



MCKELL INSTITUTE QUEENSLAND

# Bridging Queensland's Digital Divide

FELIX ZERBIB / RACHEL NOLAN / EDWARD CAVANOUGH / SCOTT BROWN

SEPTEMBER 2021

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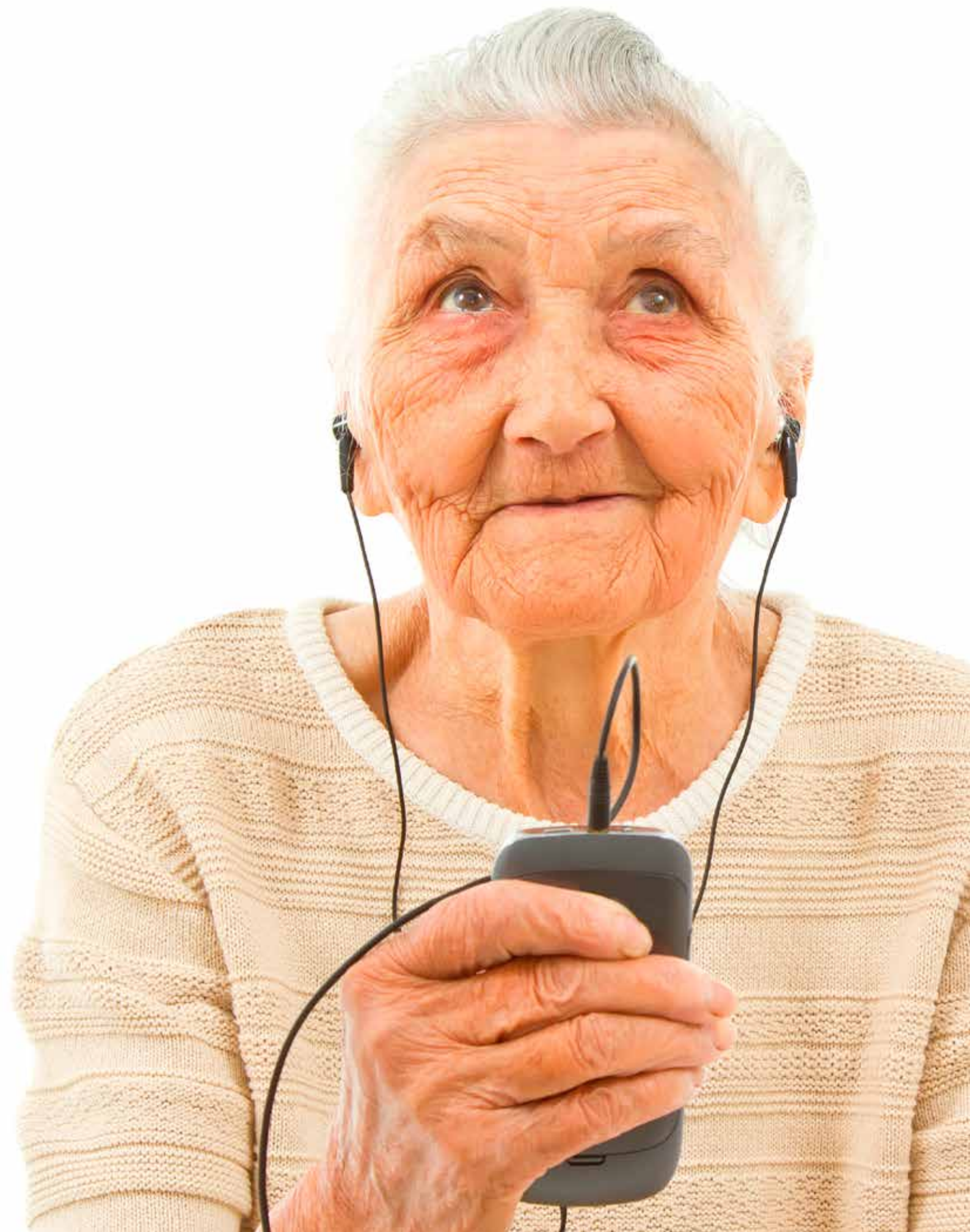
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# FOREWORD

Digital exclusion is a significant driver of human disadvantage in the modern world.

Previous McKell Institute research has already shown differences in income, educational attainment and location can drive lifelong disparities in individuals' attainment and fulfillment. What is now clear is that as economic and civic life move increasingly online, so the inability to join in on that shift is forcing already disadvantaged people further into the shadows.

Sadly, this is happening today in Queensland.

In *Bridging Queensland's Digital Divide*, we seek to understand this challenge, and make recommendations which will assist in addressing this problem in Queensland. Governments play a key role in reducing the digital divide, so as the Queensland Government prepares to update the State's digital strategy, this report seeks to summarise the current state of digital exclusion in Queensland and describe its economic and social implications, review relevant digital inclusion policy responses from other jurisdictions, and provide recommendations for consideration by the Queensland Government and other digital inclusion stakeholders.

In short, the report finds that many Queenslanders remain severely digitally disadvantaged. The three primary drivers of exclusion being **access**, particularly in remote and First Nations communities, **affordability**, with low income earners often unable to afford internet access and **ability**, with older people being less connected and, concerningly, the school students in marginalised communities suffering learning disadvantage, particularly during COVID, if they do not have a connected device at home.

*The Australian Digital Inclusion Index (ADII)* shows Queensland sits behind the Australian Capital Territory, New South Wales, Western Australia and Victoria across all digital inclusion access and ability measures. Further, affordability in Queensland is poor with a higher proportion of household income spent on digital access and services than most other states and territories.

For this report, the McKell Institute examined detailed data from the ADII, and partnered with the Queensland Council of Social Service (QCOSS) to undertake a deeper dive into the human cost of this disadvantage.

The QCOSS data demonstrates how poor digital infrastructure and affordability play out, with a comprehensive survey of workers in the community services sector showing that more than 58 per cent of the sector's clients indicated they couldn't afford data, and 51 per cent lacked confidence with technology.

As the case studies in this report demonstrate, digital exclusion has a broad range of implications for those on lower incomes or in vulnerable situations, including being unable to access government services, domestic violence victims being stranded from online services and children being disadvantaged in education.

Queensland last rolled out a State wide digital Strategy in 2017. Since then, other jurisdictions have developed comprehensive and well-funded initiatives which have surpassed the older Queensland strategy.

Digital exclusion is not an issue that can be solved overnight, nor is it solely the responsibility of governments. However, this report attempts to assist with the Queensland

Government's digital inclusion policy considerations by articulating the issue in simple terms and making recommendations for change.

These recommendations are drawn from the best available information and expertise and, if accepted and implemented, would work to reduce the digital divide, ultimately contributing to both economic growth and social equality in Queensland.

The McKell Institute thanks Telstra for commissioning this report and acknowledges its ongoing funding of the Australian Digital Inclusion Index.

We also thank our research partner the Queensland Council of Social Service for their valuable contribution.

We look forward to a more digitally inclusive Queensland.





# EXECUTIVE SUMMARY

As the world moves increasingly online, digital inclusion is necessary for people to be fulsomely engaged in economic, social, and civic life.

Despite that reality, many Australians remain significantly excluded from the digital world through lack of infrastructure access, affordability issues, or lack of ability to use technology.

This McKell Institute report explores the state of digital inclusion in Queensland, showing the state falls behind a number of other Australian jurisdictions on aggregate measures of digital inclusion.

The report brings together existing digital inclusion data, predominantly from the ADII, with new primary research from QCOSS which demonstrates the human impact of digital exclusion.

Queensland currently ranks fifth among Australian states and territories on aggregate measures of digital inclusion, with older people, First Nations people and those in regional areas being the most excluded. Digital inclusion also closely tracks income, with people in the lowest income quintiles being the most likely to be digitally excluded.

The report finds that Queensland's most excluded geographic regions are Coastal Queensland (essentially Mackay to Gympie) and the North West, a region which includes Cape York and the Torres Strait.

Affordability is a significant issue for many Queenslanders with the State's residents on average spending a greater proportion of their household income on digital access (e.g. due to lower average incomes now supporting

more connected devices) and in many cases receiving a lower value of expenditure, that is fewer gigabytes for the sum expended (e.g. due to greater reliance on mobile rather than fixed data connections). This particularly impacts those on low and/or fixed incomes for whom the proportion of household income spent on internet access has increased every year since 2014 and now exceeds 4 per cent on average nationally.<sup>1</sup>

This report closely considers the human impact of digital exclusion, drawing on a detailed survey of frontline community service workers across the State by QCOSS. The survey reveals that when affordability is an issue, 76 per cent of community services clients simply go without, a tendency that leads directly to those Queenslanders who were already experiencing marginalisation then facing further barriers to employment, education and accessing services.

In policy terms Queensland has a strong foundation on which more comprehensive digital inclusion strategies can be developed. Already, the State provides a range of digital inclusion support through targeted digital inclusion programs, funding of facilities such as public libraries and Indigenous Knowledge Centres which communities use to access digital services and it is responding to a transformation in the nature of work through well-funded skilling and re-skilling programs, particularly in light of the COVID-19 pandemic, which seek to skill Queenslanders for an increasingly digital workforce.



# RECOMMENDATIONS

## RECOMMENDATION 1

The Queensland Government recognise that accessing the Internet and digital devices enables the realisation of protected human rights.

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## RECOMMENDATION 2

The Queensland Government develop a 10-year Digital Inclusion Roadmap in consultation with industry, social service providers and the community.

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## RECOMMENDATION 3

The Queensland Government pioneer the development of a digital capability framework to improve the consistency and success rate of government and industry funded digital inclusion programs.

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## RECOMMENDATION 4

The Queensland Government increase funding for digital literacy programs to evolve and scale existing successful programs and develop new programs targeting other digitally excluded cohorts, in consultation with industry and social service providers.

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## RECOMMENDATION 5

The Queensland Government audit infrastructure, digital equipment and resourcing needs of public libraries, Indigenous Knowledge Centres and community and neighbourhood centres to fully enable them to act as digital access and support hubs.

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## RECOMMENDATION 6

The Queensland Government increase existing funding to more significantly invest with industry, councils, businesses and communities to address regional and remote telecommunications blackspots, coverage quality and network resiliency.

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## RECOMMENDATION 7

The Queensland Government, as it increasingly delivers services online, ensures it is delivering a consistent, inclusive and accessible online experience across all government websites.

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## RECOMMENDATION 8

The Queensland Government ensures all low income, vulnerable and remote students can access suitable connectivity and devices at school and at home.

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## RECOMMENDATION 9

The Queensland Government lobby the Federal Government to create a permanent, affordable NBN consumer plan for households receiving government income benefits.

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# PART ONE:

## THE DIGITAL DIVIDE EXPLAINED

### What is the Digital Divide?

The ability to use technology and the Internet is vital to education, enterprise, and key aspects of modern civil society.<sup>2</sup> Increasingly it is understood that access to digital technology must be categorised as a fundamental need for all citizens and that the inverse, an *inability* to access and use the Internet and digital technologies creates, and is a symptom of, disadvantage. The way we conceptualise disadvantage must evolve to include the “digital divide” – a measure of the differences in accessing technology between different demographics.

### Accessing the Internet and digital media is increasingly viewed as a human right

The Australian Human Rights Commission argues that access to the Internet is critical as it enables individuals and communities to connect with one another and utilise their right to freedom of expression. The United Nations Convention on the Rights of the Child emphasises that all children have the right to education, to culture, to information and to be heard. Accessing the Internet reliably enables the individual to seek out and engage with these rights.

However, the distribution of access to reliable digital infrastructure, coverage and speed, digital training, and devices such as tablets and laptops is heterogeneous across Queensland. Some households have access to high-speed Internet, and multiple devices per person, while the ADII demonstrates that some households still don't have access to the Internet at all.

### The “Digital Divide” is a well-established concept

In the early days of the digital era, surveys simply asked families about access to the Internet as a yes or no question. This binary response, however, does not capture the full perspective of a person's inclusion in the digital economy. Increasingly, new indicators have been developed that measure the level of engagement with digital tools and services. These more sophisticated measures help us to identify what must be addressed to ensure the greatest possible number of Queenslanders can access the opportunities provided by the digital economy.



“Digital division” was first described in a 1995 study investigating the technology shift from landline to Internet access in select US demographics.<sup>3</sup> The study revealed inequities (coined “have nots”) in the penetration of communication technology across geographies and socio-economic groups. The definition has since been expanded and built upon by various bodies. UNICEF includes a safe online environment as an indicator for digital inclusion and incorporates sustainability of access as an important measure.<sup>4</sup>

This report identifies the state of digital inclusion in Queensland by drawing on international, national and Queensland specific data. It details the foregone opportunity from digital exclusion, summarises key policy initiatives targeted at closing the digital divide and evaluates their effectiveness.

### **Digital inclusion vs Digital transformation: An important distinction**

In recent years, a large part of Australia’s digital policy discussion has focused on the concept of digital transformation, the generally accepted term for how governments and businesses can use data and technology to improve their productivity, service delivery and drive growth.

In Australia, the Federal Government made its first major commitment to a digital transformation strategy in 2019, designed to expand the provision of public services in a digital environment.<sup>5</sup> A dedicated focus on improving this infrastructure is essential to ensure digital equity in Australia, and that critical online services always be available, even in times of distress or natural disaster.

“IT IS BECOMING MORE  
CRITICAL FOR THESE  
SERVICES TO ALSO BE  
ACCESSIBLE AT ANY  
TIME, FROM ANYWHERE  
AND FROM ANY DEVICE.”

*- AUSTRALIAN DIGITAL  
TRANSFORMATION STRATEGY, 2019 <sup>6</sup>*

Digital service capability improves the welfare of Australians. However, this is only feasible if Australians who need these services the most can confidently, sustainably, affordably and permanently access such platforms. As this report shows, while access to these services is improving, there are still too many Queenslanders who are impacted by digital exclusion.



## COVID-19 has highlighted how digital exclusion exacerbates inequality

The transformative nature of the COVID-19 pandemic has highlighted the consequences of digital exclusion. As Australia continues to experience sustained lockdowns, face to face occupations in the hospitality, retail and construction sectors are profoundly affected, while largely white-collar occupations moved smoothly to working from home.

In April 2020, the McKell Institute released *COVID-19: Why the economic fallout is exacerbating inequality*, documenting the trend in which knowledge workers who were already the best paid became better off through COVID as their wages were maintained, but living expenses associated with travel and entertainment fell. In contrast, workers in often lower paid sectors where working from home is not viable were acutely impacted.

Firms have started adjusting their remote working policies to provide flexibility for those who wish to split their time between the office and home. During the pandemic, there has been a 15 per cent increase in the proportion of businesses that have shifted their staff to working from home arrangements.<sup>7</sup>

While digital exclusion traditionally affects various demographics in different ways, during COVID-19 it has also had a profound effect on younger people. As learning has necessarily shifted online for much of 2020 and periods of 2021, thousands of school students in Queensland and across Australia were unable to fully engage with their learning due to poor digital access. This dynamic was most acute for public school students, with an estimated 125,000 public school students nationwide going without home Internet.<sup>8</sup> These impacts were also acutely experienced by the 22 per cent of Aboriginal and Torres Strait Islander students attending public schools who do not have Internet at home.<sup>9</sup>

Recognising this impact on learning from home during the onset of the Covid-19 pandemic in 2020 when schools were closed down, the Queensland Government partnered with Telstra to distribute thousands of Internet-enabled devices to students who did not have a home broadband connection or an Internet connected device at home to guarantee student's capacity to continue learning from home. This important initiative recognised that digital exclusion can have a lasting impact on a child's education. As we recover from the pandemic, addressing this challenge in a sustainable and enduring way should be prioritised by all governments across Australia.





