



Uncovering the Digital Divide in the Western Parkland City

Findings Report for Western Parkland City Digital Equity and Inclusion Program

October 2023

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Councils included in the Digital Equity and Inclusion Working Group include:



We thank Telstra for enabling the research team, Smart Places, Cities and Active Transport, Transport for NSW and The Parks to utilise an adapted Australian Internet Usage Survey (AIUS) that informs the Australian Digital Inclusion Index (ADII) and comparative ADII data across the rest of Greater Sydney. The ADII is the result of a partnership between Telstra and the ARC Centre of Excellence for Automated Decision-Making and Society at RMIT and Swinburne University of Technology. The ADII was first developed in 2015 in response to the increasing need for data to inform the development of more effective policies, products, and programs to improve digital inclusion and ensure no one misses out. In 2021, the Index was revised to reflect the evolution of usage patterns and the skills required to navigate life online. The ADII exists to share digital inclusion data and analysis for the benefit of the public.

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The Western Parkland City covers Darkinjung, Dharawal, Dharug and Gundagurra peoples, who we acknowledge have been custodians of the area for countless generations.

Disclaimer

Any opinions, findings, conclusions, or recommendations expressed in this report are those of the authors, and do not necessarily reflect the views of the partner organisations. The research team has taken great care to ensure the information within this report is as correct and accurate as possible. However, the research team does not guarantee, and except to the extent required by law accepts no legal liability arising from, or connected to, the use of any material contained within this report. The research team recommends users exercise their own skill and care with respect to their use of this data and that users carefully evaluate the accuracy, currency, completeness, and relevance of the material within this report for their purposes.

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Acronyms and Abbreviations

ADII	Australian Digital Inclusion Index
ADM+S	ARC Centre of Excellence for Automated Decision-Making & Society
AI	Artificial Intelligence
AIUS	Australian Internet Usage Survey
ABS	Australian Bureau of Statistics
ATO	Australian Taxation Office
CATI	Computer Assisted Telephone Interviewing
CALD	Culturally and Linguistically Diverse
Connectivity Index	NSW Digital Connectivity Index
CRC	Central River City
DEIO	Digital Equity and Inclusion Office
EHC	Eastern Harbour City
5G	Fifth Generation
ICT	Information and Communications Technology
IoT	Internet of Things
LOTE	Language other than English spoken at home
LGA	Local Government Area
NDIS	National Disability Insurance Scheme
NBN	National Broadband Network
NLF	Not in the Labour Force
NSW	New South Wales
Rest of Sydney	Rest of Greater Sydney with Western Parkland City omitted, and Central River City and Eastern Harbour City retained
SAEs	Small Area Estimates
WPC	Western Parkland City

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Executive Summary

Digital inclusion is about ensuring that all people can access and use digital technologies effectively. With an accelerating digital transformation underway, our premise is that everyone should have the opportunity to benefit from digital services. These services are increasingly tied to the way we manage our health, access education, find work, participate in cultural activities, organise finances, follow news and media, and connect with family, friends, and the wider world.

Executive Summary

Western Parkland City (WPC) has an opportunity to leverage smart city infrastructure to boost prosperity and improve the lives and livelihoods of its diverse communities. This report forms part of the Western Parkland City Digital Equity and Inclusion Insights Program (the Program). The Program is a collaboration between The Parks, an alliance of the eight local government areas (LGAs) that comprise Western Parkland City, and Smart Places, Cities and Active Transport, Transport for NSW.

This report delivers findings from targeted research through a localised Australian Digital Inclusion Index (ADII) survey to measure digital inclusion across Western Parkland City and benchmark the digital divide between Western Parkland City and the rest of Greater Sydney. Building on the knowledge of the Program team and participants, this report presents findings from a representative sample of 2,402 residents using the Australian Internet Usage Survey (AIUS) that informs the Australian Digital Inclusion Index (ADII).

Digital exclusion affects 30% of residents

A Snapshot of the Digital Divide affecting Western Parkland City

Overall findings show a distinct divide between Western Parkland City and the rest of Greater Sydney. Highlights include:

1. The digital inclusion score for Western Parkland City (69.6) sits 6.8 points below the average digital inclusion score for the rest of Greater Sydney (76.4) and 3.6 points below the 2023 national average (73.2) indicating a distinct digital divide within Sydney.

2. The Access gap is greatest in Fairfield (-5.5), the Blue Mountains (-4.2) and Hawkesbury (-2.9), compared to the rest of Greater Sydney. On average Western Parkland City (72.6) falls 2.1 points below the rest of Greater Sydney (74.7), based on frequency of internet use and types of devices used, connection type, data, and speed.

3. The Digital Ability gap is highest for the Blue Mountains (-11.7), Wollondilly (-10.7), Fairfield (-10.6), and Hawkesbury (-8.6) with all Western Parkland City LGAs (62.4) falling below the rest of Greater Sydney (70.0) and the national average (64.9).

4. An Affordability gap occurs across Western Parkland City (90.9) compared with the rest of Greater Sydney (95.4) and the national average (95.0). Affordability refers to the percentage of household income required to gain a good quality internet service. The highest Affordability gaps against the rest of Greater Sydney occurs in Fairfield (-6), Campbelltown (-5.5) and Liverpool (-5).

5. Digital exclusion affects 30 percent of Western Parkland City residents, 11.5 percent higher than the rest of Greater Sydney (17.3). This is concentrated in specific demographic groups, notably older adults, young adults with disability, and First Nations and older culturally and linguistically diverse residents.

These overall findings reflect important gaps in the capacity of Western Parkland City residents to benefit from digital technologies and digital services. We provide detail in this report to identify priority areas and urgent actions required to address digital exclusion across Western Parkland City.

Disparities in digital inclusion scores across urban locations typically correspond with other measures of advantage or disadvantage. Digital poverty, like social and economic poverty more broadly, is shaped unevenly across places where diverse communities and uneven infrastructure and resources coalesce.

Areas of highest priority

Fairfield has the highest rate of digital exclusion and has some of the lowest digital inclusion scores compared to the average across Western Parkland City: Access (69.2), a gap of -5.5 against the rest of Greater Sydney, Affordability (89.4), a gap of -6.0, and Digital Ability (59.4), a gap of -10.6. Fairfield also has the highest rate of mobile only users (7.6%), affecting use of digital services and Digital Ability among its residents.

Executive Summary (continued)

Scores vary across postcodes within the eight Western Parkland City LGAs, with areas of higher need in each LGA. For example, digital inclusion varies within Wollondilly, with population centres such as Picton (72.7) and The Oaks (73.0) scoring 8.4 points higher than lower density peri-urban postcodes.

Each LGA has residents who are classified as 'excluded' or 'highly excluded'. An Index score of 45 below is *highly excluded*.

- Fairfield (37.1%) has the highest percentage of excluded or highly excluded residents.
- Penrith (25.4%) the lowest percentage of excluded and highly excluded residents.

Digital inclusion scores are compounded by demographic and geographic factors and low scores are associated with conditions of affordability stress and other factors that lead to digital inequality.

Affordability stress affects all areas but is highest in Fairfield, Campbelltown, and Liverpool

All LGAs except for Camden score substantially higher levels of affordability stress than the rest of Greater Sydney. Affordability stress occurs when households must pay more than 5% of their income to access a quality internet bundle. High levels of affordability stress in Fairfield (36.9%), Campbelltown (31.3%) and Liverpool (27.4%) reflect the concentration in those LGAs of low-income households (lowest 40% of the income distribution) and emphasise the substantial need for financial support for digital access.

We asked to what extent residents had to sacrifice or cut back on essential costs to afford the internet, finding that cutting back was twice as high among those living in Western Parkland City (39.7%) compared with the rest of Greater Sydney (19.1%). We also asked whether residents had to make compromises on the quality and speed of their internet connection to afford it, with Western Parkland City residents more adversely impacted (22.0%) than those in the rest of Greater Sydney (13.6%).

The issue of affordability stress affects some community groups more than others. Unsurprisingly, sacrificing or cutting back on essentials was most prevalent among individuals receiving Austudy or Abstudy (63.5%), Parenting Payment (61.3%), Family Tax Benefit A or B (53.6%) and Jobseeker (53.4%).

Uneven Access and connectivity create place-based digital disadvantage

Digital Access is lowest in Fairfield (69.2), the Blue Mountains (70.5), Hawkesbury (71.8) and Wollondilly (72.4). This reflects a combination of limited devices among residents in those areas, less frequent internet use, and more restricted connection types and download speeds. Areas scoring low on Access have a greater share of residents who are infrequent or non-internet users, with greater reliance on either a mobile or fixed broadband service alone, higher use of pre-paid services and lower use of smartphones. Access scores are lifted across Western Parkland City, however, by higher reported use of 5G mobile and mobile broadband in Western Parkland City than in the rest of Greater Sydney.

Parts of Hawkesbury, the Blue Mountains and Wollondilly continue to face restricted connectivity due to mobile blackspots. This affects mobile use outside the home, something particularly important for mitigating risks in times of disaster. Residents in the Blue Mountains and Wollondilly were least likely to access the internet outside the home. Internet access outside the home indicates mobility, public or free Wi-Fi availability, smartphone use, and internet access via businesses, institutions, and services.

There were positive findings in the use of libraries for internet access in Fairfield (26.5%), Liverpool (19.5%) and Campbelltown (15.2%). However, there was notably low use of libraries in Camden (8.4%) and Wollondilly (10.1%). Public transport hubs and routes were rated as important places for internet use outside of the home for all Western Parkland City LGAs, but less so for Camden, Wollondilly, and Hawkesbury.

Online service use was typically lower among Western Parkland residents. In particular, fewer Western Parkland City residents (88.6%) accessed an online government service in the past six months compared with the rest of Greater Sydney (94.7%). Western Parkland residents (60.7%) also reported lower use of public transport apps compared with those in the rest of Greater Sydney (78.1%). Similarly, fewer Western Parkland residents booked a ride share service (such as Uber (41.2%) compared with the rest of Greater Sydney (50%). In contrast, accessing online services to look for work was more prevalent, especially in Penrith (56.7%), Fairfield (55.8%) and Campbelltown (55.8%), compared with the rest of Greater Sydney (49.6%). Overall, residents in Wollondilly had the lowest use of online government and private services and had lower engagement with online social and community activities.

Executive Summary (continued)

Digital Ability and Access disadvantages among priority cohorts

The place-based impact of digital inequity across the life course in Western Parkland City is more pronounced where there are higher proportions of demographic groups vulnerable to digital exclusion. In this sense, digital inequality in Western Parkland City follows demographic trends across the rest of Greater Sydney and nationally, with First Nations residents more digitally disadvantaged, along with older adults, CALD residents and people with disability. The findings show some cohort-based priorities for Western Parkland City LGAs.

Age remains a vital factor in digital disadvantage, and this affects some Western Parkland City areas more than others. The Blue Mountains (45 years) is the LGA with the highest median age across Western Parkland City, followed by Hawkesbury (39 years) and Fairfield (39 years). It is unsurprising that the Blue Mountains had the lowest scores for Digital Ability (58.3) with a gap of 11.7 points compared to the rest of Greater Sydney (70) and 6.6 points compared to the national average (64.9). Fairfield's 65+ year-old population score is 41.8, which is 14.2 points lower than in the Blue Mountains (56.0), an area with a higher-than-average aged population (19.7% 65+ year-olds, vs Fairfield's 13.8%). To remedy this disparity, support services in Fairfield must respond to residents' additional language, learning, cultural barriers and preferences.

