal Food Guide Australia
 - South Australian Country Women’s Association
 - South Australian Tourism Commission
 - Study Australia
 - Swimming Australia
 - TAFE
 - Tennis Australia

Limitations and considerations:

- Social infrastructure can be under-reported, especially when places are multi-use or informal (e.g. a café that also hosts support groups).
- While we recognise that groups, clubs and services help to foster connections, we cannot map this directly. Social infrastructure is limited to physical and mappable places. Instead, we have included multipurpose social infrastructure where these groups may meet and hold events.
- Some places of social infrastructure can technically fall under different categories e.g. a school (community place) that hosts a local farmer’s market (social business) on the weekends. Because of limitations in accessing detailed data, each place has been assigned to one category of social infrastructure.
- We acknowledge that there are other types of social infrastructure which have not been mentioned, because of resource limitations. We have aimed to include the social infrastructure types which are most recognised by Australians, based on what we heard during the national discussions.
- All social infrastructure included in this framework is mapped as a point of interest. While we recognise that large areas such as national parks, recreational trails and Native Title lands also serve as important places of connection, they have been excluded because areas of this scale cannot be accurately represented as points.

By pairing measurable indicators with the realities that communities experience every day, this framework balances measurement with lived context.

17 Putnam, R. D. (2000). Bowling Alone: The Collapse and Revival of American Community. Simon & Schuster.

18 Woolcock, M. (2002). Social capital in theory and practice: where do we stand. Social capital and economic development: Well-being in developing countries, 1(2), 18–39.

19 Narayan, D. (2002). Bonds and bridges: social capital and poverty. Social capital and economic development: well-being in developing countries. Northampton, MA: Edward Elgar, 58–81.

20 Fraser, T., Cherdchaiyapong, N., Tekle, W., Thomas, E., Zayas, J., Page-Tan, C., & Aldrich, D. P. (2022). Trust but verify: Validating new measures for mapping social infrastructure in cities. Urban Climate, 46, 101–287

Data validation

An important step in measuring social capital and social infrastructure is making sure the data is valid.

Social capital data validation

We went further than usual by testing our indicators through both internal and external validation.

Internal validation

This involved indicator testing and Cronbach’s Alpha. We tested whether our indicators for social capital were consistent and reliable. We built and compiled the indicators based on a long foundation of social science theory, including that of Putnam,¹⁷ Woolcock,¹⁸ Narayan¹⁹ and Fraser.²⁰

We used Cronbach’s Alpha, a statistical method that shows how well a group of indicators work together to measure the same concept – for example, whether bonding indicators truly reflected bonding ties.

The same process was applied to bridging ties and linking ties.

External validation

This involved ground-truthing, correlation analysis, qualitative validation and external comparisons.

Ground-truthing was conducted across the three pilot communities (Adelaide City, Whyalla and Kangaroo Island) via surveys with local residents. The survey responses were used to validate if the indicators reflect lived experience.

Ethics approval was granted by Flinders University to conduct this survey.

Working with the following local businesses, the survey was conducted online, by phone, on paper, and through face-to-face conversations:

- McGregor Tan Research (Adelaide)
- Corporate Connect.AB (Whyalla)
- STF Associates (Kangaroo Island)

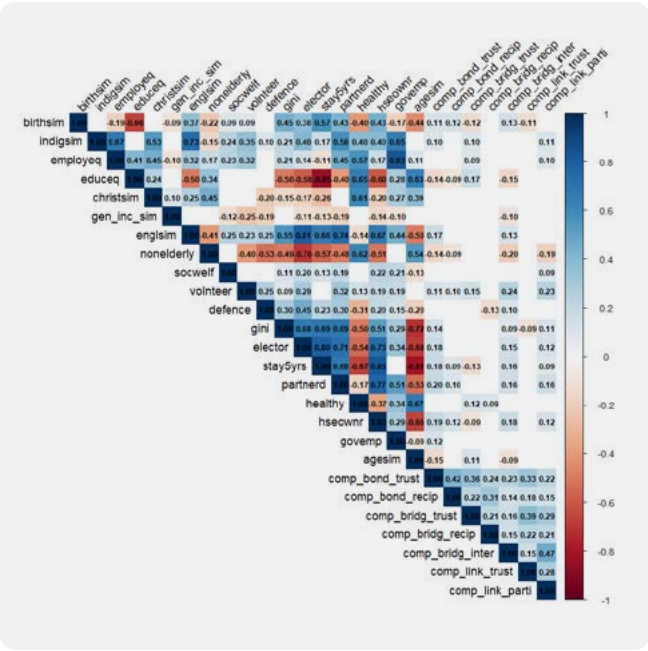
We collected 595 surveys from residents of the pilot communities asking 30 multiple choice and Likert scale questions to measure key concepts of social capital. After validating the survey responses in terms of completeness, we ended with a dataset containing 536 coded responses.

Type of social capital	Concept
Bonding	Trust in family and friends
	Support obtained from close family and friends
	Frequency of interaction with family and friends
Bridging	Trust in new neighbours, other ethnicity, and opinion on place getting along well
	Support obtained from non-family and friends
	Interaction with other people through event attendance and volunteering
Linking	Trust in government institutions (including police and emergency services)
	Participation in political or social activities

Correlation analysis was conducted to analyse the indicators against the composite social capital scores derived from the surveys.

The correlation analysis determines if the indicators are related to social capital concepts measured in the survey.

The correlation matrix visualises which variables were found significant and have a positive or negative relationship to the social capital concepts.



We then compared how well the results matched with ABS Census data, strengthening confidence in the chosen indicators.

Qualitative validation was conducted through informal conversations with key stakeholders in the pilot locations to interpret the data in context.

External comparisons were conducted against other Australian studies to ensure alignment with existing research on social capital.

This process gave us strong confidence that the indicators reflect how social capital works in the Australian context.

Social infrastructure data validation

As we mirrored the proven data capture process used by Professor Daniel Aldrich²¹ in his global studies, and given funding limitations, we did not conduct formal validation of the social infrastructure data beyond the provided sources.

21 Aldrich, D. P. (2023). How social infrastructure saves lives: a quantitative analysis of Japan’s 3/11 disasters. Japanese Journal of Political Science, 24(1), 30–40.