# PART TWO:

## UNDERSTANDING QUEENSLAND'S DIGITAL DIVIDE

### How the Digital Divide is measured

If the digital divide is to be addressed, it must first be measured. Thanks to a range of current and emerging domestic and international research, policymakers are now better informed on which demographics, locations and socio-economic groups are the most digitally excluded. Data sourced from the OECD's Programme for the International Assessment of Adult Competencies (PIACC),<sup>10</sup> the Australian Digital Inclusion Index<sup>11</sup> (ADII) and the results from a survey undertaken by the Queensland Council of Social Service (QCOSS)<sup>12</sup> are leveraged in this report.

#### OECD: Programme for the International Assessment of Adult Competencies (PIAAC)

The Organisation for Economic Cooperation and Development (OECD) has developed a comprehensive cross-national reference tool for the assessment of adult skills such as literacy, numeracy and problem solving. Called the Programme for the International Assessment of Adult Competencies (PIACC), the survey involves 5,000 respondents across 24 countries.

PIACC scores individuals on a 500-point scale across numeracy, literacy and "problem solving in technology rich environments" (PSTRE), which is a quantitative interviewer-scored result of an individuals' ability to complete a set of tasks requiring the use of ICT tools. The tasks increase in difficulty throughout the assessment, modelling an employment scenario requiring the interviewee to use multiple ICT tools concurrently.<sup>13</sup>

In Australia, PIACC has shown that those with the lowest exposure to computer use are those aged 55-65, those with less than upper secondary education, and those in semi and less skilled populations. The ABS reports that the most concerning statistic is the lack of ICT skills in the adult population, as those people are most likely to experience structural job loss, and least likely to uptake training programs.<sup>14</sup>

High PSTRE scoring individuals are more likely to be working in higher income industries (professional, scientific, and financial services), and in higher income occupations such as managers. PSTRE skills are also positively correlated with earnings and education levels. The flow of causality is not necessarily unidirectional.<sup>15</sup>







## Australian Digital Inclusion Index (ADII)<sup>16</sup>

Developed as a partnership between RMIT University, Centre for Social Impact Swinburne and Telstra, the ADII is widely recognised as the most comprehensive measure of digital inclusion in Australia. The longitudinal study has been conducted since 2014 and tracks digital inclusion over three dimensions: digital ability, affordability, and access.

Each of these indicators bear sub-indicators as summarised in Table 1.

**TABLE 1** AUSTRALIA DIGITAL INCLUSION INDEX DESCRIPTORS

Ability	Affordability	Ability
<b>1 Attitudes:</b> <ul style="list-style-type: none"> <li>○ Positive attitudes towards digital inclusion</li> <li>○ Negative attitudes</li> </ul>	<b>1 Relative expenditure:</b> <ul style="list-style-type: none"> <li>○ Share of household income spent on Internet products</li> </ul>	<b>1 Internet Access</b> <ul style="list-style-type: none"> <li>○ Frequency</li> <li>○ Locations</li> <li>○ Number of products</li> </ul>
<b>2 Basic Skills:</b> <ul style="list-style-type: none"> <li>○ General skills</li> <li>○ Phone, banking, shopping, information, and community skills</li> </ul>	<b>2 Value of expenditure:</b> <ul style="list-style-type: none"> <li>○ Internet data allowance per dollar of expenditure</li> </ul>	<b>2 Internet Technology</b> <ul style="list-style-type: none"> <li>○ Computer technology</li> <li>○ Mobile technology</li> <li>○ Fixed technology</li> </ul>
<b>3 Activities:</b> <ul style="list-style-type: none"> <li>○ Content streaming</li> <li>○ AV communication</li> <li>○ Transitional</li> <li>○ Research</li> </ul>		<b>3 Internet Data Allowance</b> <ul style="list-style-type: none"> <li>○ Mobile data</li> <li>○ Fixed data</li> </ul>

## CASE STUDY 1

### THE REAL STORIES OF DIGITALLY EXCLUDED QUEENSLANDERS

**Clare lives with her 13 year old child and is a survivor of domestic violence.**

She has been assessed by Queensland Police Service and Specialist DV Practitioner to be at high risk of lethality due to the severe nature of the domestic violence, with the perpetrator continually accessing the property.

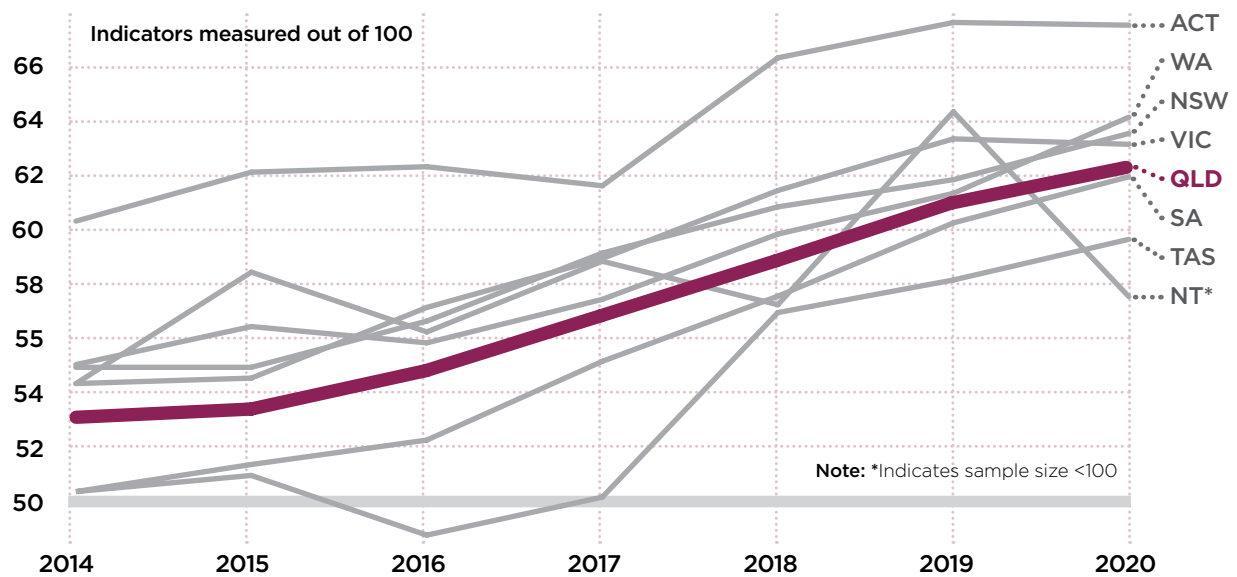
The remote location of the family and their inability to contact emergency services makes Clare's situation even more dangerous.

Support services are unable to contact Clare while she is at home, and she has requested that support services do not attend unannounced home visits due to the potential to increase her safety risk should the perpetrator learn of service visits.

## Overall, Queensland lags in digital inclusion

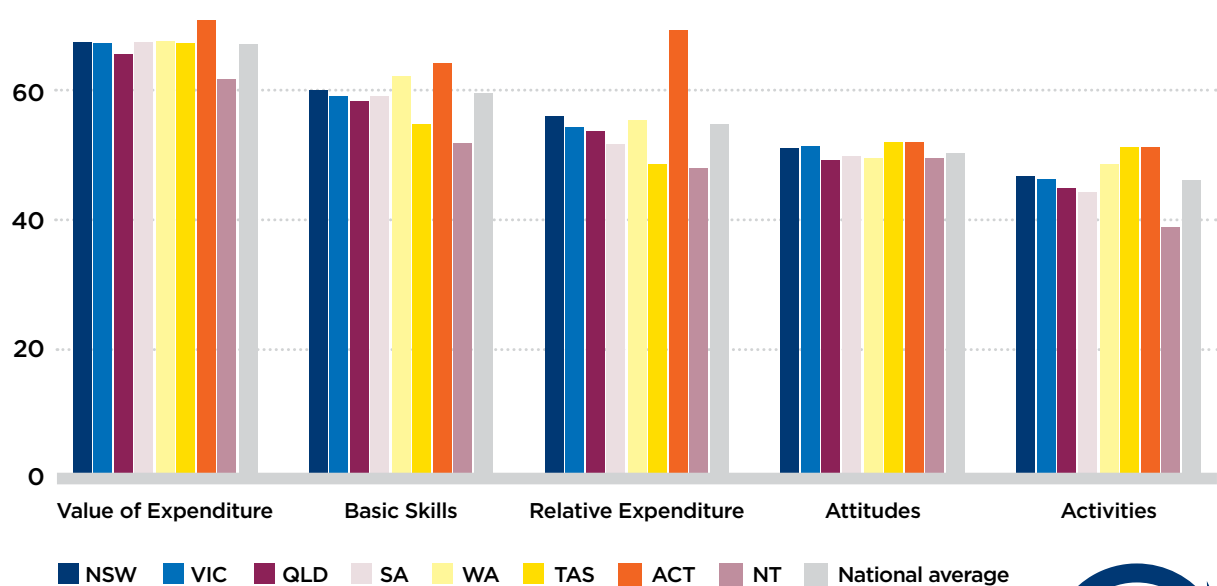
Figure 1 shows the relative standing of Australian states as measured by the ADII. Queensland ranks 5th in Australia in aggregate measures of inclusion. Queensland has held this position consistently since the ADII was first measured in 2014.

**FIGURE 1** AGGREGATE MEASURES OF DIGITAL INCLUSION BY STATE



Breaking down ADII indicators into their sub measures, Queensland ranks behind ACT, NSW, WA, VIC and the Australian average across all access and ability indicators. This means that the average Queenslanders is more digitally excluded than those living in most other Australian states.

**FIGURE 2** STATE COMPARISON OF ACCESS AND ABILITY INDICATORS



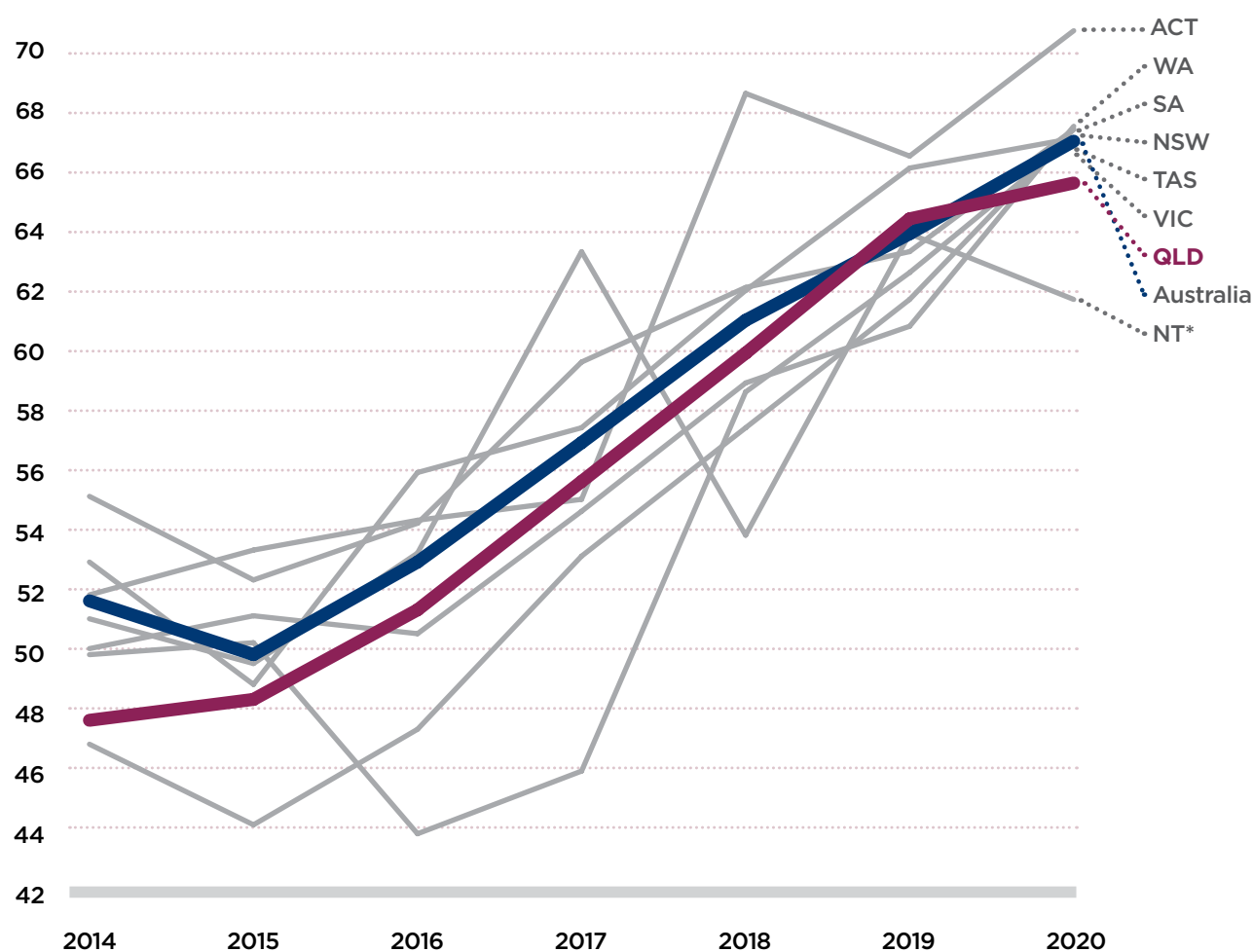
Source: Australian Digital Inclusion Index.



## Queensland ranks lower than other states on digital affordability

While nationally the “value of expenditure” on Internet services has increased significantly since 2014, with the cost of Internet data generally becoming less expensive, Queensland ranks lowest of those same states on digital affordability. This suggests that for the same expenditure on data, Queenslanders are experiencing poorer bandwidth due to affordability and more limited access options (such as reliance on satellite and mobile) than other East Coast jurisdictions. Interestingly, the rankings roughly equate to population density. Queensland, with a lower population density than other East Coast states, experiences a lower value of total expenditure. This is evident in other states and territories with low population densities, including Western Australia, South Australia and Northern Territory. However, with large populations of Queensland concentrated in urban centres such as South-East Queensland, this doesn't necessarily provide a full explanation and the ADII does not comment on this as a factor.

**FIGURE 3** QUEENSLAND VALUE OF EXPENDITURE, 2014 TO 2020



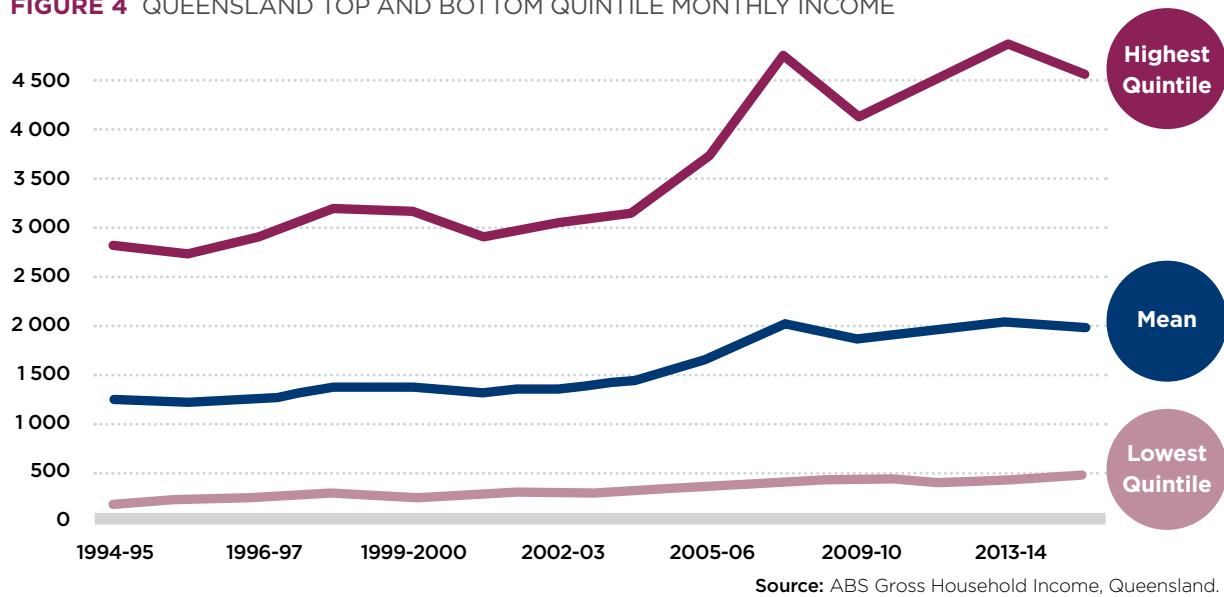
Source: Australian Digital Inclusion Index.