First Nations residents have higher rates of digital disadvantage:

- The average index score for young First Nations adults 18–34 years old is 17.8 points lower than non-First Nations residents their age.
- More than half of First Nations respondents reported having a pre-paid mobile service plan (52.9%) compared with non-First Nations residents (34.3%).
- Fewer First Nations people in Western Parkland City have nbn connection (50.1%) compared with other residents (72.6%).

First Nations peoples reside in all Western Parkland City LGAs, with a higher proportion in Penrith (4.6%), Hawkesbury (4.6%) and Campbelltown (3.8%).

Place matters for digital inclusion among younger cohorts. Young adults aged 18–34 years living in Campbelltown (71.5) or the Blue Mountains (73.6) had lower average digital inclusion scores compared with a similar aged cohort living in

other areas across Western Parkland City communities, such as Camden (80.1) or Wollondilly (79.2).

Disability is another key factor in digital disadvantage, but even more so for younger adults. Young people aged 18–34 years with disability experience a gap of 14.3 points on average scores, while those aged 35–54 experience a gap of 9.3 points.

Recommendations for addressing digital equity across Western Parkland City

The findings in this report provide important information for where to invest to achieve greater digital equity as the foundation for smart places. Digital Access, Affordability and Ability intersect in nuanced ways across locations, the life course, and among cultural and social-economic community groups living in the Western Parklands City. Closing the digital equity gap will require locally tailored place-based responses that can meet diverse community needs within each Western Parkland City council area. In locations with interrupted connectivity, such as the Blue Mountains, Hawkesbury, Wollondilly, priority should be improving digital infrastructure. In addition, the larger number of ageing residents within these areas will also require more targeted initiatives to increase Digital Ability. Locations with higher concentrations of socio-economic disadvantage, especially Fairfield, will require integrated programs that can respond to all three dimensions of the divide.

Specific recommendations for achieving digital equity, which may be considered by local and State government as they plan responses to digital inequity within the Integrated Reporting and Reporting (IP&R) framework and other related government strategies, are as follows:

1. Provide tailored support for more excluded groups and communities, including First Nations people, young people with disability, people aged over 65, and people who predominantly speak languages other than English.

- 1.1 Establish a Digital Fund in which eligible low-income individuals and families can apply for subsidised internet connection and device packages, targeted through schools, frontline support services and social housing providers.
- 1.2 Collaborate with local government to provide integrated packages that deliver stepwise capability building and training support with subsidised digital access, targeted at most excluded communities.

Executive Summary (continued)

- 1.3 Support Migrant Resource Centres to provide digital inclusion programs in diverse languages and using multilingual digital mentors.
- 1.4 Integrate digital capability and access programs as part of personalised packages of support that can be purchased through the National Disability Insurance Scheme (NDIS).

2. Address place-based digital equity needs, drawing on specific evidence about digital disadvantage covered in the body of this report as a guide to localised interventions.

- 2.1 Develop a detailed Digital Implementation Strategy to support the recommendations of this report, with targeted initiatives to improve affordability and capability directed to communities most in need.
- 2.2 Appoint Digital Equity Officers representing each local government to coordinate and implement WPC digital priorities and monitor digital inclusion measures in WPC, including uplifting the skills of frontline service staff to support digital equity.
- 2.3 Undertake an inclusiveness audit across all online government services and implement an awareness campaign encouraging digitally excluded residents to access online services. This should include co-design of online services with user groups to ensure built in usability among excluded residents.
- 2.4 Undertake research and consultation by and with First Nations communities to better understand culturally appropriate strategies for increasing digital inclusion.
- 2.5 Conduct Digital Skills and Readiness screening through frontline service providers and local government services to identify digital access needs and design targeted programs to reach the most excluded residents.

3. Foster digital inclusion partnerships between government and prominent community groups to support trusted local action.

- 3.1 Encourage digital collaboration and innovation across government and between universities, industry and community, in Western Parkland City, to facilitate broad uplift in community digital access and capability, leveraging existing digital capability programs and strategies under development by government.

- 3.2 Deliver Community awareness campaigns to increase the profile of and access to funded digital inclusion programs and learning opportunities listed on The Parks Online Service Hub.

- 3.3 Release competitive grant programs to encourage and fund innovative, market-led solutions to enhance digital capability.

- 3.4 Engage delivery partners, such as local government, to run targeted capability uplift programs for key cohorts, with additional resource allocation targeted to Fairfield, Wollondilly, the Blue Mountains, and Hawkesbury.

- 3.5 Plan for and invest in infrastructure to reduce barriers to Access, for example expanding affordable access through free, quality Wi-Fi services in public places for supported internet use, and mobile connectivity in new development areas.

4. Invest in infrastructure, including expanding affordable access through free, quality Wi-Fi services in public places for supported internet use, including for new development areas.

- 4.1 Continue to collaborate with the Australian Government and telecommunication providers to reduce the barriers to the provision of critical digital connectivity infrastructure for mobile and fibre, especially for growth communities. This should include ongoing monitoring and investment to address mobile blackspots in areas such as Hawkesbury, Wollondilly, and the Blue Mountains.
- 4.2 Continue to invest in free public-access Wi-Fi, and public facilities for computer and internet access, particularly in local libraries.
- 4.3 Explore partnering with telecommunication providers to reduce barriers to access fixed and mobile packages, service plans and bundles – particularly targeting areas and community groups that are reliant on or have access to only one mode of connection.

Place matters for digital exclusion

1. Introduction



Image copyright NSW Government

Digital inclusion is about ensuring that all people can access and use digital technologies effectively. With an accelerating digital transformation underway, our premise is that everyone should have the opportunity to benefit from digital services. This report presents findings from targeted research to measure digital inclusion across the Western Parkland City covering eight local government areas including: The Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith, and Wollondilly. Drawing on a locally adapted Australian Digital Inclusion Index (ADII) survey, the report provides a benchmark of digital inclusion within the Western Parkland City relative to the rest of Greater Sydney and identifies the specific gaps and priorities for improving digital equity among residents living within the Western Parkland City community.

The research forms part of the Western Parkland City Digital Equity and Inclusion Insights Program (the Program), which aims to support the ambition of a future-focussed, inclusive City as detailed in the Digital Action Plan¹ and Smart Western Sydney Program² by developing recommendations to increase digital equity within the most digitally excluded areas, including prioritising communities requiring further research, or program or policy intervention.

The Program is a collaboration between The Parks, an alliance of the eight local government areas that comprise Western Parkland City, and Smart Places, Cities and Active Transport, Transport for NSW. The Program is supported by the NSW Government through the Smart Places Acceleration Program.

WHY THIS PROJECT?

Insights from the 2020 and 2021 ADII revealed significant disparities across the Western Sydney region compared with the rest of Greater Sydney and the national average digital inclusion score. However, whilst providing small area comparisons, the national ADII does not provide the granular insights needed for understanding the unique digital equity needs based on the diverse demographic and cultural mix, resources, capabilities, services, and infrastructure available within local communities.

Despite the critical importance of location, there has been limited detailed published research into the more nuanced needs within local urban communities, including Western Sydney. The sudden move to online services associated with the onset of the COVID-19 pandemic brought the urban digital divide within Sydney to the policy and program forefront. During this time, demand for timely internet access for existing community facilities, such as libraries, across Western Parkland City Councils highlighted the localised impact of deepening digital inequalities among community members.

Building on experiences and knowledge of digital inequity across the Western Parkland City, this report provides an evidence base to directly inform the next phase of the Digital Equity and Inclusion Insights Program. As part of the Program, a Digital Equity and Inclusion Office (DEIO) was established in The Parks. The role of the DEIO is to collaborate with local council representatives in the Digital Equity and Inclusion

Introduction (continued)

Working Group (Working Group) and the Program Team to deliver the Program. The findings will inform how government, community and industry can work together to explore new innovative approaches to close the digital divide of residents living in Western Parkland City.

DIGITAL EQUITY AS A FOUNDATION FOR SMART PLACES

Achieving digital equity has formed a significant research thread with increased policy attention since the late 1990s. State and local governments now prioritise and incorporate digital inclusion policies as core elements of economic, social inclusion and place-based planning. As our lives have become more embedded online, policies have evolved from understanding the implications of the first and second digital divides – ‘who can gain access’ to the internet and ‘has the skills’ to use the internet – to understanding the third digital divide – how existing or offline social inequalities become reproduced via the benefits and resources gained from participation in online services, networks, or communities.³ Here the focus is on how ‘offline’ social inequalities or disadvantage across the life course, access to resources, opportunity structures and power differentials intersect and combine with the ‘online’ realm to reproduce cumulative social and digital exclusion.⁴

Despite widespread internet use, digital inequalities persist. There are many in the community who have never used or are unable to access the internet, in contrast to those who gain significant social and economic advantages from continual internet use. Furthermore, changes in life circumstances, such as retirement or loss of paid work – where internet use can abruptly stop – may introduce new experiences of digital inequality among people who were once highly connected.

This digital inequality is uneven across geography, resulting in a mix of localised or place-based experiences and outcomes that can entrench digital exclusion in some communities more than others. Intra urban differences in digital inequality, like social inequality more broadly, are due in part to the social and demographic mix of households that live and become concentrated within these areas. But they can also emerge and cumulate in geographic places due to the consequences of uneven access to resources and unequal opportunities to increase digital skills over time. These potential area effects, or the role that living in different urban communities has in further deepening digital inequalities or enabling movement towards greater digital equity over time, have not been well investigated.

There are many ways that digital inequality or exclusion plays out to further disadvantage communities in their everyday practices and opportunities. For example, parents’ low income can shape their children’s opportunities to engage online and effectively participate in school and other community activities and services within local areas. Students already experiencing social and economic disadvantage could therefore be more at risk of disengagement from online learning if they face barriers to using the internet.⁵

As many workers were forced to pivot to online work during the pandemic, having poor access to the internet and limited digital skills meant that many people were excluded from work and income. These restrictions were felt acutely by women shouldering domestic labour including care-giving and home-schooling responsibilities⁶ especially those who faced additional risks including domestic and family violence.⁷

The concepts of place-based digital poverty and exclusion can help to frame minimum expectations or cultural standards for a community to enable all citizens the opportunity to benefit from the gains of critical digital social infrastructure. Digital poverty, like social and economic poverty more broadly, is shaped unevenly across places where the mix of communities, infrastructure and resource coalesce. As automation continues to transform economies and society, government policies and resources to support the development of smart places must extend beyond technology towards better understanding and reducing existing and future digital divides.

Introduction (continued)

ABOUT THE WESTERN PARKLAND CITY

The Western Parkland City is a major economic centre that is home to over one million residents with a geographical coverage spanning more two-thirds of Greater Sydney – from the more highly dense inner and middle urban communities of Fairfield, Penrith, Camden, Liverpool, and Campbelltown to the expansive peri-urban communities of the Blue Mountains, Hawkesbury, and Wollondilly. Each of the eight council areas offer their own unique cultural and demographic diversity, economic activity, amenity, and environmental infrastructure that have historically and will continue to impact upon opportunities for digital connectivity and inclusion. The Western Parkland City covers Darkinjung, Dharawal, Dharug and Gundagurra peoples, who we acknowledge have been custodians of the area for countless generations. As a collective, the Western Parkland City community is less affluent, more culturally diverse, with areas that have larger clusters of both ageing and younger communities compared with the rest of Greater Sydney (see Appendix 1 Table A1.1).