## Digital inclusion is associated with differences in household income

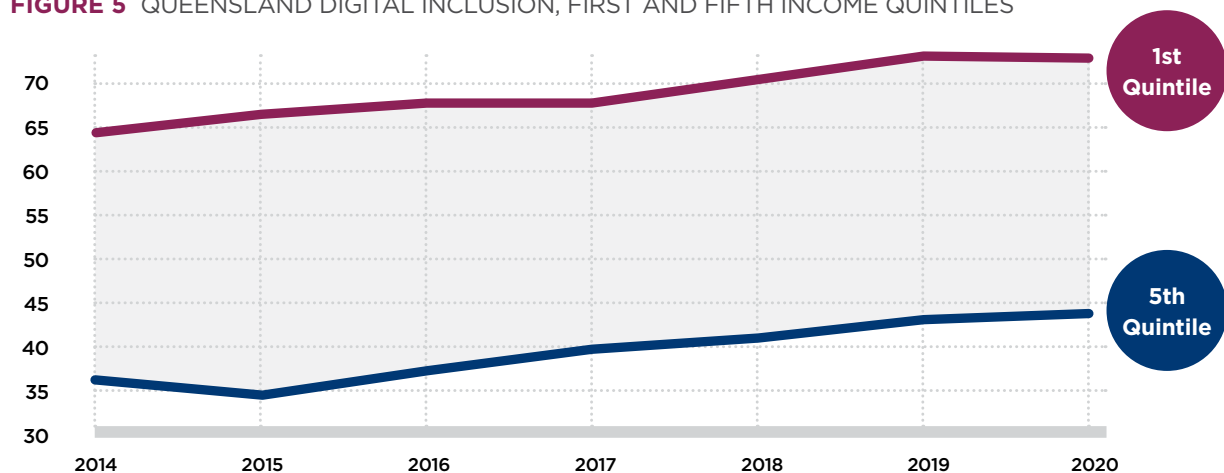
Examining income dynamics, marginalised households are more excluded across the board. In Queensland, the top income quintile has earned an average of \$4,700 per week, whereas the lowest has earned \$440.<sup>17</sup>

**FIGURE 4** QUEENSLAND TOP AND BOTTOM QUINTILE MONTHLY INCOME



In aggregate ADII measures, the top income quintile in Queensland performs significantly better than the bottom income quintile. This indicates that lower income households are less frequently engaged in digital work and training, and have poorer access to digital services. Further, the income digital inclusion gap is wider today than it was in 2014 (Figure 5) suggesting that, despite increasing government attention directed towards the digital divide, digital inequity remains a significant challenge.

**FIGURE 5** QUEENSLAND DIGITAL INCLUSION, FIRST AND FIFTH INCOME QUINTILES



Source: Australian Digital Inclusion Index.



**FIGURE 6** QUEENSLAND DIGITAL INCLUSION BY QUINTILE

	Relative Expenditure	Value of Expenditure	Attitudes
<b>Q5</b>	10.6	55.5	36.7
<b>Q4</b>	35.1	61.6	43.2
<b>Q3</b>	46.2	67.7	50.3
<b>Queensland Average</b>	53.8	65.6	49.2
<b>Q2</b>	62.3	74.2	50.7
<b>Q1</b>	84.7	68.0	56.3

## THE REAL STORIES OF DIGITALLY EXCLUDED QUEENSLANDERS

**Peter is a 37-year-old man with multiple complex issues. Peter has a long history of homelessness and most recently was sleeping on the streets, in a local park. He has been homeless on and off for over six years.**

Peter has been a client of [the organisation] for around eight months, mainly accessing the drop-in services. Recently, he expressed a desire to start working on his homelessness issues.

Peter's case was raised at a weekly advocacy meeting with the Department of Housing and was subsequently offered a unit with a local community housing provider. Peter does not have a phone but stays in touch with people via regularly coming into [the organisation] and one of his other support services.

Peter's support worker left a message for him at another of his support services to inform him that there was a unit for him with the community housing provider. The support worker also called the community housing provider and informed them that Peter did not have a phone and to take this into consideration when waiting for him to make contact.

Peter was over the moon to learn that he had been offered a property of his own, after

six years of homelessness. He received the message about the unit two days after being offered it and attempted to call back that day.

He could not get through and left a message. The community housing provider was unable to contact him. Peter went into the Department of Housing the following day and learned that the unit that was originally offered to him had been allocated to someone else as he had been unable to connect with the community housing provider within the designated timeframe.

*He was devastated to learn that his hopes of stable housing had been dashed yet again.*

[The organisation] subsequently found a vacancy for Peter at an emergency housing provider and he continues to wait for his own, independent accommodation.

## Basic Skills

## Activities

40.1

31.2

52.2

40.8

58.6

44.5

58.2

44.8

67.0

50.0

69.9

55.5

Lower income quintiles are more excluded across the board for all ADII indicators than higher income households (Figure 6). Lower income households spend a higher proportion of their income on digital access but have poorer skills, and perform a less sophisticated range of tasks online than do high income households.

These findings are consistent the PIACC, which reports that the proportion of Queenslanders with medium to high digital skills falls behind ACT, NSW, VIC across PSTRE skills, and behind the national average.<sup>18</sup>

## Mapping Queensland's Digital Divide

Despite advances in digital infrastructure and a growing focus by the Queensland Government on expanding digital inclusivity, many Queensland communities continue to experience barriers to digital inclusion. In Figures 7 and 8, ADII and census data are mapped to identify which regions in Queensland are experiencing the greatest digital exclusion. Figures 7 and 8 also consider how these levels of digital exclusion correlate with other economic indicators (such as median earnings).

### Digital Activities – a measure of the sophistication of digital usage

**FIGURE 7** QUEENSLAND DIGITAL ACTIVITIES, ADII 2020'

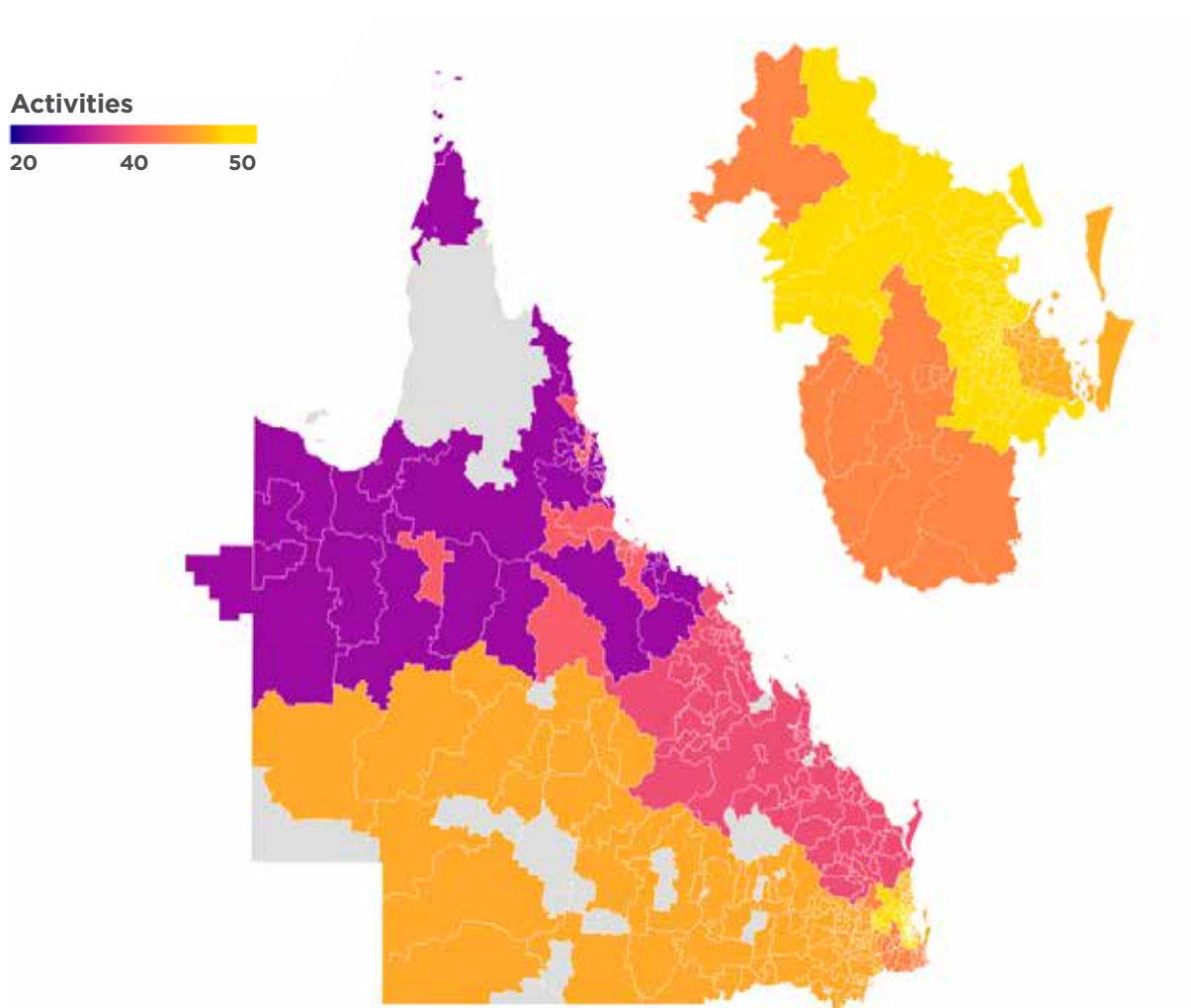


Figure 7 maps the frequency of 'digital activities' across Queensland communities, visually representing the number and complexity of tasks towards which digital technology is applied. A higher score on this index suggests a greater and more complex range of activities, indicating a more digitally enabled individual. Digital activities include accessing content, communicating, transactions, shopping, media consumption and information. In Queensland, Inner Brisbane is the most digitally active region, while North West Queensland is the least digitally active region.

## Relative Expenditure – the proportion of income spent on internet

**FIGURE 8** QUEENSLAND'S RELATIVE EXPENDITURE ON DIGITAL ACCESS, ADII 2020

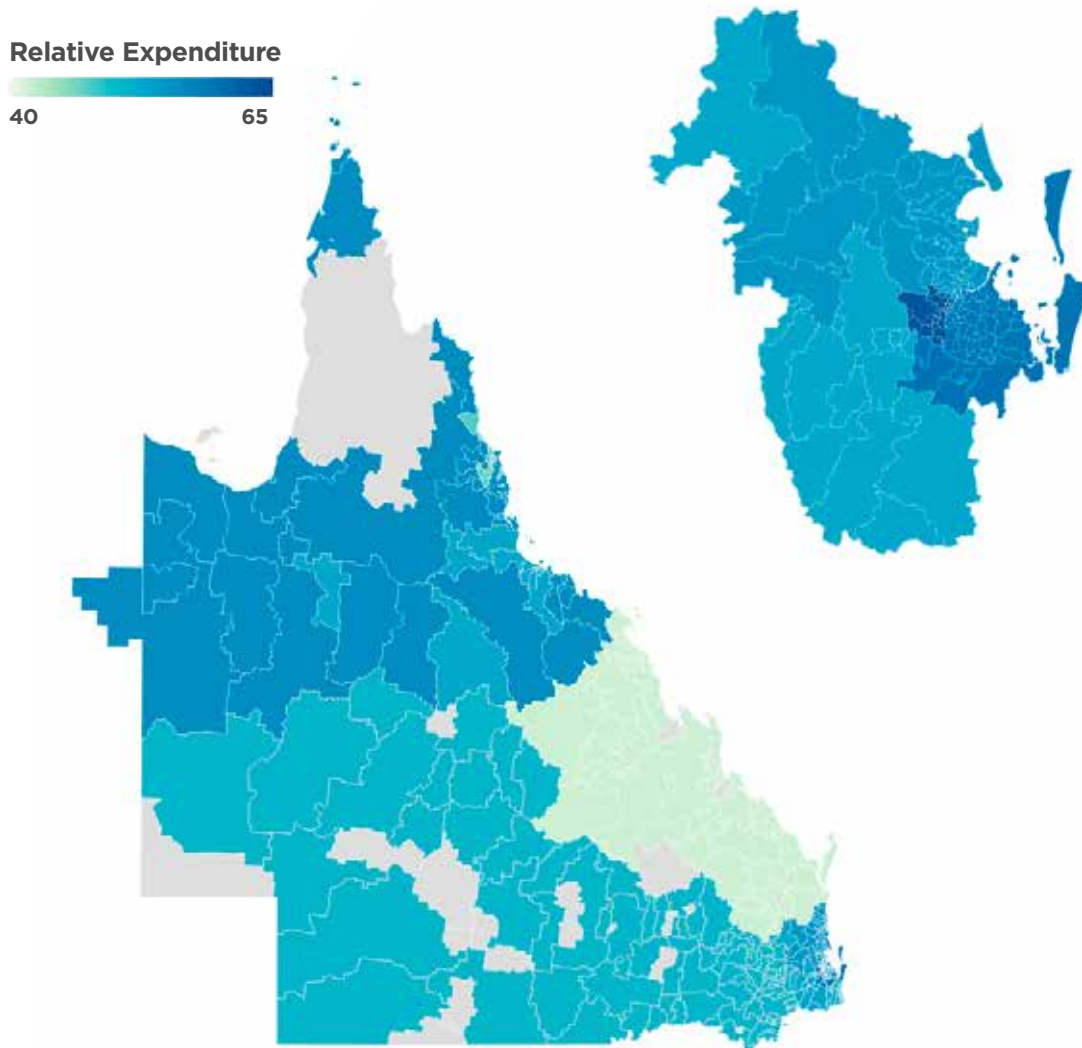


Figure 8 depicts relative expenditure or the share of household income spent on Internet access – across Queensland. A high-consuming, low-income household would score lowest in relative expenditure, whereas a higher-income, low consumption household would score the highest. Inner Brisbane spends the smallest share of income on Internet access, whereas coastal Queensland spends the greatest share of income on Internet access, which is explained by inner Brisbane's higher median earnings when compared to coastal Queensland.

A low-income household in coastal Queensland on the same Internet plan as a high-income household in Brisbane is required to pay a greater proportion

of household income to access the same level of connectivity. Focussing on affordability barriers shows us that the digital divide is influenced by financial resources, which in turn are complicated by geographic and demographic dynamics.

The comprehensive data from the ADII demonstrates that, while more Queenslanders are connected than ever before, access to digital services is inconsistent across the State. There are still communities for which service is poorer, and for which accessing essential digital connectivity is financially burdensome when considering income disparities across the State.





## PART THREE: IMPLICATIONS OF THE DIGITAL DIVIDE

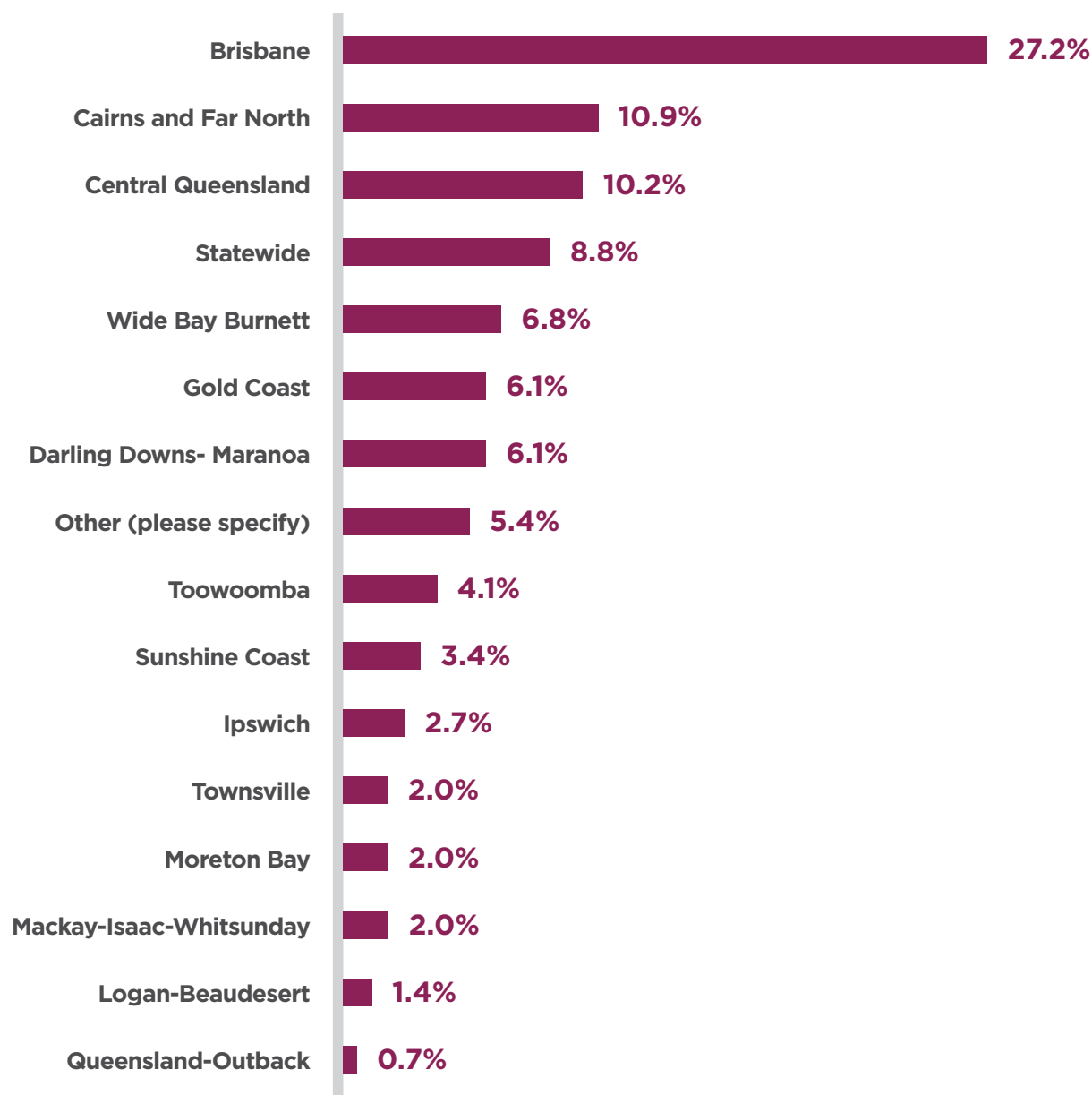
The impact of digital exclusion on Queenslanders experiencing marginalisation

### **QCOSS data reveals that the poorest people go without**

The Queensland Council of Social Services (QCOSS) is the peak body for Queensland's social service sector. Established for more than 60 years, with more than 500 members and a vision of equality, opportunity and wellbeing for all Queenslanders, it is well placed to provide detailed information about the various manifestations of socio-economic disadvantage. QCOSS was engaged to conduct supplementary primary research to complement the findings from established national measures such as PIACC and ADII for inclusion in this report.

Between April and May 2021 QCOSS surveyed over 150 community organisations interfacing with Queenslanders experiencing vulnerability and marginalisation and reporting on the challenges associated with digital exclusion. The QCOSS data paints a stark picture of the human cost of digital exclusion.

The surveyed services included Child, Youth and Family services (22 per cent), Housing and Homelessness Services (18 per cent), Multicultural and Migrant Services (15 per cent) and Neighbourhood Centres (13 per cent).

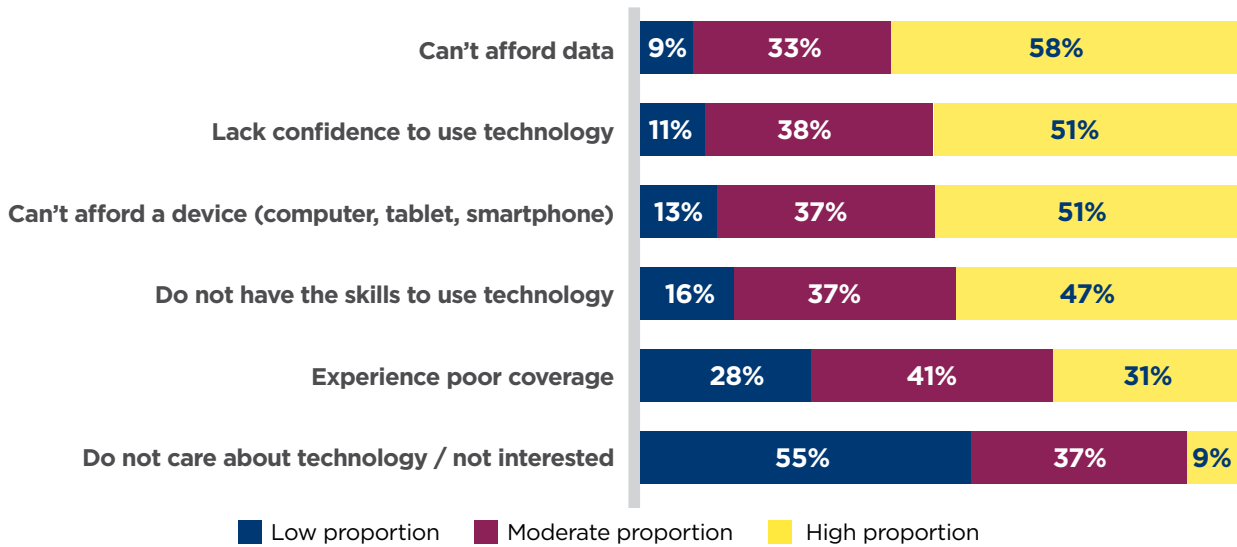
**FIGURE 9** LOCATION OF RESPONDING ORGANISATIONS, QCOSS REPORT

The QCOSS survey findings are unique, in that they break down the ways in which Queenslanders experience digital exclusion, how this exclusion impacts Queenslanders' daily lives, and how digital exclusion has a disproportionate economic impact on the State's economically marginalised populations.

Consistent with the quantitative findings from PIACC and ADII measures, QCOSS reports that data affordability is the leading barrier to the digital inclusion of Queenslanders. Confidence using technology, and device affordability were the next greatest barriers to digital inclusion, which are captured by the "attitudes" and "relative expenditure" indicators reported by ADII.

**FIGURE 10**

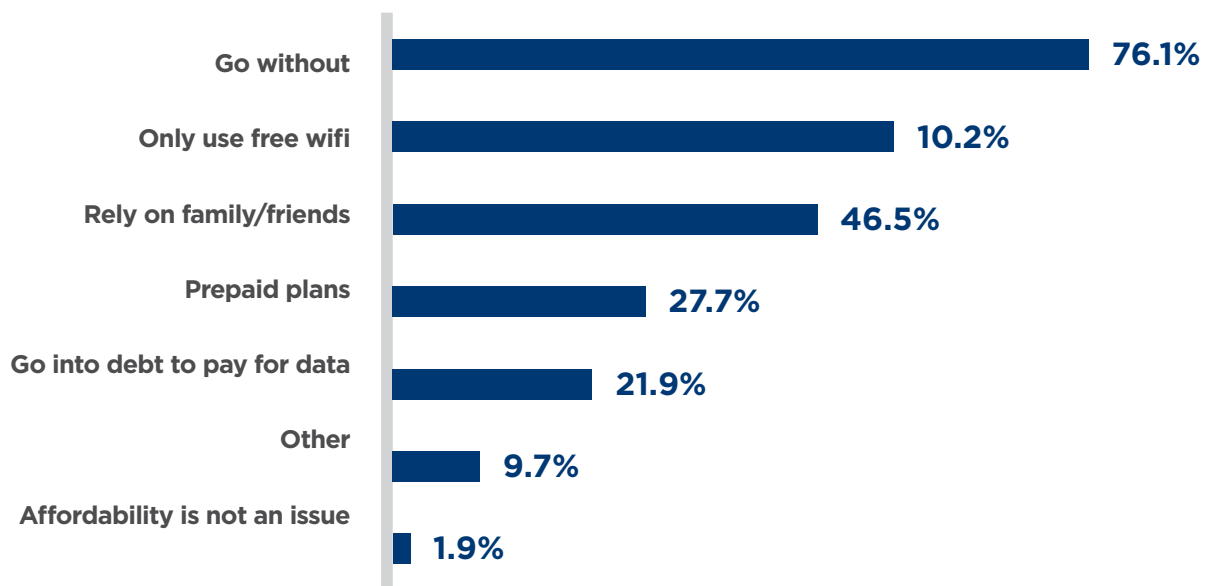
"IN YOUR EXPERIENCE, WHAT PROPORTION OF YOUR CLIENTS EXPERIENCE THE FOLLOWING BARRIERS TO DIGITAL INCLUSION?", QCOSS 2021



Further, QCOSS data reveals that when vulnerable Queenslanders are unable to afford or confidently use technology, the most common response (identified in 76 per cent of cases) is simply to go without.

**FIGURE 11**

"WHEN AFFORDABILITY IS AN ISSUE, HOW DO YOUR CLIENTS MANAGE DATA ACCESS?", QCOSS 2021



Only 2 per cent of responding organisations cited that affordability was not an issue faced by their service groups.

## CASE STUDY 3

## THE REAL STORIES OF DIGITALLY EXCLUDED QUEENSLANDERS

**Jon, 50, lives in Brisbane and is from a culturally and linguistically diverse background. He is currently looking for work – primarily as a cleaner. Jon does not have a computer at home and has limited experience using a computer. He has a smart phone, but he cannot complete the tasks he needs to on his phone.**

The local Neighbourhood Centre has two computers available for public use. Jon frequently comes into the centre to use the computers, and always needs one-to-one help.

*He has a resume, but he requires ongoing assistance to search for jobs, edit his resume, write a cover letter, save documents to a USB, attach documents, and submit documents online or via email.*

In some cases, he needs to register through an online portal to submit an application.

While his English is good, he finds it difficult to learn in a group

environment and so he needs one-to-one support to complete these tasks.

The Neighbourhood Centre does not have the capacity to provide Jon with the level of one-to-one support he needs, although volunteers assist him when they can.

The Neighbourhood Centre has a volunteer who offers digital literacy sessions a few times a week. However, people cannot always visit the centre at the specified times, as the nature of people's lives is that they need help at the time they need to complete a particular task.

*Most people that come into the centre need one-to-one support with digital literacy due to language barriers, learning difficulties or literacy issues.*

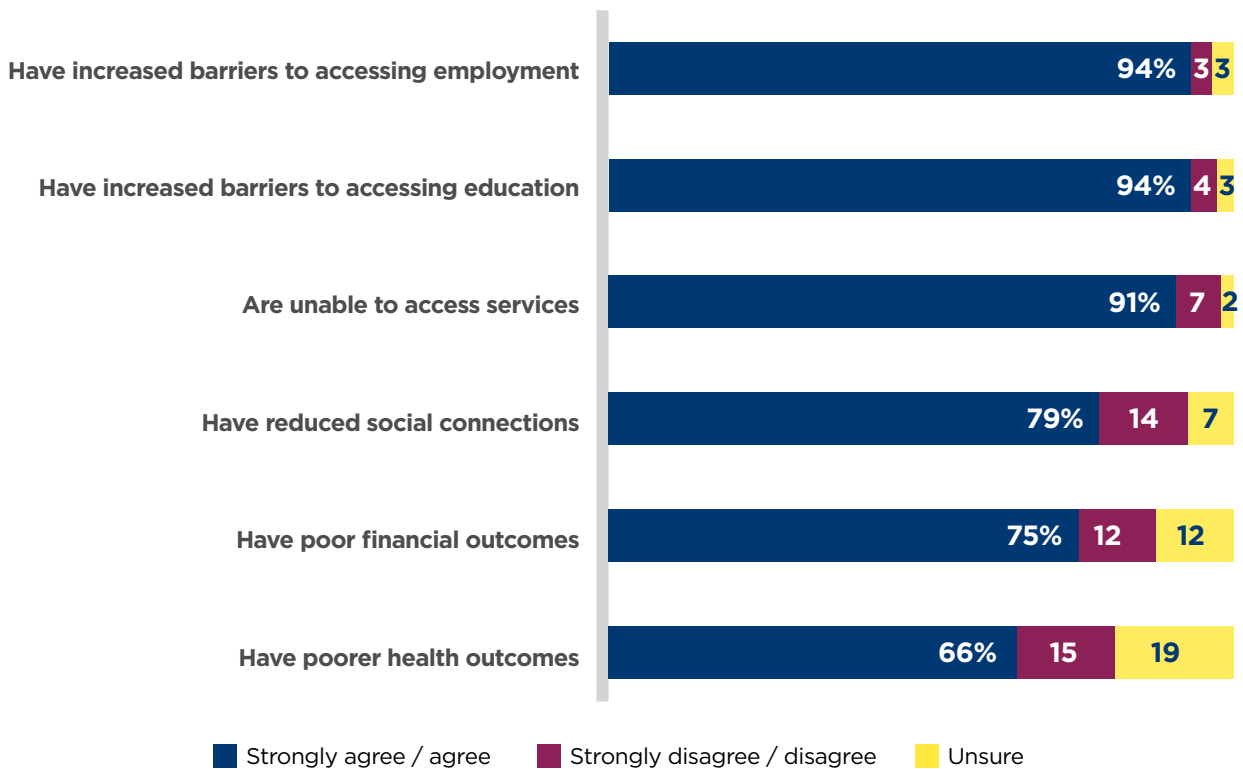


## Digital exclusion leads to impeded lives for Queenslanders

Community organisations are well placed to understand the impact and challenges associated with digital exclusion on vulnerable and marginalised populations. Frontline workers who participated in the survey gave a detailed picture of how digital exclusion affected Queenslanders already experiencing social and economic marginalisation.

**FIGURE 12**

“WHEN YOUR CLIENTS EXPERIENCE DIGITAL EXCLUSION, WHAT ARE THE CONSEQUENCES?”,  
QCOSS 2021



Impeded access to education and employment opportunities are the most reported impacts of digital exclusion. As this report has detailed, these dynamics are compounded by the fact that those suffering from exclusion are communities experiencing marginalisation who already have substantially reduced employment outcomes. Over 94 per cent of the 155 responding community organisations agreed that education and employment impacts were resulting of digital exclusion.