The highly densely populated city of Fairfield is among the most economically and socially disadvantaged areas in Greater Sydney. More than two thirds of its residents speak English as a second language, it has the lowest levels of household income and employment participation, a high concentration of social and private renters, and an ageing population. The bordering area of Liverpool also has high population density, cultural mix, and social housing residents albeit with a younger age profile than Fairfield. Campbelltown, with a younger mainly English-speaking profile, experiences high unemployment, with the highest share of social housing residents among the eight councils.

Penrith with a larger share of young adults and private renters, including the student population associated with Western Sydney University, is a more mobile community. Along with Hawkesbury and Campbelltown, Penrith has the highest share of First Nations people. The more geographically dispersed areas of the Blue Mountains, Hawkesbury, Wollondilly are characterised by an ageing but educated community of homeowners, with different demographic profiles and needs in the inner, middle, and outer boundaries. The more affluent and less culturally diverse area of Camden is home to a larger share of younger working families.

STRUCTURE OF THE REPORT

Section 2 outlines the multi-mode method of data collection across Western Parkland City that ensured low and non-internet users and culturally diverse communities could participate in the survey. Section 3 then presents an overview of digital inclusion, comparing outcomes for each of the dimensions of digital Access, Ability and Affordability for Western Parkland City and the rest of Greater Sydney. In Section 4, place-based intersections of digital inclusion across the life course and education status, when living with disability, and among culturally diverse and First Nations communities are presented. Section 5 examines disparities in the use of online activities and services. This includes the types of NSW-specific and national government online services accessed, as well as further training, support and elements of promising practices that can build digital capability and equity. The report concludes with recommendations for how state and local governments can work in partnership to close the digital equity gap for residents living in Western Parkland City.

2. Data and methods

This research adopts a participatory methodology and involves collaboration with a range of stakeholders. The stakeholders consist of:

- > The Program team, comprised of:
 - Digital Equity and Inclusion Office, The Parks
 - Smart Places, Cities and Active Transport, Transport for NSW
- > Program participants from the local council Digital Equity and Inclusion Working Group
- > Other relevant agencies within the NSW Government



2. Data and methods (continued)

The objective of the study was to comprehensively understand digital exclusion and inequity at the LGA and postcode level. To do this, the study benchmarks against the Australian Digital Inclusion Index (ADII) and utilises data from the Australian Internet Usage Survey (AIUS). Additionally, stakeholders developed specific, locally relevant questions to measure more detailed demographic information relating to cultural diversity, access and use of online government services and training needs for low internet users across the communities within each of The Western Parkland City's local government areas.

Created in 2015, the ADII measures the nature and extent of digital inclusion across three dimensions of Digital Access, Affordability and Ability. The ADII explores how these dimensions vary across the country and for different social groups. Where early research on digital inclusion focussed on questions of access,⁸ subsequent work has shown the influence of digital skills or abilities,⁹ and affordability challenges,¹⁰ as the use of online technologies has grown. Considering access alone provides only part of the picture. Hence, measuring digital inclusion requires paying attention to each of these dimensions at the same time.

In 2021, the ADII team revised and updated the Index methodology to reflect the evolution of internet use and the skills required to navigate life online. Retaining the original three-dimension framework, the revised Index updates the underlying components to accommodate changes in digital technologies, digital skills, and the telecommunications marketplace. Details regarding each of the three Index dimensions and the underlying components appear in Appendix 2.

ADII METHODS

The National ADII is derived from the Australian Internet Usage Survey (AIUS), which investigates who uses the internet, what activities Australians conduct online, and what barriers exist to accessing the internet. The AIUS changes slightly each year to account for shifts in social context (such as the COVID-19 pandemic). Survey data is collected from a nationally representative stratified address-based sampling method to yield approximately 3,000 responding households that is weighted to the Australian population drawing on the ABS population Census. This sample is supplemented with targeted collections to reach more isolated communities, including First Nations people (see for example ADM+S Mapping the Digital Gap project¹¹). This national sample is used to derive Index scores for each Australian Local Government Areas (LGAs) using small area estimate modelling.

The National ADII collection uses a sequential mixed-mode data collection design, which allows participants to complete the survey either online or in hardcopy mailed out to their household residential address. To ensure the survey includes both people who use the internet and those who do not or use less frequently, initial invitations to complete the survey are sent via post. More details regarding the AIUS sampling and recruitment method can be found via the ADII website.¹²

EXTENDING THE ADII TO WESTERN PARKLAND CITY

A core strength of the redesigned Index method is the ability to draw on and adapt the AIUS Survey to investigate digital inclusion at a finer spatial scale in localised community and organisational settings, as well as respond to place-based policy concerns. This current research draws upon the AIUS with a modified collection and sampling strategy to collect a representative sample of each of the eight LGAs. The final methodology of data collection and additional survey questions on the types of online government services accessed and training and support needs was co-designed with the Program team, DEIO and representatives of the local council Working Group.

2. Data and methods (continued)

Given the population diversity across Western Parkland City, survey responses were collected via a mixed mode approach that included online area-based population panels, Computer Assisted Telephone Interviews (CATI) and in person interviews. In person interviews were essential to reaching certain community groups, particularly low to non-internet users that are more difficult to reach via the other two modes. The collection of AIUS data was undertaken by a professional social research company, CanvasU following full ethics approval.

The survey recruitment was matched against population quotas for gender, age (over 18 years), cultural diversity, and First Nations identification based on the 2021 ABS Census community profiles for each area. We would like to acknowledge that the collection was not undertaken on Country and that responses may not be representative across First Nations people living in the Western Parkland City Community. We recommend a more in-depth exploration of digital inclusion be undertaken that is led by and with First Nation people in Western Parkland City to examine the nature of their internet use and barriers. We request that any findings relating to First Nations people within this report be used with respect and caution.

The recruitment for low and non-users was also matched against quota distributions from the National ADII collection for Sydney areas. The approach to recruitment involved sequential online launches to ensure distributions were represented across selected demographic groups. Existing data gaps were addressed where possible via targeted CATI to reach population groups not adequately represented by online panels, particularly in areas of the Blue Mountains, Hawkesbury, and Wollondilly as well engaging low or non-internet users, older adult Australians, and communities with English as a second language spoken at home.

Additional iterative recruitment methods were implemented to ensure that a representative mix of cultural communities living within Western Parkland City were included in the sample, especially within Fairfield where more than 67 percent of residents speak a language other than English at home. This approach included:

- three separate selected online launches filtering culturally and linguistically diverse communities;
- in person interviews conducted onsite within libraries with surveys translated into main language groups identified in each area. In person interviews were conducted in Fairfield, Liverpool, and Campbelltown to further reach culturally diverse groups with English as a second language and low to non-internet users via Council Libraries and Community Centres. Locations for in person surveys were negotiated and approved by key Council delegates, with Swinburne ethics approval. Further in person interviews were achieved by engaging with existing culturally diverse groups, including Tech Savvy Seniors (a NSW Government and Telstra initiative providing free or low-cost digital skills training for seniors in public libraries and community colleges), knitting groups, and other activity groups; and
- targeted CATI with bi-lingual interviewers, translating services and interviewing another member in the household on behalf of the selected person.

2. Data and methods (continued)

All survey responses across modes were integrated into an online survey platform managed by CanvasU with data provided to the research team in a SPSS file format. Table 1 shows the distribution of responses across each of the LGAs. The sample quotas were matched against population size to derive a total sample of 2,402 respondents. The final dataset was weighted by the Social Research Centre (SRC) against the broader Census population profiles of the eight LGAs drawing on the same method applied for the National ADII to ensure consistency and correct for issues of over and under sampling. Individual index scores derived for the Western Parkland City sample constructed and calculated by the research team have also been used to estimate index scores within LGA postcodes (see Appendix 4). The estimates are calculated using a regression modelling method called Small Area Estimates. In this approach, survey index scores are estimated for each of the eight corresponding LGA postcode areas using area-based demographic profiles that include characteristics such as age, gender, cultural diversity, and household income from the 2021 Australian Census. The Small Area Estimate modelling is undertaken by the Social Research Centre (SRC) (please see the SRC Technical Report available for download at www.digitalinclusionindex.org.au/download-reports/).

The analysis of digital inclusion and online activities for Western Parkland City, where applicable, is compared with a population weighted sample from 353 survey responses for the rest of Greater Sydney collected for the National ADII. The sample was drawn from the postcode areas as defined by the Greater Cities Commission that correspond with the catchments of Central River City and Eastern Harbour City. This catchment differs from the ABS definition, which also includes Central Coast City as part of Greater Sydney.

Table 1. Weighted and unweighted sample numbers across LGAs

	Weighted		Unweighted	
	N	%	N	%
Blue Mountains	59814	7.7	237	9.9
Camden	84598	10.8	256	10.7
Campbelltown	130981	16.8	414	17.2
Fairfield	139265	17.8	379	15.8
Hawkesbury	46821	6.0	232	9.7
Liverpool	145849	18.7	367	15.3
Penrith	142717	18.3	316	13.2
Wollondilly	31375	4.0	201	8.4
Total	781420	100.0	2402	100.0

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

The final sample demographics and distribution across each of the LGAs is shown in Table 2 with more detailed tables appearing in Appendix 3 Table A3.1. There was a higher response rate from First Nations people and younger individuals, and a lower response rate from people aged 65 years and older. The most reported languages among respondents who speak a language other than English at home shown in Table 3 included Arabic (11.5%), Vietnamese (9.8%), Hindi (9.5%) Italian (7.7%) and (Spanish 7.4%).

2. Data and methods (continued)

Table 2. Selected demographic characteristics among respondents across LGAs, weighted

	Blue Mountains %	Camden %	Campbelltown %	Fairfield %	Hawkesbury %	Liverpool %	Penrith %	Wollondilly %	Total %
18 to 34 years	13.9	37.0	28.7	37.1	26.1	41.8	27.2	25.0	31.8
35 to 44 years	16.9	16.2	20.4	12.5	17.1	19.2	23.3	11.5	18.0
45 to 54 years	21.0	8.7	17.3	15.9	24.9	15.1	19.0	11.1	16.5
55 to 64 years	18.8	15.3	14.8	16.7	11.9	13.3	14.8	22.0	15.3
65+ years	29.3	22.7	18.8	17.8	20.2	10.6	15.6	30.4	18.3
Language other than English at home	13.0	23.6	45.1	68.4	14.1	59.7	24.6	10.4	40.2
First Nations Background	9	6	7.6	5.1	4.6	4.5	5.4	5.5	5.8
Household income									
Below \$52,000	42.5	31.2	48.1	53.9	46.2	39.5	41.3	43.3	43.8
\$52,000 – \$90,999	16.1	15.8	20.1	16.9	10.7	19.7	15.5	15.9	17.1
\$91,000 – \$155,999	27.7	32.5	20.4	19.2	24.0	27.1	27.6	23.3	25.0
\$156,000 and above	13.8	20.5	11.4	9.9	19.2	13.6	15.6	17.4	14.2

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

2. Data and methods (continued)

Table 3. Most reported languages among respondents that speak another language other than English at home, weighted sample

Languages	Weighted %	Languages	Weighted%
Arabic	11.5	Greek	2.8
Vietnamese	9.8	French	2.6
Hindi	9.5	Croatian	2.3
Italian	7.7	Tongan	1.9
Spanish	7.4	Serbian	1.9
Samoan	6.0	German	1.8
Tagalog	5.7	Punjabi	1.8
Cantonese	5.3	Maltese	1.6
Assyrian Neo-Aramaic	4.3	Chaldean Neo-Aramaic	1.4
Mandarin	4.5	Urdu	1.4
Bengali	3.5	Russian	1.3
Nepali	3.0		

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

3. Digital inclusion across Western Parkland City

KEY HIGHLIGHTS

- > Average digital inclusion in Western Parkland City (69.6) is **6.8 points lower than the rest of Greater Sydney** (76.4) and 7.6 points lower than Eastern Harbour City (77.2). This gap increases to 10.1 points in the most disadvantaged area of Fairfield.
- > The most highly **digitally excluded areas** are **Fairfield** (17.8%), **Hawkesbury** (16.4%), the **Blue Mountains** (15.6%) and **Wollondilly** (14.9%).
- > Nearly a **third of Western Parkland City residents** (30.0%) **fall below an 'excluded' threshold** compared with 17.3 percent for the rest of Greater Sydney.