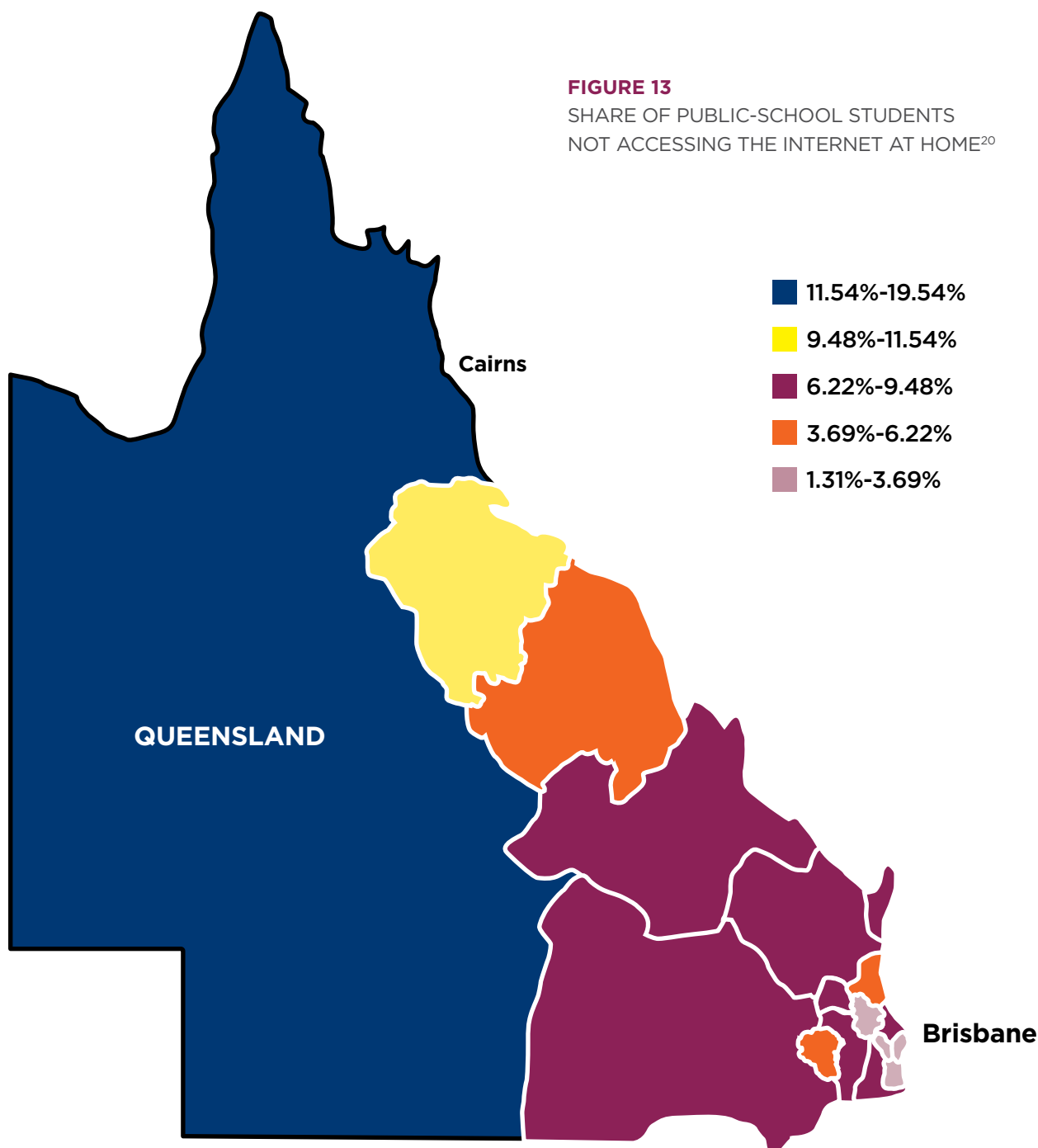
As investigated previously, education and employment have important lifetime and cross-

generational outcomes, so the improvement of access to these services will result in greater returns to public investment in these areas, mediated by greater take-up and success rates.

In a number of cases, QCOSS provided detailed case studies of how a lack of digital access can have devastating negative consequences for Queenslanders experiencing marginalisation. These case studies, which support the quantitative data above, bring a human voice to the implications of digital exclusion for some Queenslanders.

### Major disparities in students' Internet access at home

Even before the COVID-19 pandemic, it was well understood that there were significant disparities in the level of digital access enjoyed by Queensland school students in their homes. The distribution of school access is heterogenous, with similar geographical disparities as measured by the ADII above.<sup>19</sup>



Not surprisingly, disadvantage is greatest in regional and remote areas. As the data above shows, up to 20 per cent of public-school students did not have Internet access at home in regional and remote Queensland. In Brisbane's relatively affluent western suburbs, the figure was just 1 per cent.<sup>21</sup>

## School Internet Access: the 2021 Queensland Audit Office report

In July 2021 the Queensland Audit Office delivered a significant report entitled *Enabling Digital Learning*. The QAO report included several highly relevant observations

- A. That Queensland ranks poorly on measures of digital access and inclusion compared to other states (a finding that affirms this report's observations)
- B. That most, but not all, Queensland students had had access to some kind of a device to facilitate digital learning through the pandemic
- C. That Education Queensland's school Internet speed target of 25kbps is 200 times lower than that of New South Wales with 227 of the State's 1347 state schools not having fibre connections (albeit covering just 1 per cent of all students), and

- D. That Education Queensland's previous technology plan, which in February 2020 was estimated to cost \$754 million over the next 6 years had not been funded as a result of COVID related budget constraints and the emerging technology landscape

The Queensland Audit Office report was focused primarily on the provision of high-speed data within Queensland schools. Notably, it showed that despite several attempts to improve broadband to schools in recent years, Education Queensland maintained a target speed of just 25kbps, compared to 2,000kbps for Western Australia and 5,000kbps for New South Wales.

**TABLE 2** INTERNET CONNECTION TYPE AND SPEED TARGETS FOR STATE SCHOOLS

STATE/TERRITORY	CURRENT INTERNET CONNECTION	TARGET INTERNET SPEED
Queensland	83% fibre connection	25 kbps per student
New South Wales	99.99% fibre connection	5,000 kbps per student
Western Australia	97.5% fibre connection	2,000 kbps per student

**Source:** Queensland Audit Office using data from the Department of Education **Note:** We have excluded Australian Capital Territory, Victoria, Northern Territory and South Australia as their targets for internet speed are on a per school basis, and are, therefore, not easy to compare with Queensland (which has targets for per student)

Just 83 per cent of Queensland schools have fibre connections, a figure that compares unfavourably with the 99.99 per cent recorded in New South Wales. The low fibre coverage may well reflect the same trend observed in earlier Value for Expenditure charts: that Queensland's decentralised nature means that high quality broadband connections are difficult to access in some parts of the State.

Nonetheless, it is important to understand that despite the surprisingly low target speed, most Queensland schools are delivering Internet speeds of well above 25kbps with 67 schools (albeit covering just 0.6 per cent of students) delivering speeds above 1,000kbps.

**TABLE 3** INTERNET SPEEDS IN PUBLIC SCHOOLS IN QUEENSLAND, MARCH 2021

INTERNET SPEED	NUMBER OF SCHOOL SITES	PERCENTAGE OF SCHOOL SITES (%)	NUMBER OF STUDENTS	PERCENTAGE OF STUDENTS (%)
19 - 24.9 kbps	24	1.9	13,336	2.3
25 - 49.9 kbps	392	31.2	186,681	32.7
50 - 99.9 kbps	446	35.5	269,979	47.3
100 - 249.9 kbps	198	15.8	91,664	16.0
250 - 999.9 kbps	130	10.3	6,071	1.1
1,000 kbps or more	67	5.3	3,709	0.6

**Source:** Queensland Audit Office using data from the Department of Education

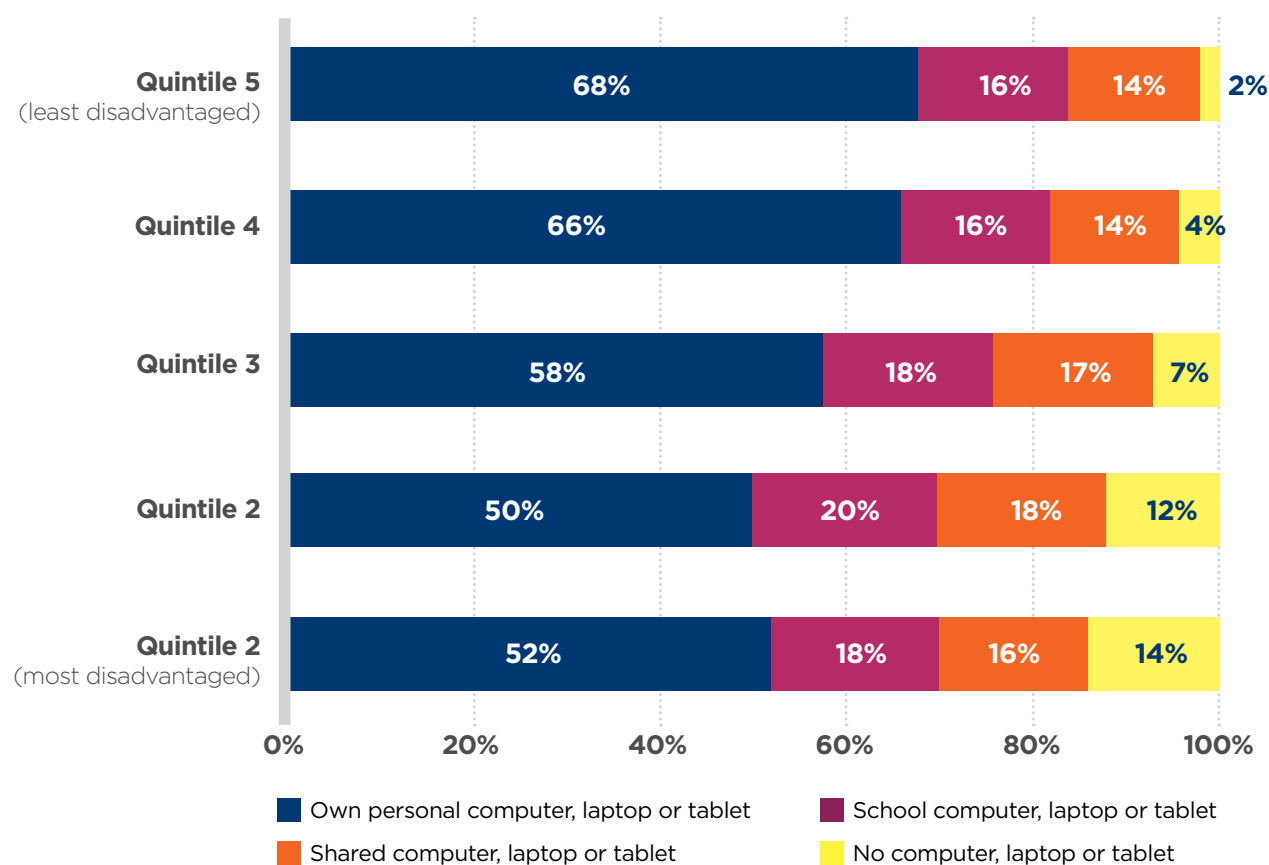


Technology speeds bear a clear relationship to students' ability to use the Internet productively. The American State Educational Technology Directors Association (SETDA) establishes a range of recommended speeds for different Internet usages. That range includes 250kbps for online learning, 500kbps for email and web browsing and 8,000kbps for a Skype session involving 7 to 10 participants.

As of March 2021, 98.7 per cent of students in public schools did not have access to Internet speeds greater than 250kbps at school.

While it was not its primary focus, the QAO report did consider the pandemic by examining the extent to which students were able to study digitally from home. In 2020, as the pandemic unfolded, Education Queensland surveyed the State's 386,467 public school students enrolled in Years 4 to 12. The findings indicated 92 per cent had access to a device at home, though not surprisingly the level and quality of access correlated strongly with income.

**FIGURE 14** STUDENT ACCESS TO A DEVICE BY SOCIO-ECONOMIC GROUP



Source: Queensland Audit Office using data from the Department of Education.

Unfortunately, lower income households are unable to provide the same level of digital resources to children as wealthier households. In the bottom income quintiles, only half of all students have access to their own computer, laptop, or tablet, compared to 68 per cent in the top quintile.<sup>22</sup> Additionally, between 12 per cent to 14 per cent of students in low-income households are unable to obtain access to any digital device.



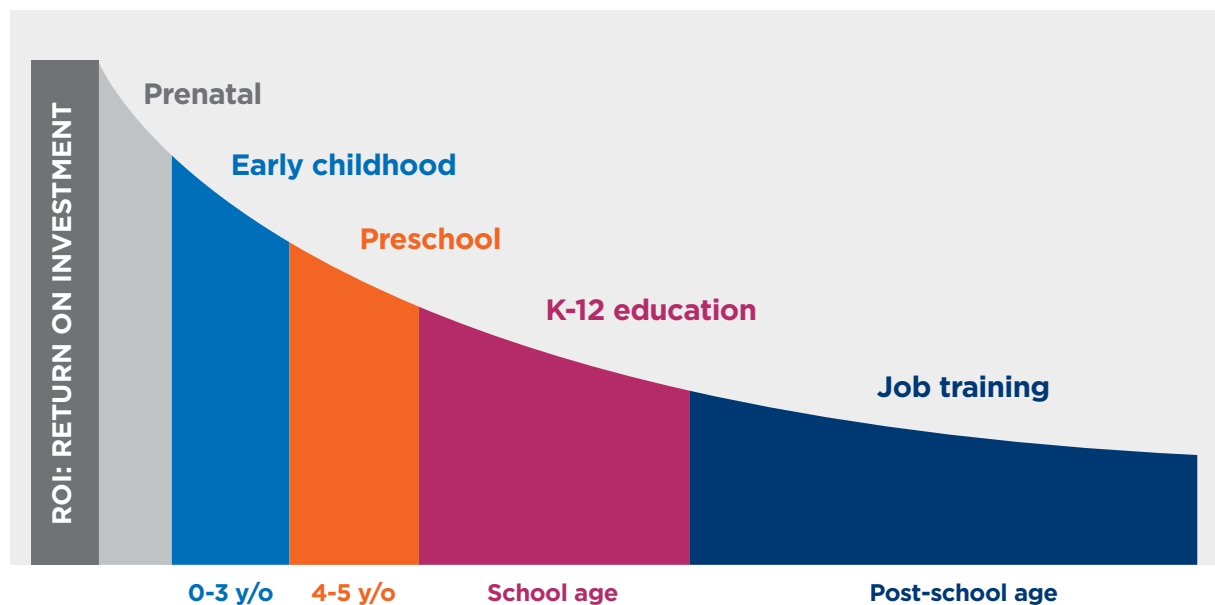
## Better digital preparedness leads to better earning and learning outcomes

This confronting data are likely to have significant impacts on individual students' learning outcomes, ultimately affecting their lifetime economic contribution. In the economic literature, returns to education are measured by the ratio of lifetime earnings to the net present value of education costs. World Bank analysis shows that an increase in schooling level attained by one year is correlated to a lifetime earnings increase of 9 per cent. The earnings increase under education accumulation

is greatest for women and for bottom income quintiles.<sup>23</sup>

In an international study, investment in primary education was found to provide the highest social profitability across all 24 countries included in the study.<sup>24</sup> Investment profitability is found to fall as the level of education is increased (primary through to tertiary). These findings should further incentivise governments to prioritise digital access and competency modules in primary education.

**FIGURE 14** STUDENT ACCESS TO A DEVICE BY SOCIO-ECONOMIC GROUP



In recent decades, this education accumulation model has driven Queensland's education policy reform agenda. The Education and Training Reforms for the Future package introduced by the Queensland Government in the early 2000s increased education accumulation, primarily through two initiatives:

- the introduction of a near universal Prep year, meaning for the first time most Queensland students undertook 13 years of schooling, the same as their interstate counterparts
- Learning or Earning reform which required Queensland students to stay at school unless they could establish that they were gainfully employed

As a result of these reforms, Queensland now has senior school retention rates of 88 per cent compared to a national average of 82 per cent.<sup>25</sup> Having improved education accumulation, the debate naturally turns to what more the State can do to improve outcomes.

### Digital skills need greater recognition

There is a growing body of evidence that demonstrates how a robust digital education leads to direct and measurable improvements in wage outcomes. The OECD Directorate for Education has found that individuals who were restricted from accessing broadband were found to have ICT skills 13 points lower<sup>26</sup> (or 65 per cent of a standard deviation) than those who were able to achieve early access. Further, that same increase in ICT skills is found to be correlated to a wage increase of 15.2 per cent. Less densely populated and remote regions were categorically found to suffer from poor coverage and Internet speeds relative to high density, urban municipalities. Ultimately this was found to lead to geographical inequality, with more rural communities experiencing lower ICT skills and lower labour market premiums. This is an important finding when considering the geographical skills distribution observed in Queensland.

Wage returns to ICT skills are greater in countries where returns to all skills are greater. A 2016 OECD study of global PIACC scores and labour market outcomes showed that Australia ranks 12th globally in terms of returns to numeracy skills (compared to Germany ranking 7th). Nevertheless, the same study estimated a 20 per cent return to skills in

Australia, when an individual increases their skill level by 20 points<sup>27</sup> (among 35–54-year-olds). This suggests strong individual and public returns to developing in-demand skills in low-skill populations.

### Evidence from abroad finds a correlation between digital capability and earnings

Upon expanding the previous analysis to cross-national PIACC data spanning 24 countries (over 120,000 responders globally) the presence of greater early broadband coverage, hence a higher probability of having Internet access, was strongly correlated to increased ICT skills (measured as PSTRE) for all individuals aged 16 to 65.<sup>28</sup>

Studies have found that the increase in ICT skills by 20 points can result in an 8 per cent wage premium.<sup>29</sup> Working with a computer has also been found to be strongly correlated to greater than median earnings. Those individuals able to access reliable Internet learn ICT skills “by doing”, which leads to their ability to perform jobs that bear the highest wage premiums and are least likely to be automated or outsourced. Table 4 illustrates that, across numerous industry sectors and demographics, higher digital literacy results in measurable earnings premiums.

**TABLE 4**

CROSS COUNTRY LABOUR MARKET RETURNS TO ICT SKILLS (FALCK, HEIMISH & WIEDERHOLD)

OCCUPATION OR DEMOGRAPHIC	WAGE PREMIUM ASSOCIATED WITH 20 POINT IMPROVEMENT IN ICT SKILLS
General population	7.9%
Younger workers (less than 35)	9.0%
Older workers (35 +)	6.5%
Men	9.8%
Women	6.5%
Public sector	3.3%
Private sector	9.7%

## THE REAL STORIES OF DIGITALLY EXCLUDED QUEENSLANDERS

Charlie, 55, is a First Nations person living in a remote community in North Queensland. He moved from interstate to be closer to his son. He was working in health care but can no longer do this type of work due to disability. JobSeeker is his only income. He is likely eligible for the Disability Support Pension, but is struggling to complete his application. He does not feel confident using the online guidance and support.

He struggles to engage with online services and information. He has an older model smartphone but does not know how to use many of its features, including downloading apps or opening and downloading pdf documents.

*Charlie's phone is not a suitable device for many of the tasks he needs to do as he either does not have the right app, or the screen size is too small. He has an email address but does not send emails on his phone. He goes to the library to read his emails or asks his son for help.*

He experiences chronic illness which requires medication to manage. He is in rental stress, paying \$300 per week for his accommodation, and often goes without food or medication due to insufficient income. He needs to find a more affordable place to live, but struggles to search for share house accommodation as it is all done online. Charlie does not have sufficient digital literacy to create a profile on the most common websites for finding suitable accommodation, such as flatmates.com. He is on the public housing waitlist.

Charlie reached out to a Financial Counsellor to assist him manage his finances. However, he has struggled to complete forms and provide the necessary supporting documentation so his Financial Counsellor can help him manage his debts.

In order to speak with debt collectors on Charlie's behalf, his Financial Counsellor needs him to complete and sign an authorisation form. Many clients receive the form via email, complete it and return it while they are on the phone, which means their Financial Counsellor can typically resolve their financial issues within 2-3 days. However, Charlie does not have the right apps on his phone to download the form and does not know how to complete the form, add his signature or email it through. He had to ask his son to print it for him

to sign a hardcopy and then his son took a picture of it and emailed it back. This slowed down the process of resolving Charlie's financial issues.

In Charlie's case it took 2-3 weeks to get the necessary documents together in order for his Financial Counsellor to assist him, and then another week to get an outcome. During that period of time, Charlie was experiencing high levels of stress as he was receiving debt notices in the mail and phone calls from creditors.

Charlie's income remains inadequate to cover his expenses, which puts him at risk of homelessness. While he is accessing Emergency Relief and has the support of his son, his circumstances are not sustainable. Because he faces digital barriers to accessing the Disability Support Pension and finding an affordable room to rent, it is clear that digital exclusion is exacerbating his already dire financial situation.

His Financial Counsellor spends a lot of her time helping Charlie and other clients in similar circumstances to undertake tasks such as accessing forms, completing forms online, downloading Centrelink statements, attaching documents to email and other online tasks that are increasingly essential for people to undertake in order to manage their personal finances. This includes banking apps and many government services.

*Many services for remote communities are only available by phone, and must be supported by emails and web-based information or forms.*

People often need one-to-one support to help them undertake the particular tasks they need to do, and this support needs to be tailored to the particular devices they have. In many instances people disengage from services completely as they cannot overcome the barriers to access the support they need.





### Access is the cornerstone of digital education because people learn by doing

In addition to establishing that digital education leads to better wage outcomes, significant international research has considered the question of how digital skills are developed. In major international studies, Falck, Heimisch & Wiederhold have established that ICT skills are developed through “learning by doing”, which is only possible when fast and reliable Internet and devices are available.<sup>30</sup> They provide supporting evidence that telecommunications investment is a pre-requisite for ICT skill development, the establishment of digital-enabled businesses, and a natural progression from skills to employment to wage premiums.

An understanding of the “learning by doing” model is also important for future development of digital skills training in the community. If people learn by doing, then existing one off digital skills training will only be successful if it is supported by ongoing digital access. Understanding this, governments should work to provide as many opportunities as possible for digitally excluded communities to develop these skills.

### Digital inclusion represents a significant economic opportunity

Increased Internet penetration is generally accompanied by a range of economic outcomes. The OECD associates greater and more reliable coverage to:<sup>31</sup>

- Job creation, both in ICT heavy and non-ICT heavy fields, due to increasing demand for services that may be delivered virtually.
- Job loss in industries where automation is increasing due to the structure of the domestic economy.
- Shifting role responsibilities, requiring a continual period of job adaptation.
- Increased job outsourcing due to reduced outsourcing barriers, which may lead to job increases or losses depending on skill concentrations.

Underserved communities in Queensland are much more likely to experience positive outcomes from greater Internet connectivity and skill improvements.<sup>32</sup> In the following section, the economic benefits of improved digital inclusion are discussed.

### Digital investment leads to measurable economic benefits

In recent years, rapid technological change has contributed to an active national debate about the future of work. 90 per cent of the current Australian workforce will need to improve their digital skills within the next 2-5 years to perform their roles successfully.<sup>33</sup> It is also estimated that 60 per cent of Australians participating in studies or VET are training for roles that will be automated in the near future.<sup>34</sup>

Modelling by Deloitte Access Economics has shown that Australia will require 156,000 new technology workers by 2025, if it is to capture the estimated \$10 billion growth in ICT-heavy industries (0.7 per cent of GDP).

Economic benefits of strong ICT industry growth will be observed throughout the economy. The digital conversion of industries which have not traditionally had an ICT base, flow on effects of increased domestic economic activity associated to digital industries, and the overall digital skilling of workers is estimated to contribute to over 40,000 jobs and more than \$200 billion in economic activity by 2030.<sup>35</sup>

Developing expertise in digital skills will see economy-wide gains due to productivity increases, riding the wave of high growth digital industries that Australia is ripe to exploit, and improving our international competitiveness in digital services.

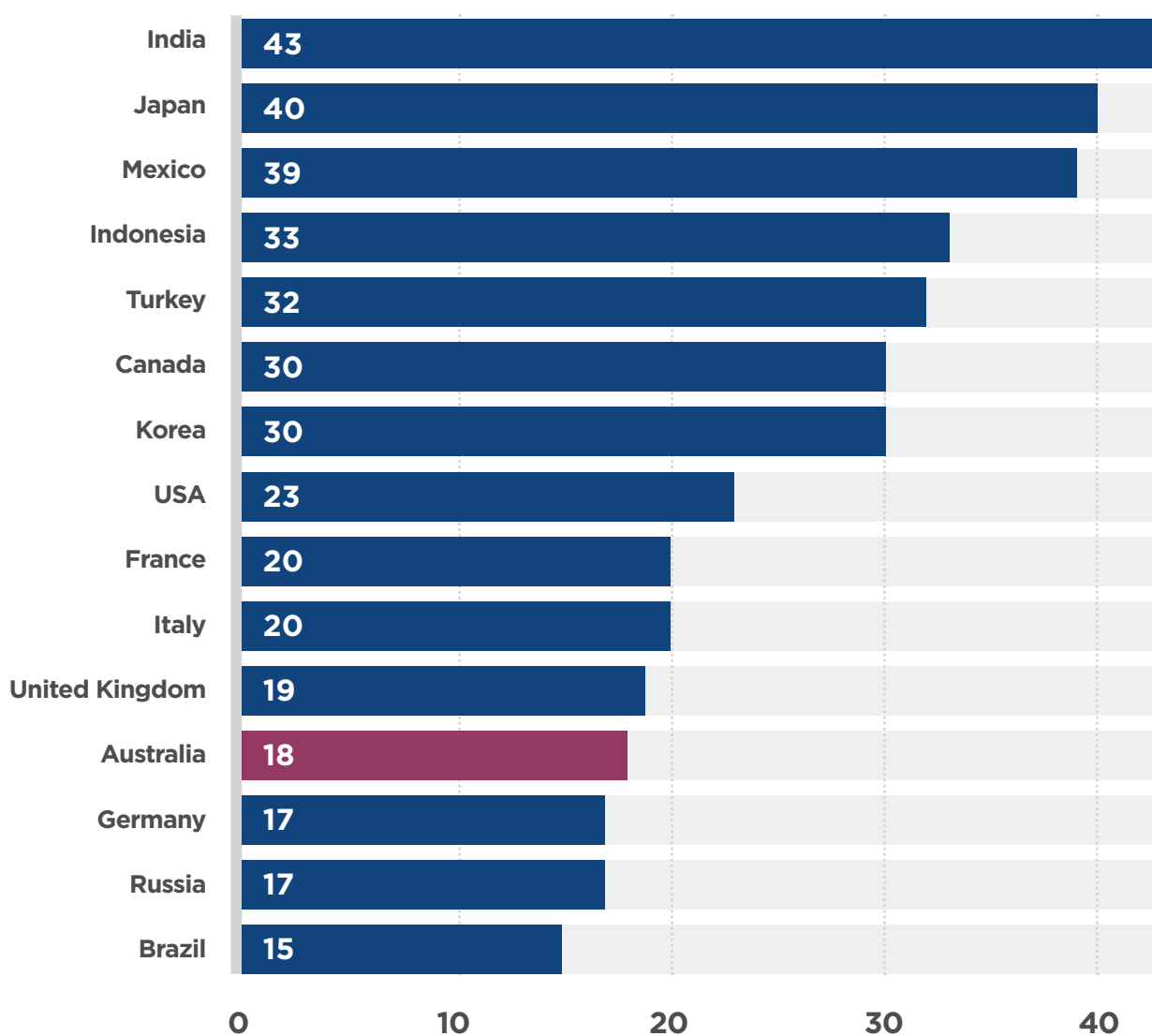
The Queensland Government is cognisant of the need to invest in digital skills. In June 2021, the Government announced an \$8 million *Digital Professional Workforce Action Plan*, designed to help Queenslanders' transition into digital jobs.<sup>36</sup>



## Closing the digital divide is necessary to address long-term inequality and gender disparities

This report has illustrated how the digital divide affects various demographics in Queensland and elsewhere. But there is also a gender dynamic to digital inclusion that can't be ignored. Australia ranks 12th in the OECD in terms of the share of women in ICT careers, with only 18 per cent of women in the workforce participating in digital careers. Modelling by the Australian STEM equity monitor indicate that this figure is lower, at just 13 per cent.

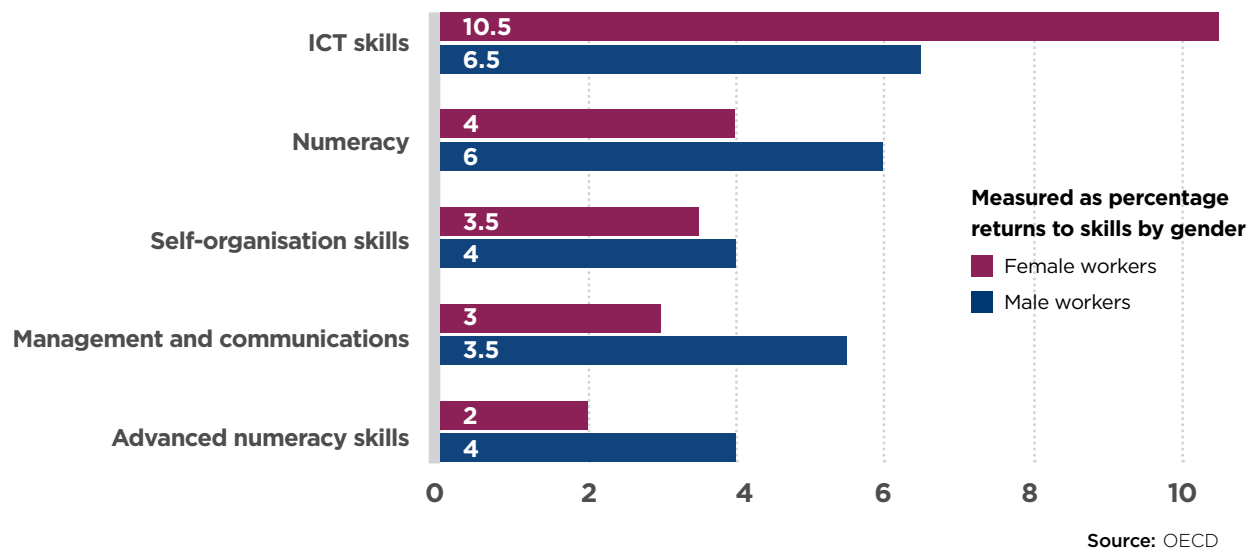
**FIGURE 16** SHARE OF WOMEN IN ICT CAREERS



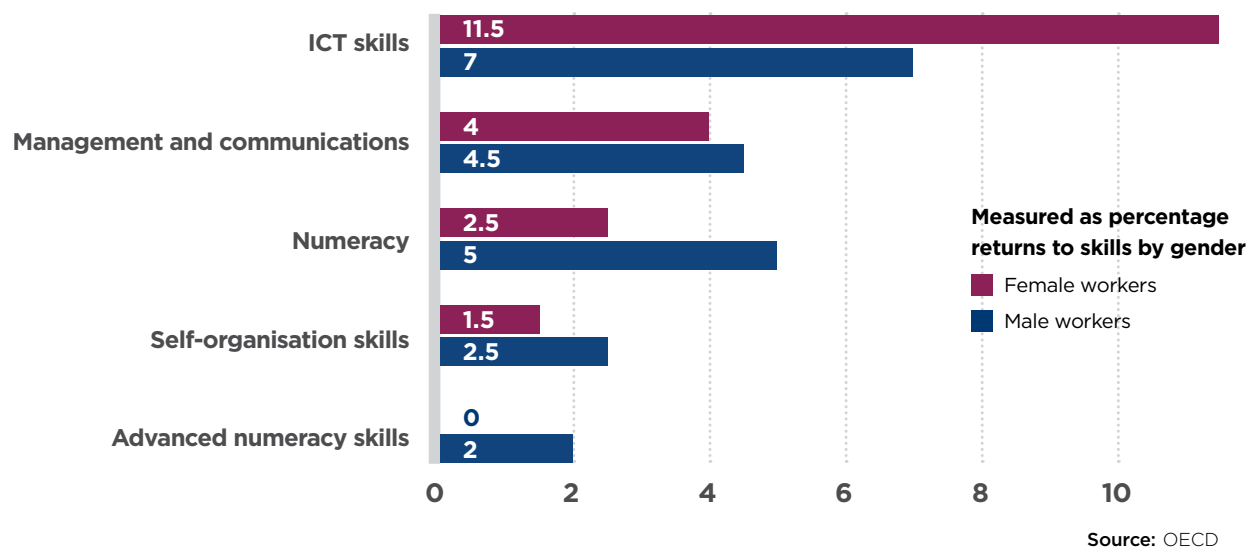
Source: OECD

Queensland's gender pay gap is tied at 3rd highest in Australia. Women in Queensland observe yearly earnings 13.2 per cent lower than men, which represents a yearly income gap greater than \$12,000.<sup>37,38</sup> Importantly, female workers experience the greatest economic return from an improvement in ICT skills, out of all job skills. In other words, the improvement in female workers' digital skills is key to addressing the gender pay gap and providing secure employment opportunities to the demographic that is most prone to being employed in part-time or casual work.