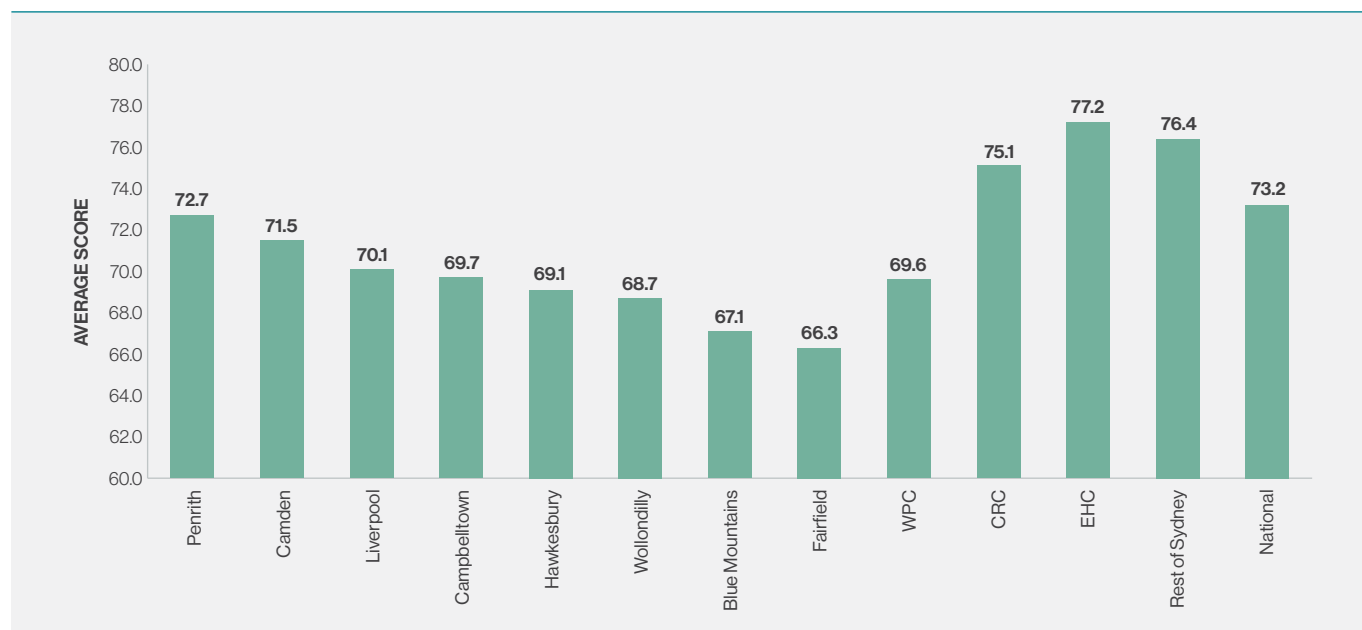
3. Digital inclusion across Western Parkland City (continued)

Since its inception, the ADII has revealed uneven digital inclusion scores across urban locations that typically correspond with areas of concentrated spatial advantage or disadvantage. Disparities in digital inclusion scores are evident within Western Parkland City local government areas, and when compared across Central River and Eastern Harbour Cities and the rest of Greater Sydney. As Figure 1 shows, average digital inclusion scores across Western Parkland City (69.6) communities range from 72.7 in Penrith to 66.3 in Fairfield. However, all Western Parkland City councils fall below the average for the rest of Greater Sydney areas (76.4). The more affluent Eastern Harbour City has the highest average digital inclusion score of 77.2.

The multicultural city of Fairfield, among the most disadvantaged areas within the eight Councils, has an average digital inclusion score 10.1 points below the rest of Greater Sydney and 3.3 points below the Western Parkland City average. Lower average scores for the Blue Mountains (67.1), Wollondilly (68.7) and Hawkesbury (69.1) are likely to be influenced by the higher share of people aged over 65 years within the areas who typically have lower average digital inclusion scores relative to other age cohorts.

The areas of Penrith and Camden have the highest scores in the Western Parkland City. This is likely to be influenced by the greater share of families with children, with a younger and more educated overall profile. With a higher share of private renters, digital inclusion scores in these locations may be dynamic over time given the higher tendency for residential mobility among younger populations.

Figure 1 . Average Digital Inclusion scores by Western Parkland City and rest of Greater Sydney



Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

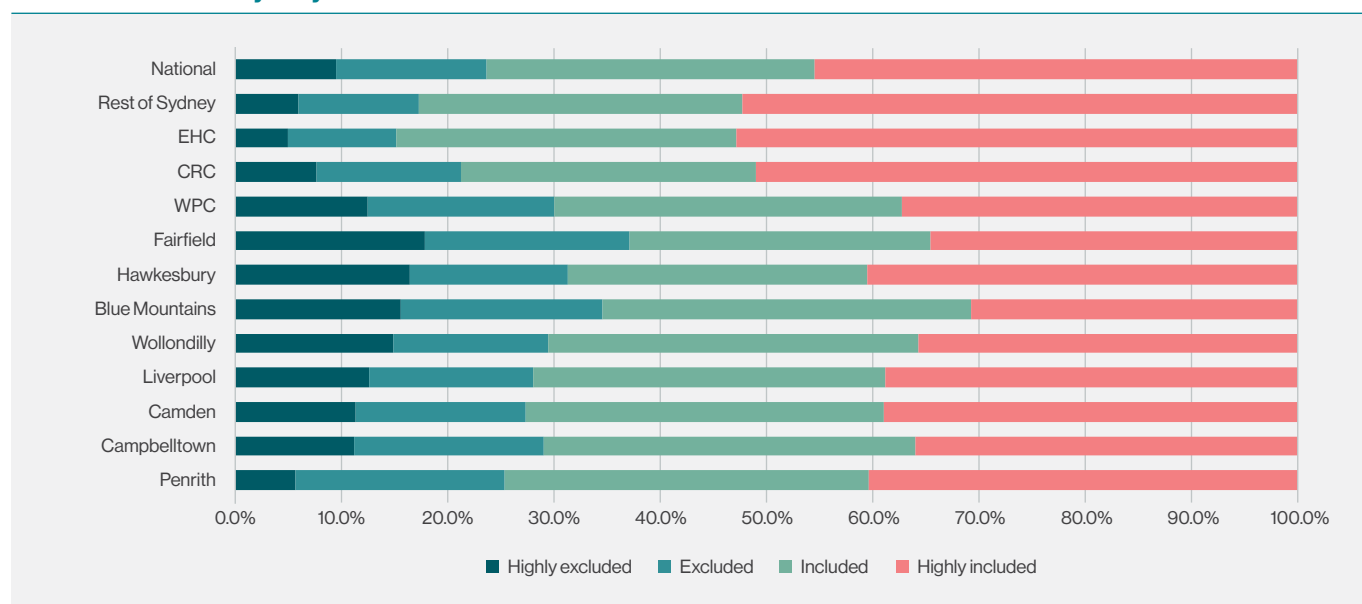
3. Digital inclusion across Western Parkland City (continued)

Another way of examining digital inclusion across Western Parkland City communities is looking at the extent to which people fall below an accepted threshold of inclusion that would prevent them from effectively participating online or obtaining benefits from being on online. Within this framework we identify four groups along a continuum of digital exclusion to inclusion:

- Highly excluded (45 or below)
- Excluded (above 45 and below 61)
- Included (above 61 and below 80)
- Highly included (80 and above)

Figure 2 shows that just under a third of Western Parkland City residents (30.0%) fall below the 'excluded' threshold, with 12.4 percent highly excluded and 17.6 percent excluded. This compares with 17.3 percent either falling within a highly excluded (5.9%) or excluded (11.4%) threshold for the rest of Greater Sydney. The share who are highly included in the rest of Greater Sydney is 52.2 percent compared with 37.2 percent for Western Parkland City areas overall. This drops to 34.6 percent for residents living in Fairfield and 30.7 percent in the Blue Mountains.

Figure 2. Percentage of individuals that are highly excluded through to highly included by Western Parkland City and rest of Greater Sydney



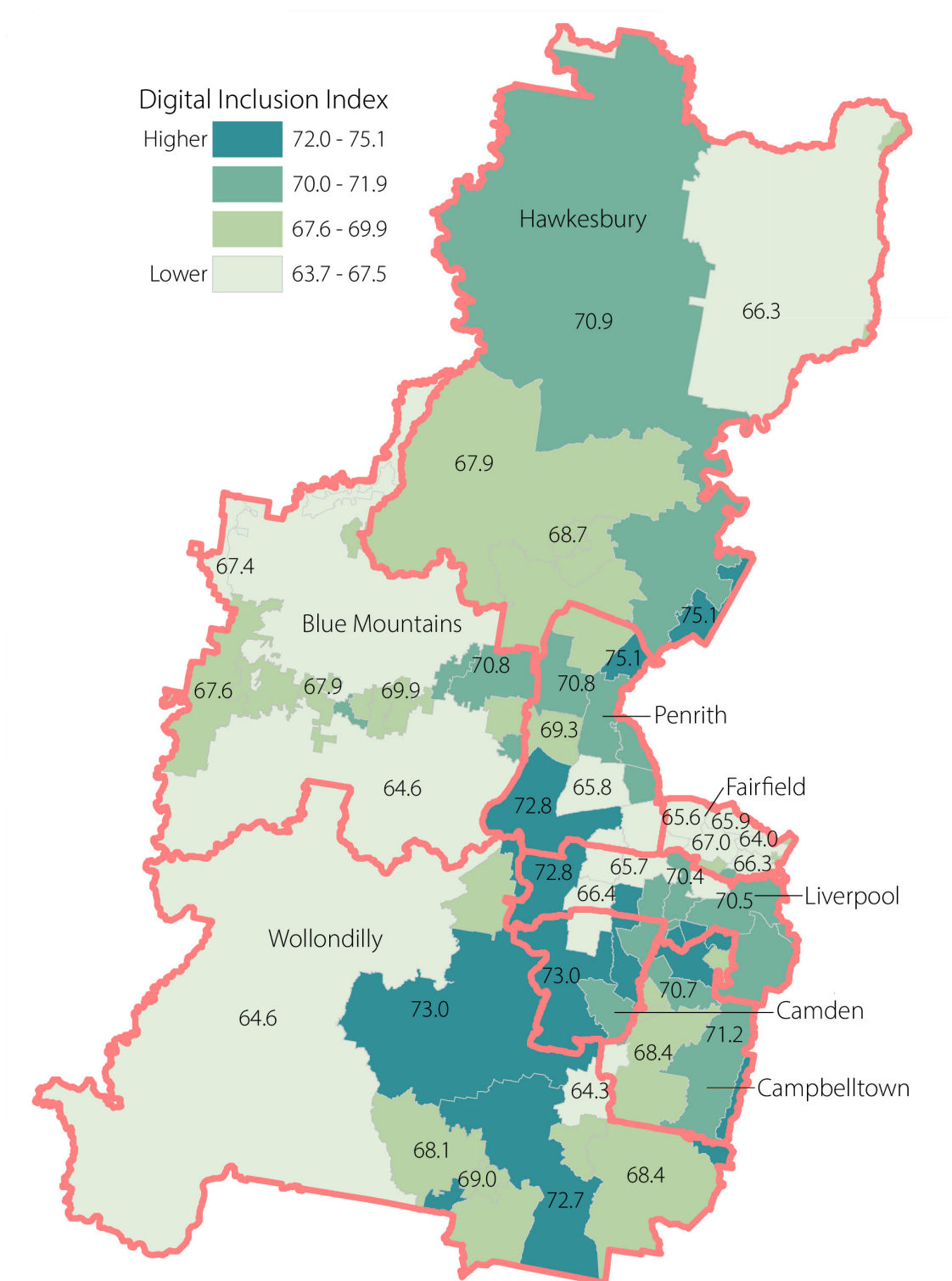
Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

While digital inclusion scores on average are lowest within Fairfield, Wollondilly, the Blue Mountains and Hawkesbury, finer grain postcode analysis identifies areas of higher and lower digital inclusion contained within all Western Parkland City council boundaries (Figure 3). More detailed figures appear in Appendix 3. As shown, within the red line boundaries of each LGA, Fairfield's lowest score overall is derived from low scores across most postcodes in the catchment area. Low digital inclusion scores are also found in pockets of Liverpool and Penrith in areas such as Badgerys Creek and Orchard Hills (within the postcode areas of 2555 and 2748) and Cecil Park, Kemps Creek, and Mount Vernon (within the postcode area of 2178) bordering

with Fairfield. LGAs with larger catchment areas such as the Blue Mountains and Wollondilly tend to have higher scores in postcodes that are closer to Sydney and scores decline with distance towards the large outer peri-urban boundaries and national park areas (within the postcode catchment of 2787) and in Hawkesbury Upper Macdonald, St Albans and surrounding areas (within the postcode catchment of 2775). Wollondilly has higher scores in the suburbs Camden South, Cawdor and Mount Hunter (within the postcode catchment area of 2570) that border with Camden, Liverpool and Penrith, likely reflecting a more advantaged demographic mix across these bordering areas.

3. Digital inclusion across Western Parkland City (continued)

Figure 3. Digital Inclusion across Western Parkland City postcodes and LGA boundaries



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII & Small Area Estimate Modelling

Opposite page: Oran Park Library. Image credit NSW Government (Transport for NSW)

Digital Inclusion: Access

KEY HIGHLIGHTS

- > Digital access is **lowest** in **Fairfield** (69.2), the **Blue Mountains** (70.5), **Hawkesbury** (71.8) and **Wollondilly** (72.4). These areas have more infrequent or non-internet users, greater reliance on either a mobile or fixed broadband service alone, higher use of pre-paid services and lower use of smartphones.
- > The **digital Access gap** between Western Parkland City (72.6) and the rest of Greater Sydney (74.7) is 2.1.
- > Access scores are **lifted by higher use of 5G mobile** and **mobile broadband** in Western Parkland City than in the rest of Greater Sydney.
- > Use of **public Wi-Fi and internet access** in libraries and government offices is higher while use at work or in educational settings is lower in Western Parkland City than the rest of Greater Sydney.



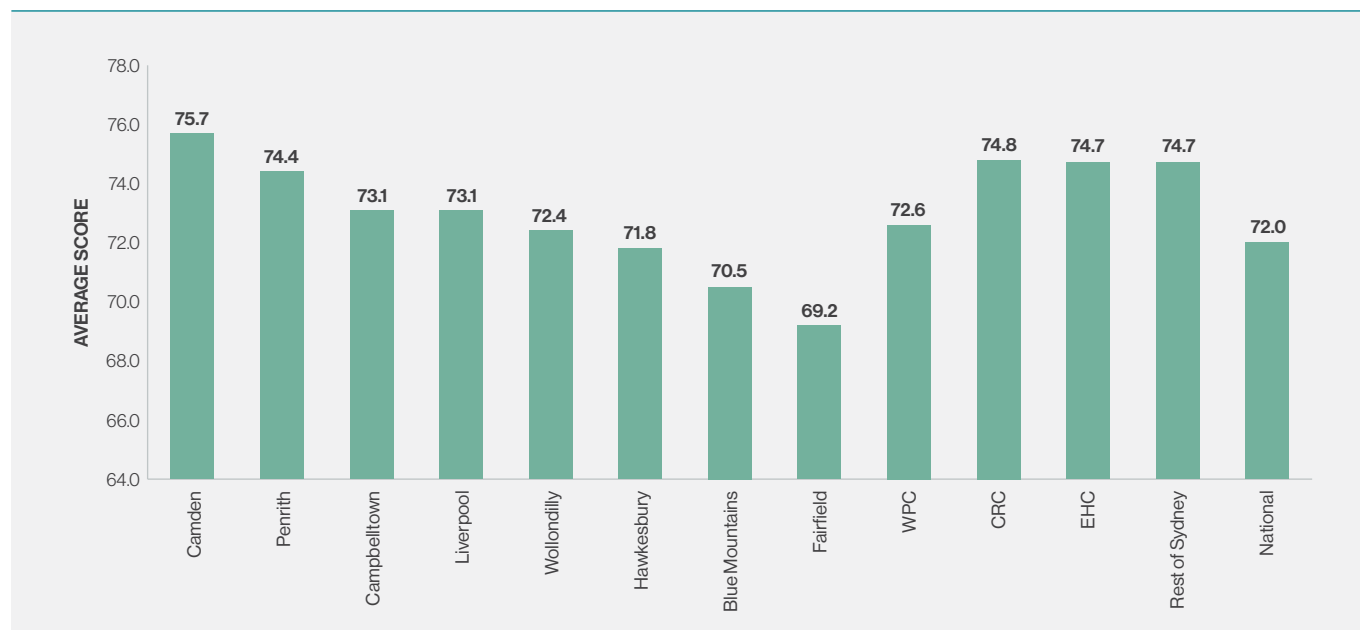
3. Digital inclusion across Western Parkland City (continued)

Uneven digital access in urban contexts is experienced in nuanced and cumulative ways, reinforcing the need for place-based responses to close divides within each location. Small scale studies and community services within Western Parkland City have begun to identify the impact of unequal access to quality connections, devices, and infrastructure for residents. For instance, at the onset of the COVID-19 pandemic, it was estimated that more than 33,000 students in NSW did not have home internet access or sufficient devices for online learning, with Western and South-Western Sydney most affected, especially within the area of Fairfield. Western Sydney has also been home to several notorious mobile blackspots, with limited or unreliable Wi-Fi and fixed broadband connection in the Blue Mountains, Hawkesbury, and Wollondilly areas.¹³ Specifically, within the Western Sydney area, the Blue Mountains 2035 Community Strategic Plan¹⁴ identified inadequate digital infrastructure impacting capacity to attract and retain home, small and larger businesses in the LGA, as well as impacting the ability of residents to work remotely.

The Digital Access dimension within the ADII is a measure of several interrelated components of internet usage that include intensity and frequency of use, types of devices, and use of fixed and mobile plans. In this section we present overall index Digital Access scores and highlight differences in usage across different ways of accessing the internet.

The gap in Access between Western Parkland City (72.6) and the rest of Greater Sydney (74.7) (Figure 4) is not as marked as it is for overall digital inclusion, suggesting that digital inequity is more strongly influenced by Digital Ability and Affordability dimensions. Most areas across Western Parkland City sit above the national average. The narrower gap between Western Parkland City and the rest of Greater Sydney is mainly lifted by high access scores for Camden (75.7) and Penrith (74.4) relative to lower scores for Fairfield (69.2), the Blue Mountains (70.5), Hawkesbury (71.8) and Wollondilly (72.4).

Figure 4. Digital inclusion dimension: Access by Western Parkland City and rest of Greater Sydney



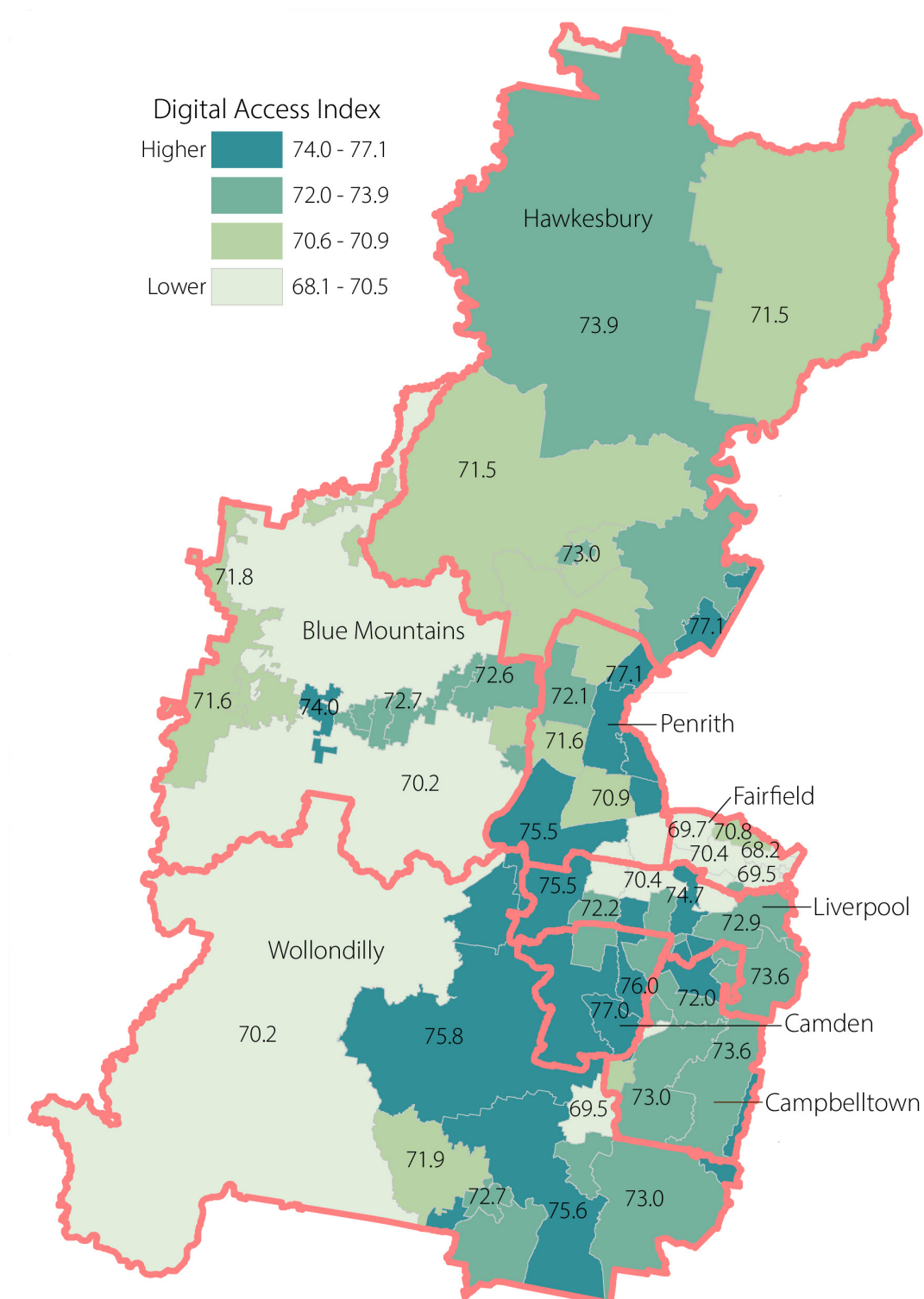
Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

Looking at the finer spatial distribution across postcodes (Figure 5) reveals a similar pattern to overall digital inclusion. Access scores remain lowest in all of Fairfield, the Blue Mountains, and Wollondilly but the gap between lower and

higher scoring areas is smaller (68.1 to 77.1). Penrith and Liverpool have lower Access scores for postcodes bordering with Fairfield. Access is lowest in the spatially dispersed LGA of Wollondilly.