**FIGURE 17** RETURNS TO SKILLS IN DIGITAL-INTENSIVE INDUSTRIES



**FIGURE 18** RETURNS TO SKILLS IN LESS DIGITAL-INTENSIVE INDUSTRIES



As OECD modelling shows, the earnings premium of ICT skills improvement exists in both digital intensive and non-digital intensive industries, meaning that the digital skills developed are likely to lead to improved employment opportunities across all industries. The evidence paints a clear picture: improving digital access and capabilities within a population will have significant, positive economic impact.

## PART FOUR: QUEENSLAND AND AUSTRALIA'S DIGITAL POLICY ENVIRONMENT

Queensland has a suite of policies on digital inclusion, but more can be done

For the last decade the Queensland Government has produced clear strategies which acknowledge the extent to which civic and personal life are going digital and to guide a whole of government response.

In 2014, the Government released *Go Digital Qld*, a three-year strategy. The Strategy was primarily focused on guiding the Government's online service delivery and developing the local innovation sector, though it did acknowledge the importance of digital inclusion by including a "desired outcome" in which "Queenslanders, regardless of their location, can affordably access a huge range of digital content and services."

In September 2017, *Go Digital Qld* was replaced by *DIGITALIST: Advancing Our Digital Future*, a four-year strategy which is currently on foot and established a clear set of principles to guide the Government's actions. While *DIGITALIST* was more specific and detailed than its predecessor, it nonetheless remained a broad whole of government strategy, seeking to combine digital transformation of government services, the development of an innovative Queensland digital sector and digital inclusion.







3 WEST (A)

## THE EIGHT PRINCIPLES UNDERLYING THE 2017 STRATEGY WERE:

- 1 Solve the right problem** – a recognition of the risk that substantial public money could be wasted if digital problems were poorly defined and understood
- 2 Digital by default** – a challenge to government to consider providing services to the community digitally in the first instance
- 3 Create unified digital experiences** – a commitment for government to provide a single whole of government point of contact to Queenslanders where possible
- 4 Prefer open over closed** – a commitment to openness in principle, supported by a clear set of standards around data sharing and privacy
- 5 Make it secure by design** – a commitment to good digital design which would allow data to be protected without customers having to open “door after door” across multiple secure vaults
- 6 Harness skills and experience from inside and out** – a commitment for government to engage with expertise and private sector providers in an innovative and agile manner
- 7 Leaving no-one behind** – the one principle dealing specifically with digital inclusion, here defined primarily as accessibility but also including a commitment to “ideally... provide connectivity and infrastructure that allows all Queenslanders, no matter where they are to participate in our digitally enabled culture, society and economy.”
- 8 Experiment, learn and improve** – a commitment to iterative and collaborative change as opposed to “big bang, big release and big spend.”

Only one of the eight principles focused specifically on digital inclusion.

Nonetheless, the Queensland Government does fund a range of digital inclusion initiatives designed to address the access, affordability and ability issues identified in the ADII. A selection of the Government's key initiatives are outlined below.

### Tech Savvy Seniors

Tech Savvy Seniors is a Telstra initiative currently delivered in conjunction with the Queensland, New South Wales and South Australian governments.

In Queensland, the long established and well-reviewed program is jointly funded by Telstra and the Queensland Government and delivered through the State Library of Queensland which has well established funding and support relationships with council run libraries and Indigenous Knowledge Centres (IKCs). In 2020 the program was delivered in 32 local government areas, including Bundaberg, Cairns, Ipswich, Palm Island, Pompuuraw and Wujal Wujal.<sup>39</sup>

Targeted at the most digitally excluded age demographic, people over 65, Tech Savvy Seniors is a suite of modules supported by in-person trainers providing beginners, intermediate and advanced programs on topics including introduction to the Internet, email, online shopping, social media, common apps as well as more advanced skills like video calling and digital photography.

The program modules are specifically designed for adult learning and provide follow up, both through the online provision of training packages and by participants often forming their own social support groups.

## TECH SAVVY SENIORS ARE SNAP HAPPY IN IPSWICH

**While Tech Savvy Seniors primarily acts as a means of providing fundamental digital literacy skills to older people, its grant funding model allows for it to be innovative and responsive to actual community demand.**

In Ipswich when a Tech Savvy Seniors group participant commented that he wished there was a program for better digital photography skills, that's what happened.

*On the back of the comment council for the Snap Happy Tech Savvy Seniors Program, a 6 part course teaching skills in getting started with the camera, storing, captioning and even a session with much loved photographer Steve Parish.*

Once developed, delivery of the program was threatened by the commencement of COVID-19 but the council acted swiftly moving to an online delivery model which also provided for participants to come into the library and undertake the Zoom program with help from library staff on hand as needed. The Zoom program is now available online for others to watch.<sup>40</sup>

### Tech Savvy Communities

Tech Savvy Communities is a new partnership between Telstra and the Queensland Government, delivered through the State Library of Queensland, aimed at improving digital literacy in remote communities.

The program seeks to engage regional councils who operate a Rural Libraries Queensland (RLQ) library service and have not previously received funding via the Tech Savvy Seniors or Deadly Digital Communities programs. It aims to address concerns by some regional councils who feel they do not have the skills to deliver digital literacy training by equipping library staff and other community members with the skills to teach basic digital skills and develop a community outreach program that targets those most likely to be digitally excluded.

The State Library will work with regional councils and provide train the trainer resources and support to RLQ library services, including visits to the community to model program delivery.

### Deadly Digital Communities

Deadly Digital Communities is an initiative of Telstra and the State Library of Queensland, in partnership with Indigenous Knowledge Centres and local councils.

With the ADII clearly showing that Aboriginal and Torres Strait Islander people are more likely to be digitally excluded, this accessible program aims to provide the necessary support for people to access online health, education and financial services. In the four years since it commenced, more than 5,300 people have participated in the program.<sup>41</sup>

## CASE STUDY 6

### INDIGENOUS KNOWLEDGE CENTRES

**Across Queensland there are 12 Indigenous Knowledge Centres (IKCs) operated in remote communities by Indigenous local governments, with the support of the State Library of Queensland.**<sup>42</sup>

The first IKC was opened in 2002 and they now stretch from Torres Strait and Cape York to the southernmost centre in Cherbourg.

IKCs provide public library facilities such as loan materials but also assist people with family history research and the preservation of archival materials.

*Importantly, IKCs are key locations for the provision of public digital access and digital training in the State's often remote indigenous communities.*

### GetOnlineQld Digital Mentors

In 2019, Volunteering Queensland, with the support of the Queensland Government, made a call for Digital Mentors, skilled volunteers who, with the support of a well-developed training curriculum could assist people in their local communities to develop digital skills.<sup>43</sup>

The volunteer digital mentors were connected to Queenslanders seeking support through existing community support agencies including Brisbane City Council Libraries and SANDBAG, the Sandgate Bracken Ridge Action Group.<sup>44</sup>

### Digital Professional Workforce Action Plan

The *Digital Professional Workforce Action Plan* is an \$8 million Queensland Government funded program first flagged by the Government in 2020 as part of its COVID-19 economic reconstruction agenda and formally launched in June 2021.

The Plan aims to provide digital skills to people displaced from their previous work by the COVID-19 pandemic, neuro-diverse Queenslanders and Aboriginal and Torres Strait Islander people.

The Plan is to be implemented by government in partnership with industry and aims to provide 10,000 digitally skilled workers by 2024. Its launch was welcomed by the Council of ICT Associations which had long held concerns about labour shortages in the digital economy.<sup>45,46</sup>

### Email access for State school students

While the issues identified by Queensland's Auditor General around school Internet speeds are acknowledged, the Queensland Department of Education provides all staff and students at state schools with Microsoft Office 365 enabled emails. This means students have full access to the suite of professional and storage software. It should be mentioned that access to these products assumes the student has access to a compatible device and sufficient bandwidth and coverage.

### Co-investment in digital infrastructure

The Queensland Government has for many years successfully co-funded with industry, the federal government and local councils to deliver new and improved fixed and mobile coverage to regional and remote areas across Queensland. While the Government's FY22 Budget allocated \$12 million over the next three years for further co-funding under the Federal Government's Mobile Black Spot Program, this allocation is small compared to other jurisdictions such as New South Wales and Victoria.

### QCN Fibre

Queensland Capacity Network (QCN) Fibre is the Queensland Government telco which is jointly owned by the State's electricity network companies, Powerlink and Energy Qld. The company uses spare capacity on the Government's 12,000km long optical fibre network to sell backhaul services to telecommunications companies.

It was created in 2019 for the purpose of competing with existing commercial backhaul providers, Optus and Telstra and aiming ultimately to provide more cost-effective broadband services in regional Queensland.<sup>47,48</sup>





**TABLE 7**

SELECTION OF EXISTING QUEENSLAND GOVERNMENT PROGRAMS THAT DRIVE DIGITAL INCLUSION

POLICY	DESCRIPTION
<b>Deadly Digital Communities</b>	Digital literacy program delivered in partnership with Telstra, leveraging IKCs and local councils Programs to encourage community confidence with digital technologies in remote Indigenous and Torres Strait ATSI communities
<b>Tech Savvy Seniors</b>	Digital literacy program delivered in partnership with Telstra, leveraging libraries, that builds the digital skills of Seniors
<b>Tech Savvy Communities</b>	Digital literacy program delivered in partnership with Telstra, leveraging regional and rural councils and libraries, that builds digital skills in regional communities
<b>Small business digital literacy grant</b>	Assists small businesses with access to digital technologies and services
<b>Small Business COVID-19 Adaption grants</b>	Grants to assist small businesses access digital technologies to rebuild business operations and transition to a new way of doing business
<b>Queensland Budget 2021-22</b>	Smart Service Queensland's COVID-19 response call centre and online services including quarantine compliance and wellness checks
<b>QCN Fibre</b>	State-owned corporation to connect State-owned fibre with the NBN
<b>Mobile Black Spot Program</b>	Co-funding under the Federal Government's Mobile Black Spot Program to deliver new mobile coverage in regional and remote Queensland.



## What have other state and territory governments done?

The Federal Government and other state and territory governments have been active to varying degrees in addressing the digital divide in recent years. At a federal level, major initiatives include the National Broadband Network and the successful Mobile Black Spot Program, through which all state and territory governments have provided co-funding to address mobile black spots in their jurisdictions.

Most state and territory governments also have digital strategies, some of which explicitly focus on digital inclusion..

### Federal Government

The Federal Government has been relatively active in recognising the need to address digital inclusion. Released in 2018, *Australia's Tech Future* focused on harnessing technology for the benefit of Australia's economy and society. The strategy had a key focus on inclusion and digital infrastructure based on the notion that 'job seekers, workers and students are equipped with the digital skills to empower them for the future'.<sup>49</sup> The strategy spawned a range of initiatives aimed at improving digital inclusion.<sup>50</sup>

The Federal Government's recently released *Digital Economy Strategy* is a more comprehensive attempt to bring a whole of government approach to identify current and new digital initiatives to grow Australia's economy. While focused largely on government and industry digital opportunities, the Strategy notes the importance of reducing the digital divide, particularly through infrastructure and skills investments. Regrettably, the Strategy has yet to focus sufficiently on programs that will reduce the digital divide at an individual and household level.

The Federal Government's successful Mobile Black Spot Program has so far generated investment of more than \$875 million, to deliver more than 1,270 new mobile base stations across Australia. The newer Regional Connectivity Program aims to build on this by leveraging co-funding arrangements with state and local governments, business, and community organisations to further.<sup>51</sup> To date, 22 projects in Queensland have received grants under the Regional Connectivity Program.<sup>52</sup>



**TABLE 8** SELECTION OF FEDERAL GOVERNMENT PROGRAMS THAT DRIVE DIGITAL INCLUSION

POLICY	DESCRIPTION
<b>Mobile Black Spot Program<sup>53</sup></b>	\$380 million initiative aimed at improving mobile connectivity infrastructure and fostering competition throughout rural Australia.
<b>Australia's Tech Future<sup>54</sup></b>	This initiative is the overarching digital inclusivity strategy currently being implemented by the Federal Government.
<b>Regional Connectivity Program<sup>55</sup></b>	This program funds 132 placed-based telecommunication infrastructure projects throughout regional, remote and regional Australia.
<b>Digital Economy Strategy<sup>56</sup></b>	A broad economy-wide government strategy totalling \$1.2 billion designed to ensure Australia emerges as a 'leading digital economy and society' by 2030.
<b>Digital Skills Cadetship Trial<sup>57</sup></b>	A \$10.7 million investment aimed at supporting cadetships leading to digital career paths.
<b>Universal Services Guarantee</b>	The Commonwealth will 'ensure that all Australians have access to voice and broadband services in the future, regardless of their location'. This initiative is underpinned by the rollout of the NBN.
<b>Health Care Homes<sup>58</sup></b>	This initiative aims to improve digital access for those living with chronic health conditions.
<b>Commonwealth allowance for certain income groups to support access to a telephone or home internet<sup>59</sup></b>	Annual funding to provide assistance to vulnerable members of community, requiring Telstra to maintain the Low Income Measures Assessment Committee.
<b>Digi House<sup>60</sup></b>	Improving digital inclusion for those living within social housing.
<b>Women in STEM<sup>61</sup></b>	\$4.5 million investment in programs aimed at encouraging more women to pursue careers in Science, Technology, Engineering and Maths.
<b>Be Connected<sup>62</sup></b>	A service offering free online skills training for senior Australians.
<b>Low income measures</b>	Requiring Telstra to maintain low income products and services and the Low Income Measures Assessment Committee



## State and territory governments

State and territory governments play an increasingly significant role in the digital economy and addressing digital inclusion, including but more certainly not limited to supporting Federal Government programs.

It has been acknowledged that NSW has been the leader in recent years for specific policies to address digital inclusion.<sup>63</sup> Initially \$1.6 billion was announced in the 2020-21 NSW Budget, with a further \$500m announced in the 2021-22 NSW Budget, bringing the fund to \$2.1 billion. Of this, \$365 billion is to be invested into 'clos[ing] the digital gap between regional and metropolitan schools through better integration of digital into the curriculum and infrastructure'.<sup>64</sup>

In addition, NSW has been a leader in developing bespoke programs to curb the digital divide. For instance, the redevelopment of MyHousing Online Services has been specifically designed as a means of allowing those with limited digital literacy to access essential government services.

As with other states, NSW was responsive to the COVID-19 pandemic, offering an expanded laptop loan program to allow households without computers to access at home learning. Such a program was replicated during the 2021 Greater Sydney lockdown.<sup>65</sup> However, such programs have been criticised for still failing to address the total community need, with critics stating that 'number of dongles and devices provided (22,183 combined) was not sufficient to serve 2000 schools and up to 80,000 students in need'.<sup>66</sup>

Victoria has also developed a holistic digital package. While the \$626m 'Digital Future Now' was mostly focused on improving digital services by the Government, it did include a Digital Jobs package for 5,000 Victorians to undertake digital skills training, valued at approximately \$64 million.<sup>67</sup> Mid-career Victorians can apply to be part of the program, which includes training and an internship. Going further than NSW, Victoria has invested in addressing the digital divide by committing to reimbursing schools for any laptops loaned during the COVID-19 pandemic.