3. Digital inclusion across Western Parkland City (continued)

Figure 5. Digital inclusion dimension: Access across Western Parkland City postcodes and LGA boundaries



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII & Small Area Estimate Modelling

3. Digital inclusion across Western Parkland City (continued)

Infrequent internet use

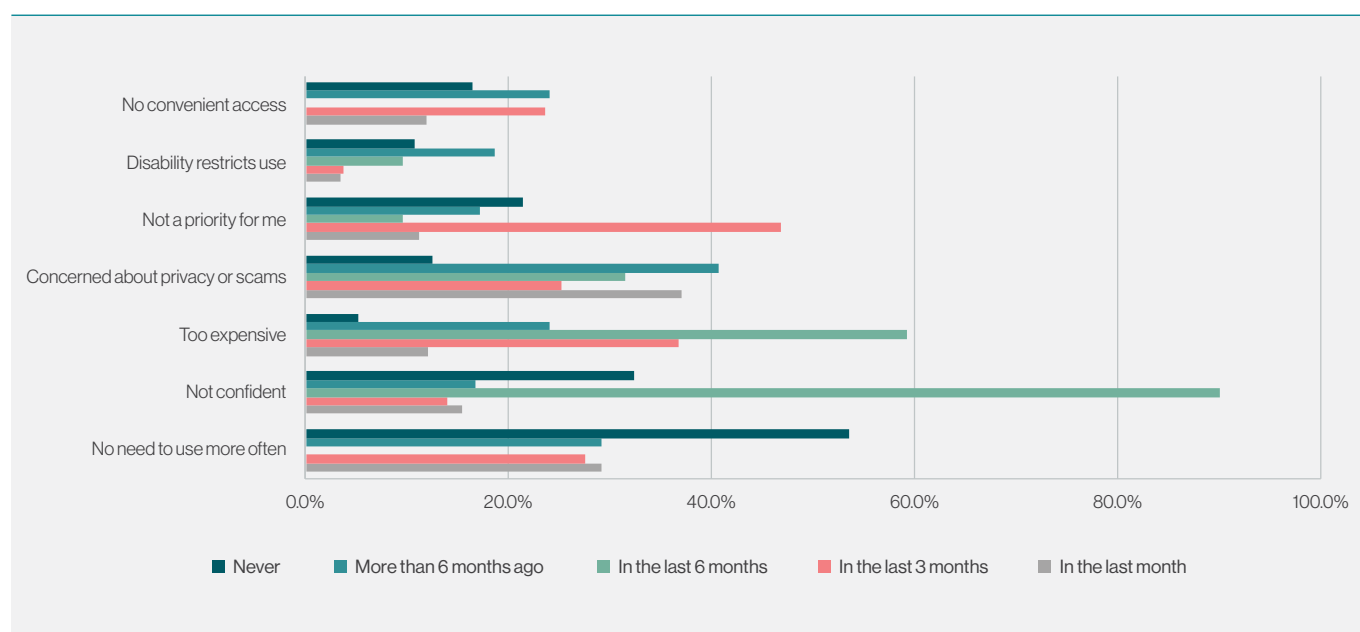
The number of people who have never accessed the internet has been declining over time and while strongly linked to the life course, is spatially uneven across communities where higher concentrations of people over the age of 65 years with lower educational attainment live. Across the Western Parkland City, the highest share of people who have never used the internet or use it infrequently (not using in the last month or more) is highest in communities with an overrepresentation of people 65 years or older, including Fairfield (5.2%), Hawkesbury (4.9%), Wollondilly (5%) and the Blue Mountains (4.6%). Lower response rates among older adults in the survey may underestimate this number. Nonetheless, internet non-usage follows the distribution of areas with aging community members.

Decisions to use or not use the internet often relate to a composite of enabling or constraining influences and capabilities as well as preferences and assessments of the perceived benefits of use relative to costs.¹⁵ For non-users, a lack of available resources to seek out technical support and ask questions can reinforce negative attitudes or perceptions of ICT use, which can in turn lead to continued non-use, despite an increasing need.¹⁶

The reasons for low internet use, as shown in Figure 6, vary according to time of last use. For non-users or people who have never used the internet before, there is a perception that the internet is not relevant to their lives – either citing they have no need to use the internet (53.3%) or that it is not a priority for them (21.2%). But around a third of non-users report that they are not confident using the internet (32.3%), have no convenient access (16.4%) or are concerned about privacy or scams (12.5%). This suggests the need for additional support to overcome barriers to getting online in the first instance, including raising awareness of the importance of using the internet to participate in everyday life.

Infrequent users who have used the internet at some stage appear to have tried but become dissuaded from further use due to negative experiences impacting their confidence, sense of safety or ability to afford a connection. For instance, most people who hadn't used the internet for six months attributed this to a lack of confidence (90%) or cost barriers (59.2%). People who hadn't accessed the internet for longer than six months tended to perceive that they were not safe online (40.5%). This indicates that with further assistance to overcome these barriers, infrequent users could have more positive experiences and increase use over time. With older adult internet users, level of use is often associated with previous work type or profession and time since retirement.¹⁷

Figure 6. Reasons for not using the internet more often by frequency of use, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

3. Digital inclusion across Western Parkland City (continued)

Connectivity

It is well recognised that the quality of both fixed and mobile connectivity is problematic and underserved in regional and remote areas – often due to intermittent and unreliable access to the nbn.¹⁸ However, the reliability of connectivity across peri-urban areas, middle and inner metro areas can also vary depending on the type of plans purchased and ease of access to publicly available free Wi-Fi services when fixed home internet may be inadequate or unaffordable.

The NSW Telco Authority has developed a tool that measures the current state of connectivity, known as the NSW Digital Connectivity Index (Connectivity Index). The tool, currently in Beta stage, uses metrics such as coverage, speed, choice, and latency. The Connectivity Index used in conjunction with this report will help inform better place-based interventions to support digital equity in Western Parkland City.

Most residents across Western Parkland City reported having access to or subscribing to a fixed broadband or home internet service. The lowest share was found in Fairfield where around 11.6 percent reported having no access to a fixed broadband service. The main fixed broadband connection used was nbn, with use ranging from highs of 80.5 percent in the Blue Mountains and 78.5 percent in Penrith to a low of 69.6 percent in Liverpool – although Liverpool had the highest share using non-nbn 5G fixed wireless broadband (8.9%) services compared with other Western Parkland City residents lifting their fixed broadband connection.

A further 40.2 percent of Western Parkland City residents have a mobile broadband service either via a portable modem or Wi-Fi device (e.g., a dongle, or Nighthawk; (28.5%); a SIM card inserted into a laptop or tablet (not a mobile phone; 9.9%); or other mobile broadband (1.9%). The largest share of mobile broadband users were in Liverpool (46.9%) and Penrith (45.9%) and the lowest in Hawkesbury (31.2%) and Wollondilly (33.5%).

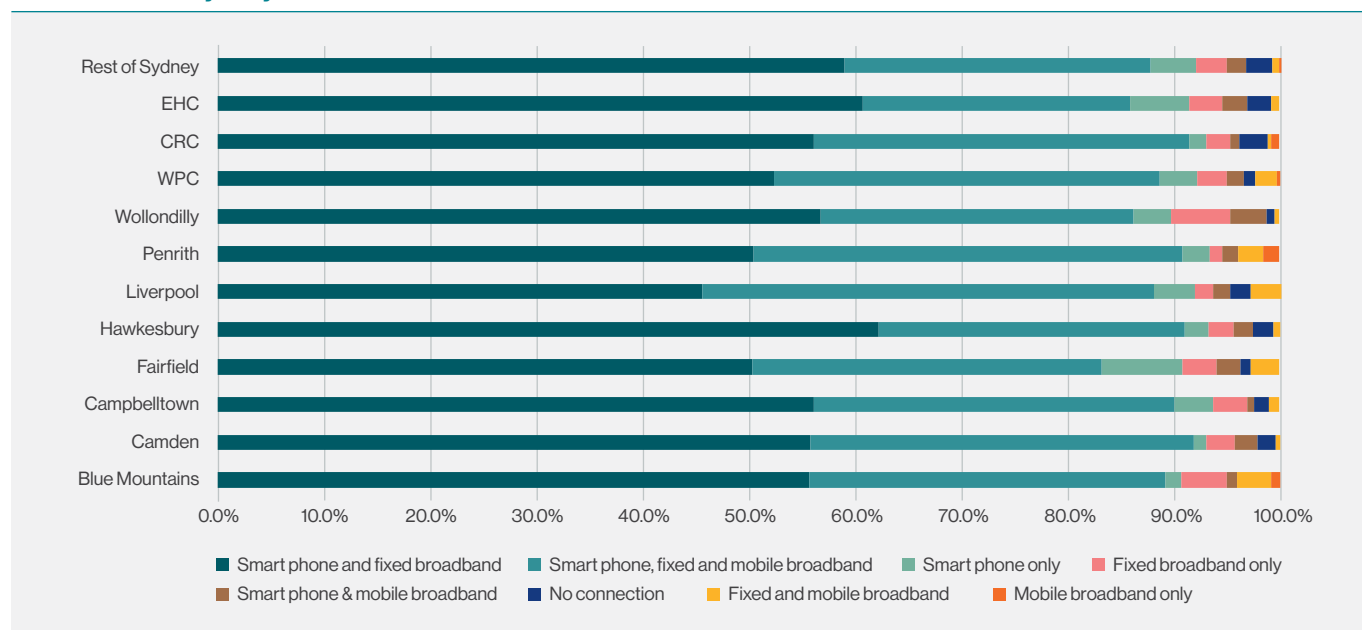
Households increase the quality and reliability of their access by bundling together both fixed and mobile services. As Figure 7 shows, very few individuals report having no connection at all. The most common combination across all locations is a smart phone and fixed internet connection. This combination was most prevalent in Hawkesbury (62.2%). Residents in Liverpool (42.5%), Penrith (40.4%) and Camden (36%) were most likely to report having the full combination of a smart phone, fixed and mobile broadband service.

Individuals living in Fairfield (7.6%) had the highest share relying on a smart phone only as their main source of internet connection, followed by Liverpool (3.8%), Campbelltown (3.6%) and Wollondilly (3.5%). Housing instability, barriers to investment in hardware, not wanting to enter contracts, and not wanting an additional bill are intersecting barriers to fixed online connection for low-income families resulting in greater reliance on mobile rather than fixed broadband data.¹⁹ Mobile-dependent users are not only limited in their access to content that was not designed to be mobile-first, or even mobile-friendly, such as many government forms and databases, but also by the limitations of small devices for work-related writing or spreadsheets, and homework.²⁰

Wollondilly (5.6%) and the Blue Mountains (4.3%) had the highest share of residents relying on fixed broadband only. Reliance on fixed broadband alone limits internet use outside the home and limits opportunities to benefit from access to free Wi-Fi and other publicly available connections.

3. Digital inclusion across Western Parkland City (continued)

Figure 7. Access to mobile and fixed broadband connections in the household by Western Parkland City and rest of Greater Sydney



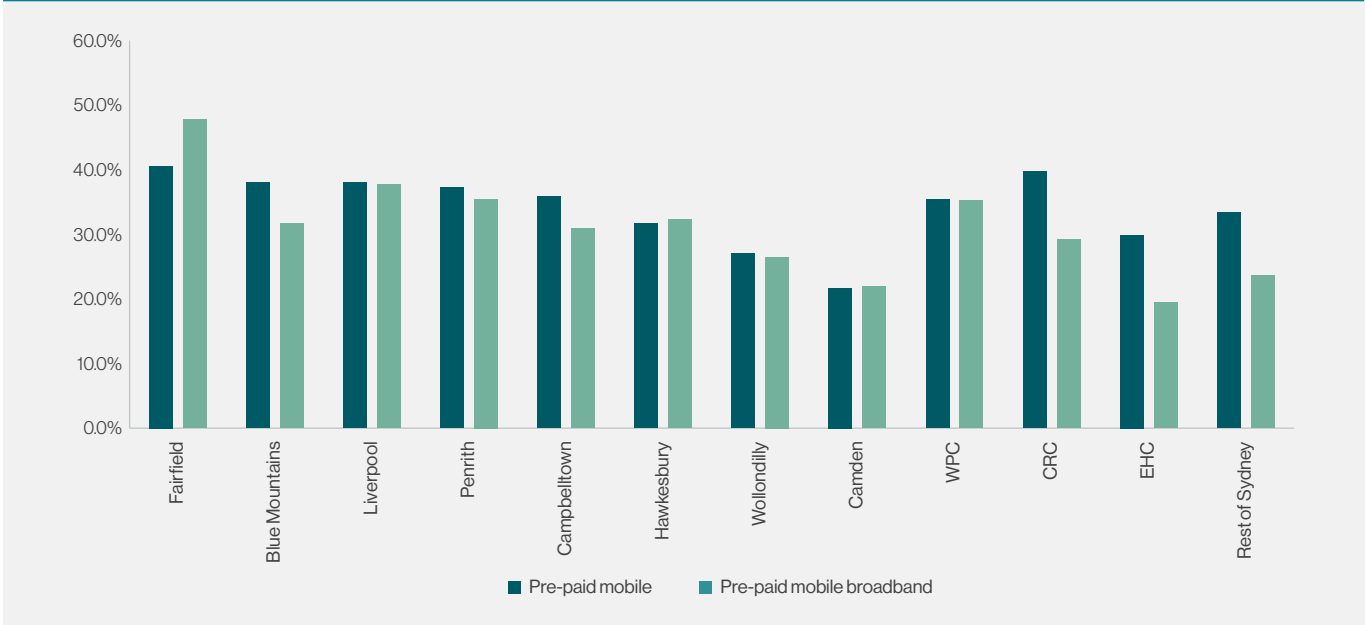
Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

Households can increase the quality and reliability of their internet connection by opting for ongoing instead of a pre-paid mobile and mobile broadband plan. Less reliable pre-paid mobile data plans are often used by lower income families and young adults who find it difficult to afford ongoing fixed connections or who prefer the greater mobility of these plans due to living in private or shared renting arrangements.²¹ Despite some advantages, pre-paid or pay as-you-go mobile data costs are higher per gigabyte than broadband or mobile contract costs in general²² and press individuals into having to choose between one modality over another, subsequently limiting the breadth of online activities they can pursue.²³ This has been referred to as the 'poverty premium' and affects many aspects of day-to-day affordability, including food and groceries, insurance, transport and energy consumption.²⁴ Pre-paid service users are more likely to experience service disruptions due to running out of credit and having to top-up their account.

Both pre-paid mobile and mobile broadband plans, as shown in Figure 8 are more commonly used in the less advantaged areas of Fairfield (40.6 % and 47.8 %) and are least likely in the more affluent area of Camden (21.7% and 21.9%). Pre-paid mobile use is lower across Western Parkland City (35.4%) and Eastern Harbour City (29.9%) compared with Central River City (39.7%). Pre-paid mobile broadband use on the other hand, is more prevalent within Western Parkland City (35.2 %), followed by Central River City (29.2%) and then Eastern Harbour City (19.5%).

3. Digital inclusion across Western Parkland City (continued)

Figure 8. Use of pre-paid mobile phone and mobile broadband by Western Parkland City and rest of Greater Sydney



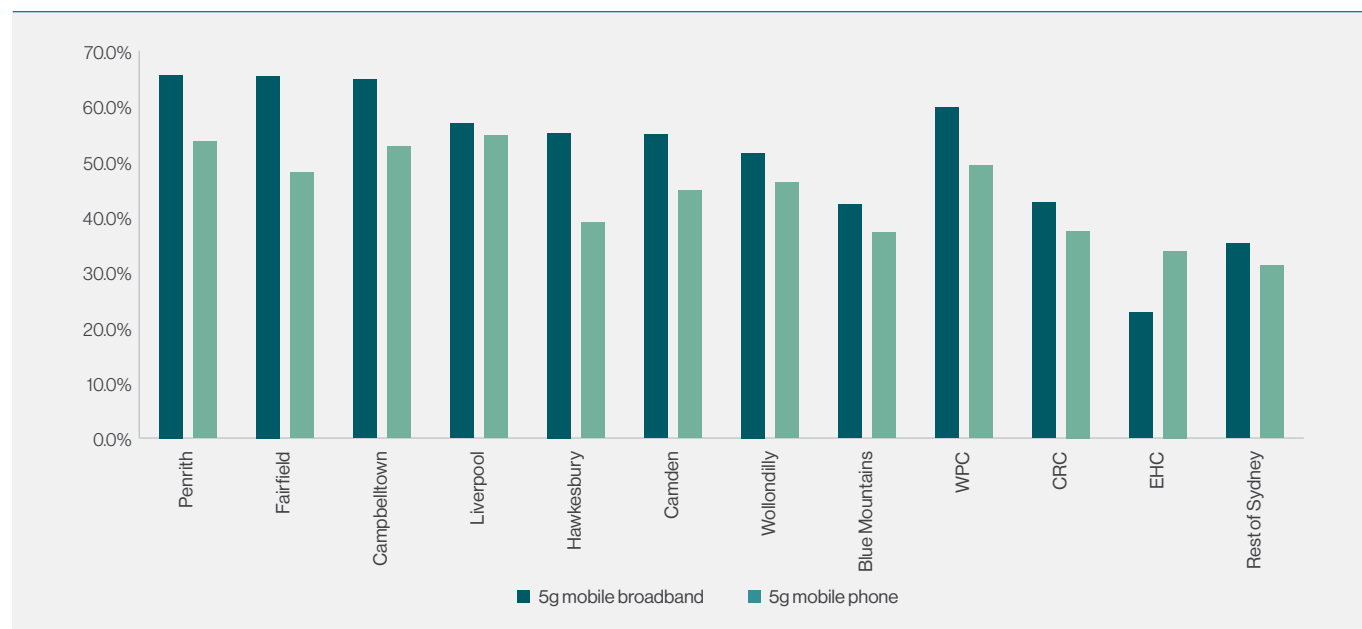
Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

Fifth generation mobile or 5G provides greater speed and connectivity for users and is an indicator of enhanced internet access via improved coverage and reduction in delayed communication. The use of 5G mobile and mobile broadband (Figure 9) is more prevalent across the Western Parkland

City (59.7% and 49.3%) compared with the rest of Greater Sydney (35.1% and 31.1%). This suggests Western Parkland City residents are opting for, or are more reliant on, mobile and mobile broadband services for a quality internet connection.

3. Digital inclusion across Western Parkland City (continued)

Figure 9. Use of 5G mobile phone and mobile broadband by Western Parkland City and rest of Greater Sydney



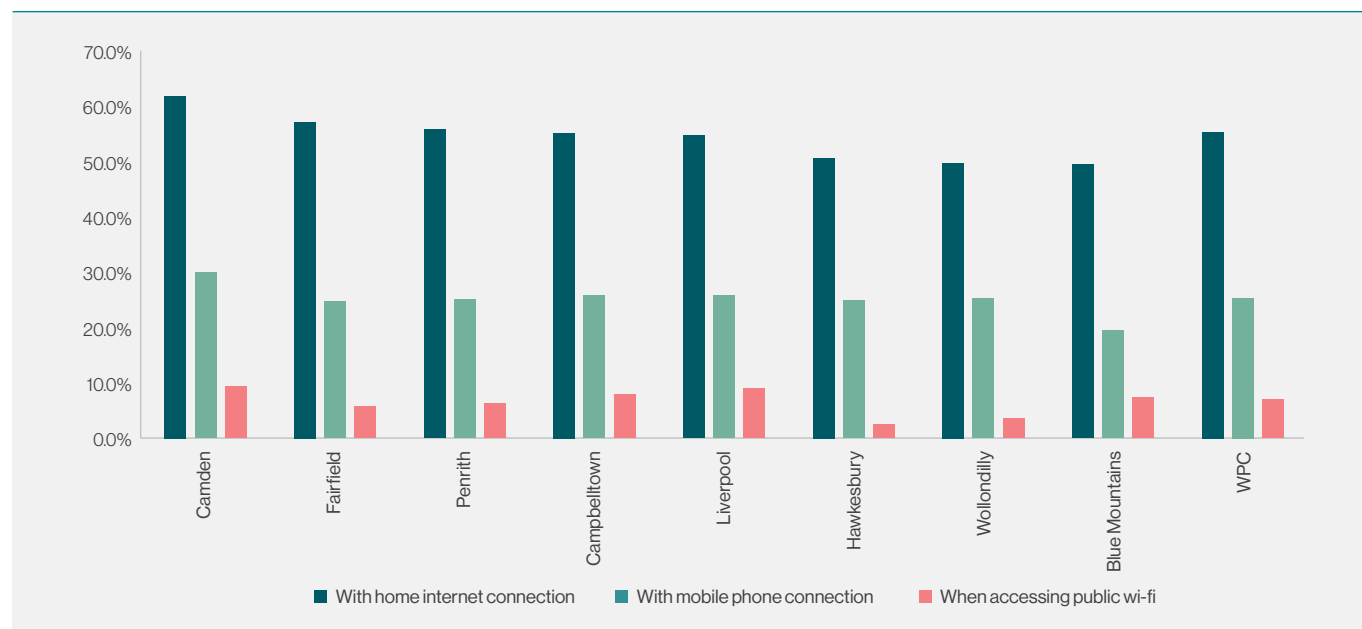
Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

Additional questions were added to the AIUS survey for the Western Parkland City collection to determine whether people experienced interruptions with their internet, mobile phone connections or when trying to access a public Wi-Fi connection in the area. As shown in Figure 10, interruptions to internet use were most often reported for residents in

Camden, Fairfield, and Penrith. This may be linked to the overall higher usage and demand for continuous connections among younger adults and/or families with children where there are multiple users, lower speed plans and reliance on mobile data.