In June 2020 the Western Australian Government released *Digital Inclusion in Western Australia: A Blueprint for a digitally inclusive state*, a draft policy on which consultation is currently underway.

The strategy notes that while Australians spend an average of six hours a day online, 11.6 per cent of Western Australian households and 26 per cent of low income households do not have access to the internet at home with issues around access, affordability, ability and a newly identified factor, poor design, driving digital exclusion.

Ideas considered but not yet committed to at this time include low cost telecommunications plans, unmetered online services, free wi-fi hubs, bandwidth boosting technologies in remote locations and structured digital volunteer mentorship programs particularly in First Nations communities.

The Government is undertaking consultation on the draft plan until mid-September 2021.

Other states and territories have recognised the need for digital inclusion but have failed to meet the levels set by NSW and Victoria recently in terms of strategy or total funding. For instance, South Australia's digital restart fund is \$120 million, which is lower per capita than both Victoria and NSW. Like the Victorian package, the focus of the South Australian is projects to improve Government services. For instance, the largest project is \$14.8 million for the Department of Innovation and Skills for a 'skills information system upgrade to improve service delivery, data management and productivity'.

Tasmania has developed a program called *Digital Ready for Daily Life*, which has a welcome community-minded focus. The program includes 'pop-ups at community events and shopping centres, one-on-one drop-in sessions and scheduled workshops with partner community organisations. This kind of community-centric approach is welcome, and hopefully will be replicated by other Australian governments.

Across most states and territories is a recognition of the need to improve digital connectivity across the regions, through programs such as NSW's 'Regional Digital Connectivity program'. This is an initiative also recognised by the Federal Government, as demonstrated below.

**TABLE 9**

SELECTION OF STATE AND TERRITORY GOVERNMENT PROGRAMS THAT DRIVE DIGITAL INCLUSION

GOV	POLICY	DESCRIPTION
NSW	Regional Digital Connectivity program <sup>68</sup>	Mobile coverage, network infrastructure, agricultural technology
NSW	MyHousing Online Services <sup>69</sup>	Easy to use app to allow clients to access services
NSW	Digital Restart Fund <sup>70</sup>	IT investments, cyber security, rural access gap direct intervention program (below)
NSW	Laptop Loans to help bridge the digital divide <sup>71</sup>	Surveying school communities to find out which households don't have computers at home for online learning
NSW	Rural Access Gap Direct Intervention Package <sup>72</sup>	Deliver improved access to digital teaching, learning aids and collaboration tools to rural and remote schools
NSW	Connecting Country Communities Fund <sup>73</sup>	Mobile black spot program Broadband Internet access for regional communities
NSW	Development of digital curriculum solutions <sup>74</sup>	To create 'active citizens' and to 'equip schools for a complex and fast-changing world'
NSW	Tech Savvy Seniors <sup>75</sup>	Program providing digital education for seniors
VIC	Connecting Regional Communities Program <sup>76</sup>	Improved regional mobile coverage and free public WiFi projects
VIC	Central Highlands Digital Plan <sup>77</sup>	Evidence-based, place-based analysis of the supply of and demand for digital services and skills in the region.
VIC	Digital Future Now <sup>78</sup>	Radically improving mobile coverage and broadband access, while supporting businesses to grow and create new jobs
VIC	Digital Skills and Jobs Program <sup>79</sup>	Training, internships, and opportunities for employment
VIC	Loaned School Owned Computer Support Initiative <sup>80</sup>	Reimburses schools so students can keep 70,000+ mobile devices loaned to them during the coronavirus pandemic

TABLE 9 CONTINUED

GOV	POLICY	DESCRIPTION
SA	Digital Restart Fund <sup>81</sup>	Improving Government's ICT and public's digital service access.
SA	Tech Savvy Seniors <sup>82</sup>	Program to provide digital education and access to seniors.
SA	Improved Internet for schools <sup>83</sup>	Industry collaboration (Telstra) to provide over 99% of public schools in SA to high-speed fibre optic cable. This represents all but 3 schools in SA, the others being equipped with high-speed Internet.
SA	Digital Service Standard <sup>84</sup>	Established design and delivery standard for government digital services. Provides assessment reports of public digital services.
TAS	Digital Ready for Daily Life <sup>85</sup>	Targeted digital assistance sessions around the State, including pop-ups at community events and shopping centres, one-on-one drop-in sessions and scheduled workshops with partner community organisations, as well as raise awareness of the range of computing and technology courses offered by Libraries Tasmania at locations around the State.
ACT	Technology Upgrade Fund <sup>86</sup>	Grants to upgrade IT equipment and improve digital access and literacy across Canberra.
NT	Digital Territory Strategy <sup>87</sup>	A consolidated view of key digital initiatives across the five strategic directions in the Digital Territory Strategy and highlights digital achievements.
NT	Connecting Territory Communities <sup>88</sup>	Establish remote mobile phone hotspots, location based solutions to improve data accessibility, facilitating use of NT government websites, investment in fibre optic connection to Tiwi Islands, Gulf region and Arnhem Land, deliver free and upgraded wi-fi to communities
NT	Building Digital Skills <sup>89</sup>	Encouragement of STEM take-up in public schools at all ages, various collaborations with industry, establishment of STEM centres of excellence
TAS	Our Digital Future Strategy <sup>90</sup>	Collaboration with industry, Libraries Tasmania, and more to develop digital learning and training capabilities.
WA	Digital Strategy for the Western Australian Government 2021-2025	Removal of inclusion barriers by simplifying access to digital public services
WA	Digital Inclusion in WA Blueprint <sup>91</sup>	Engagement with a broad range of stakeholders to identify strategic priorities, capabilities and directions
WA	DigitalWA: Western Australian Government ICT Strategy 2016-20 <sup>92</sup>	Integrated public services in one place, accessible both in person and online





## PART FIVE: CONCLUSION AND RECOMMENDATIONS

As Queensland looks forward to a future beyond the COVID-19 pandemic, policymakers must consider implementing initiatives aimed at strengthening the economic and social wellbeing of all Queenslanders. This report has outlined how expanding digital inclusion in the State will help expedite Queensland's already strong economic recovery from the pandemic and positions the State to take advantage of new opportunities that will emerge in coming years.

While acknowledging the efforts of both Queensland and the Federal Government in addressing digital exclusion in recent years, this report has identified that for many Queenslanders, access to digital services remains a challenge.

### IT HAS FOUND THAT:

- **Queensland ranks fifth among Australian jurisdictions on aggregate measures of digital inclusion**
- **Queensland has a poor digital affordability ranking meaning that Queenslanders, like people living in other states in which population density is low, tend to experience poorer bandwidth for the same value of data expenditure**
- **Digital exclusion is strongly related to income with data mapping showing that people in North West Queensland are the least likely to use the internet for a complex range of tasks and that people in coastal Queensland (essentially Mackay to Gympie) expend a relatively high proportion of their income on digital services, particularly when compared to people living in South East Queensland.**

The report presents detailed data prepared by the Queensland Council of Social Service which demonstrates that Queenslanders experiencing marginalisation commonly respond to an inability to afford or use digital technology by going without, a practice which increases their exclusion from society.

As the COVID-19 pandemic has so clearly demonstrated, so much of our modern lives are dependent on high quality, affordable digital connectivity. Increasingly, Queenslanders study from home, work from home, and engage with essential services through digital interfaces instead of in person. Knowing this trend will only continue, it is more important than ever to ensure that the Queensland Government works towards a future where no Queenslanders are digitally excluded, irrespective of their income or postcode.



As this report has articulated, governments at both a state and federal level, and of all political persuasions, have been conscious of the social and economic consequences of digital exclusion. Over the past decade, a broad range of initiatives have been progressively implemented, both in Queensland and throughout Australia, that have markedly improved the access to, and affordability of, digital services, as well as helped users up skill so they can successfully engage with these services. Governments should be congratulated for these efforts.

But while a majority of Australians and Queenslanders are today able to access and interact with digital services to an extraordinary degree, digital exclusion remains a policy challenge, and is highly consequential for the individuals still challenged by it.

This report has outlined the significant consequences of digital exclusion. It can impact an individual's ability to work, socialise, receive education or engage with essential government services, such as telehealth or social support. It also noted that these impacts are not felt evenly throughout Queensland, but are largely concentrated in regional and remote communities, those on low incomes, in vulnerable situations, and older people. In addressing these challenges, the Queensland Government can not only improve the dignity and way of life for individuals experiencing digital exclusion, but better prepare the State's workforce for an increasingly connected future – strengthening the State's economic outlook in the process.

This report concludes with specific, actionable recommendations that, if adopted, will add to the Queensland Government's already strong track record of taking action to end digital exclusion in the State.

## RECOMMENDATION 1

### **The Queensland Government recognises that accessing the internet and digital media enables the realisation of protected human rights**

The Australian Human Rights Commission argues that access to the Internet is critical as it enables individuals and communities to connect with one another and utilise their right to freedom of expression. The Internet is also becoming an essential means by which people can participate in public life.

The United Nations Convention on the Rights of the Child emphasises that all children have the right to education, to culture, to information and to be heard. Accessing the Internet reliably enables the individual to seek out and engage with these rights.

In 2019, the Queensland Parliament passed the first Queensland Human Rights Act, making Queensland the third Australian jurisdiction (behind the ACT and Victoria) to formally enshrine human rights. The Act explicitly protects Queenslanders' rights to education, freedom of expression and participation in public life and requires the Queensland Government to act and make decisions compatibly with these human rights.

A recognition that digital access in the modern world digital access enables the realisation of protected human rights should guide policy making.

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## RECOMMENDATION 2

**The Queensland Government develop a 10 year Digital Inclusion Roadmap in consultation with industry, social service providers and the community**

Addressing digital inclusion in Queensland will be a long game and require a multi-faceted approach by governments, industry, the social sector and communities.

This recommendation is consistent with the Australian Digital Inclusion Alliance's (ADIA) call for the Federal Government to adopt a nationally consistent digital inclusion roadmap. In the absence to date of this outcome federally, the Queensland Government can show leadership on this issue by working with key stakeholders to develop a robust, medium-term roadmap that includes ambitious access, affordability and ability targets, supported by appropriate funding commitments.

As it develops a new whole of government digital strategy, the Queensland Government is well positioned to be the first government in Australia to commit to such a Roadmap which could serve as a template for the nation.

## RECOMMENDATION 3

**The Queensland Government pioneer the development of a digital capability framework to improve the consistency and success rate of government and industry funded digital inclusion programs**

There is an urgent need for a digital capability framework to agree a set of core skills, standards and delivery methods which the Government and industry can use to more consistently develop, deliver and evaluate the many digital literacy programs currently being deployed in Queensland.

This framework could become a template for a national Digital Capability Framework.

## RECOMMENDATION 4

**The Queensland Government increase funding for digital literacy programs to evolve and scale existing successful programs and develop new programs targeting other digitally excluded cohorts, in consultation with industry and social service providers**

The Government is already funding a range of digital literacy programs and there are others that are being delivered by private companies and councils around the State.

However, the best of these programs can be evolved and scaled to really shift the dial on digital literacy outcomes. New programs targeting different locations and cohorts should also be developed and trialled, including in partnership with industry, councils and social service providers.

## RECOMMENDATION 5

**The Queensland Government audit infrastructure, digital equipment and resourcing needs of public libraries, Indigenous Knowledge Centres and community and neighbourhood centres to fully enable them to act as digital access and support hubs**

Through the State Library of Queensland, the Queensland Government has established funding, policy and support relationships with Queensland's 320 local government run public libraries and Indigenous Knowledge Centres. Similarly, the Department of Communities, Housing and Digital Economy has strong relationships with the existing network of over 5,200 community organisations including 125 neighbourhood centres across the state.



At present libraries and community centres are the first port of call for many Queenslanders experiencing digital exclusion but few have sufficient resources in terms of either hardware or staff time to assist the many people who come in seeking help.

The Queensland Government should identify these services as Digital Access and Support Hubs and provide them with specific funding to provide public wifi (such as hotspots), available hardware and staff to support people who need assistance.

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## RECOMMENDATION 6

**The Queensland Government increase existing funding to more significantly invest with industry, councils, businesses and communities to address regional and remote telecommunications blackspots, coverage quality and network resiliency**

As noted in this report, the Queensland Government has consistently contributed funding to help deliver new and improved digital connectivity to regional and remote communities. However, much larger funding allocations will be required to accelerate the reduction of mobile blackspots in regional and remote Queensland and achieve parity with the expenditure of other state governments, particularly New South Wales, Victoria and Western Australia.

The Government should leverage the current review of the State Infrastructure Strategy and the forthcoming release of its new Digital Economy Strategy to drive a more ambitious co-investment program with industry. In doing this, the Government should take a whole of government approach to identifying regional and remote connectivity priorities and establish a more centralised and regular process to engage with industry and local councils to discuss funding and other delivery opportunities.

The Government should also consult with industry, local councils and communities on further opportunities to improve the resiliency of existing telecommunications networks in remote and disaster prone locations across the State.

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## RECOMMENDATION 7

**The Queensland Government, as it increasingly delivers services online, ensures it is delivering a consistent, inclusive and accessible online experience across all government websites**

While this paper has spoken extensively about a lack of digital ability preventing some people from properly accessing the internet, other potential barriers such as disability and language barriers which make using a computer or a phone difficult, also exist.

At present, some government websites offer sound accessibility tools such as voice activation and information in other languages but there is no consistent standard across state, federal or local government sites.

Further, while browsing on government sites is generally inexpensive, forms which need to be downloaded and completed can be data intensive, difficult to comprehend and, in many cases are poorly set out for mobile phone access.

All of these issues can be resolved through good design.

It is recommended that the Queensland Government implement a minimum accessibility standard for all government websites.

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## RECOMMENDATION 8

**The Queensland Government ensures all low income, vulnerable and remote students can access suitable connectivity and devices at school and at home**

Queensland's Audit Office has found that despite significant improvements in recent years, the rapid pace of technological change means that many schools now do not have sufficiently fast broadband onsite to provide students with all the tools for digital learning. Slow speeds are a particular problem in regional and remote locations.

Further, while the Queensland Government has made some good strides in providing digital access, such as ensuring state school students have Microsoft Office 365 enabled emails, the pandemic has revealed the extent to which not all students have appropriate access at home to either digital devices or data.

In accordance with the Queensland Audit Office's findings, it is recommended that the Queensland Government should work to continuously improve digital access for school students through the provision of devices and data, particularly for the most disadvantaged students and through the provision of faster broadband in state schools.

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## RECOMMENDATION 9

**The Queensland Government lobby the Federal Government to create a permanent, affordable NBN consumer plan for households receiving government income benefits.**

At present, and even after a recent rise, single people with no children are entitled to a payment of \$620.80 per fortnight through the Australian Government's Job Seeker program. While the Federal Government has invested at least \$50 billion in the development of the National Broadband Network and continues to own the asset, the current fee structure with minimum monthly costs of around \$60 per month is unaffordable for many Australians on the lowest incomes.

As data compiled by QCOSS for this report has shown, financially disadvantaged Queenslanders are more likely to go without data when they cannot afford it than they are to access public sources. This creates further barriers in accessing employment, education and services.

In February 2019, the Australian Communications Consumer Action Network (ACCAN) issued a public call for a concessional wholesale broadband scheme which would offer baseline broadband to households receiving government financial support for \$30 per month.<sup>93</sup>

The call has so far not been heeded. With this report the McKell Institute proposes that the Queensland Government lobbies the Federal Government for the implementation of such a targeted low cost broadband scheme.

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