3. Digital inclusion across Western Parkland City (continued)

Figure 10. Experienced interruptions with internet connection by LGA, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Mobiles and devices

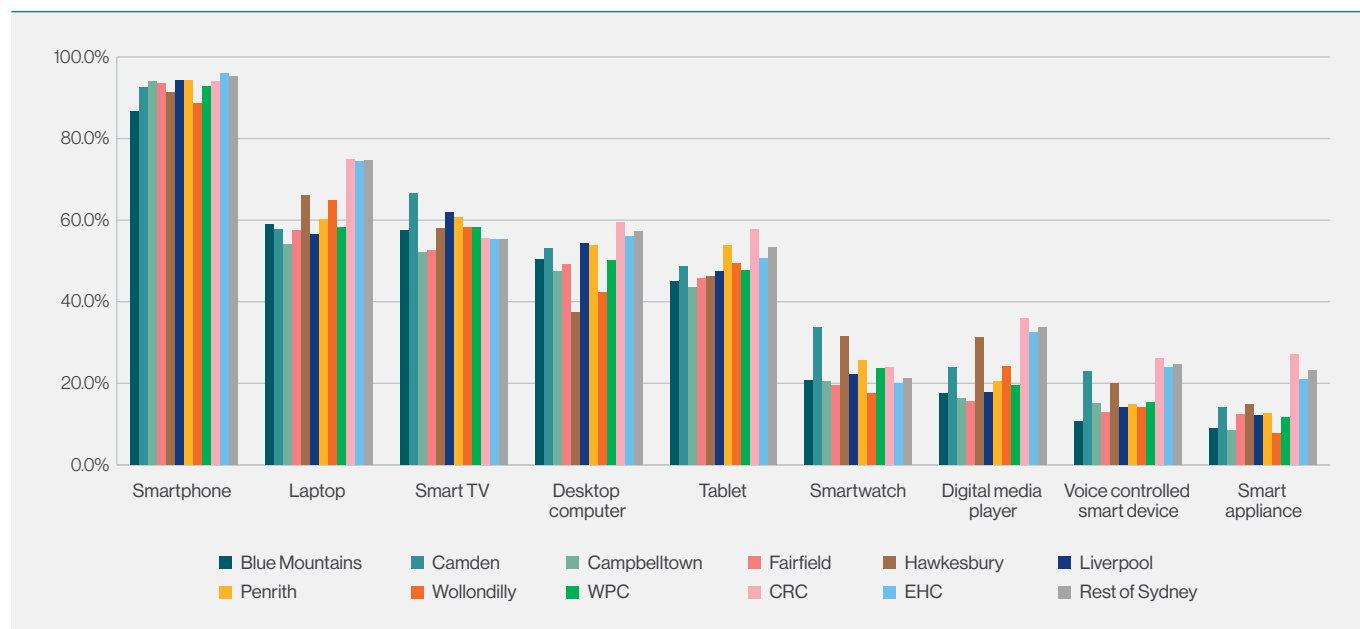
Insufficient access to enough quality devices within a household is a critical barrier to internet use for low-income households. In some cases, 'hardware' may be older, and in need of replacement, and households with students may not have adequate access to laptops or computers, software and consistent Wi-Fi and data.²⁵ Low-income households tend to lack suitable devices such as laptops or computers in preference for mobile devices and tablets. In some cases, low-income households are required to share a laptop or computer.²⁶

Figure 11 shows access to different types of devices across LGAs. Most individuals across the Western Parkland City reported having access to a mobile phone (98.5%), and most had access to a smartphone (92.9%). A non-smartphone mobile does not enable broad access to the internet and is

therefore considered an important indicator of low digital connection. The lowest smartphone use is found in the Blue Mountains (86.7%) and Wollondilly (88.7%) compared to around 92-94% across the remaining LGAs. Use of computers, especially laptops, is generally lower across all Western Parkland City areas compared with the rest of Greater Sydney. Laptop use was lowest in Campbelltown (54.0%) whilst desktop use was lowest in Hawkesbury (37.5%). Individuals in Camden and Hawkesbury were most likely to have a smart TV, smart watch, digital media, and a voice controlled smart speaker.

3. Digital inclusion across Western Parkland City (continued)

Figure 11. Main types of devices used by Western Parkland City and rest of Greater Sydney



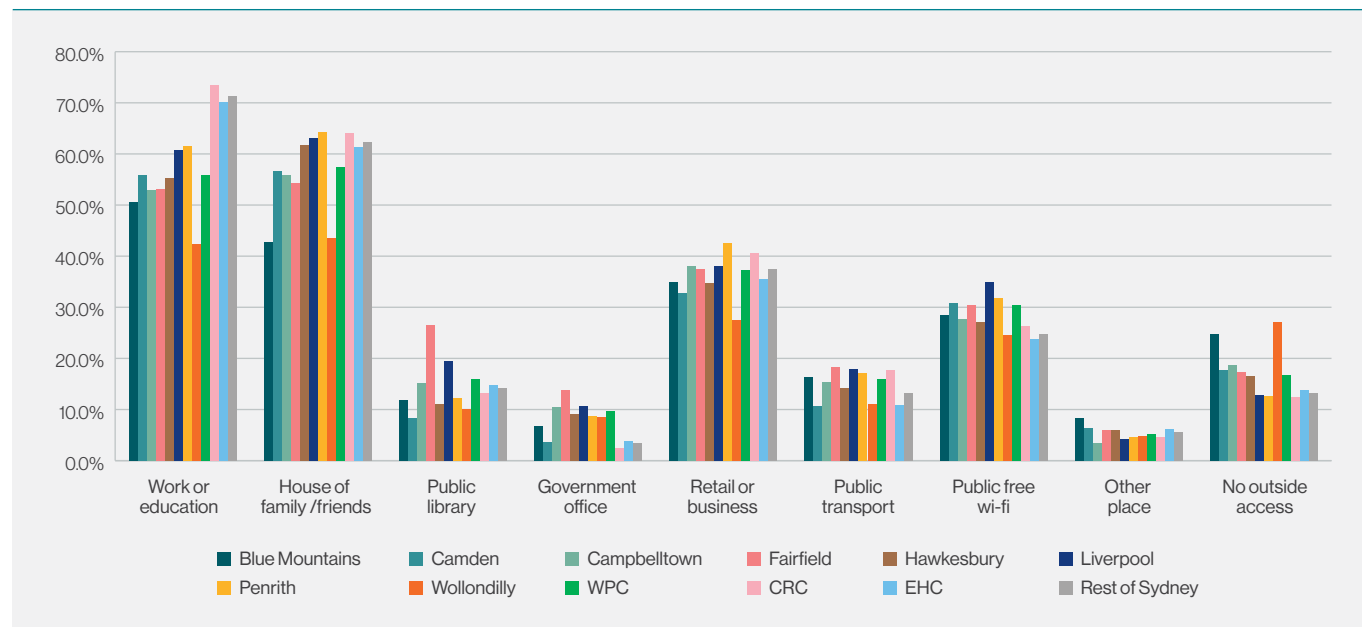
Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

People experiencing barriers to access or who cannot use technology effectively may choose to use online services by seeking the help of others or have proxy users.²⁷ This indirect internet use can be important in gaining some degree of access and highlights the importance of framing proxy internet use alongside homebased measures of internet usage.²⁸

One indicator of proxy use is the extent to which individuals are logging onto public or internet services outside the home. As illustrated in Figure 12, public internet use varies across Western Parkland City residents and compared with the rest of Greater Sydney. Residents in the Blue Mountains and Wollondilly were least likely to access the internet outside the home, potentially relating to their greater reliance on fixed rather than mobile plans and the general older age profile of

the areas. Places of work or education, and friends and family were the main locations for accessing the internet outside the home. Overall, fewer Western Parkland City residents accessed the internet at work or in an educational setting (55.9%) compared with the rest of Greater Sydney (71.3%). In contrast compared with the rest of Greater Sydney, Western Parkland City residents were more likely to access the internet in a public library (16.0% versus 14.2%), government office (9.6% versus 3.4%), or use public Wi-Fi (30.5% versus 24.7%) highlighting the critical importance of these services in less advantaged locations.

3. Digital inclusion across Western Parkland City (continued)

Figure 12. Place of internet use outside the home by Western Parkland City and rest of Greater Sydney

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII



Bradfield Aerial Innovation Square, artist impression. Copyright NSW Government

Digital Inclusion: Ability

KEY HIGHLIGHTS

- > The **digital Ability gap** between Western Parkland City (62.4) and the rest of Greater Sydney (70.0) is 7.6.
- > Digital Ability is **lowest** in the **Blue Mountains** (58.3), **Wollondilly** (59.3), **Hawkesbury** (61.4), and **Fairfield** (59.4) where there is an ageing population.
- > The **largest gap** in digital Ability is for information navigation skills (10.2), and basic (8.7) and advanced (8) operational skills.



3. Digital inclusion across Western Parkland City (continued)

Connectivity or access alone is insufficient for digital inclusion; using the internet effectively requires an expanding set of skills and knowledge. Digital Ability is about our skill levels: what we are able to do online, and our confidence in doing it. Having limited digital capability in the types of skills and knowledge needed to get online, operate functions and navigate sites with confidence and safety has been referred to the 'second level' digital divide.²⁹

In measuring Digital Ability, the ADII draws upon the Internet Skills Scale (ISS) to focus on six skills domains.³⁰ The ADII's Digital Ability score measures the following skills components:

- **Basic operational** (i.e., downloading and opening files, connecting to the internet, and setting passwords)
- **Advanced operational** (i.e., saving to the cloud, determining what is safe to download, customising devices and connections, and adjusting privacy settings (e.g. downloading and opening files, connecting to the internet))
- **Information navigation** (i.e., searching and navigating, verifying trustworthy information, and managing third party data collection)
- **Social** (i.e., deciding what to share, how, and who with, managing and monitoring contacts, and communicating with others)
- **Creative** (i.e., editing, producing, and posting content, as well as having a broad understanding of the rules that may apply to these activities)
- **Smart** (i.e., connecting, operating, and managing smart devices and IoT technologies)

By addressing these components separately, the ADII distinguishes between those who have difficulty with basic digital technologies and internet use, those who use the internet in more limited ways, and those who make use of informational, social and content creative functions. Knowledge and ability in engaging with 'smart' or algorithmic functions is becoming increasingly important. A person with a high Digital Ability score can perform a range of tasks across each of these components, while those with lower scores may only have basic or no operational skills.

Variation in digital ability across locations reveals that there are concentrations of people who have lower or higher composite scores on each of these domains. As shown in Figure 13, all Western Parkland City areas have a lower average Digital Ability index score (62.4) compared with the rest of Greater Sydney (70.0) and the national average (64.9) – an average respective gap of 7.6 and 2.5 points. This gap increases to 9.7 points between Western Parkland and Eastern Harbour City. Average Digital Ability scores are lowest in the Blue Mountains (58.3), Wollondilly (59.3), Fairfield (59.4), and Hawkesbury (61.4). This is likely to be influenced by the higher share of people aged over 65 years in these areas relative to the remaining LGAs.

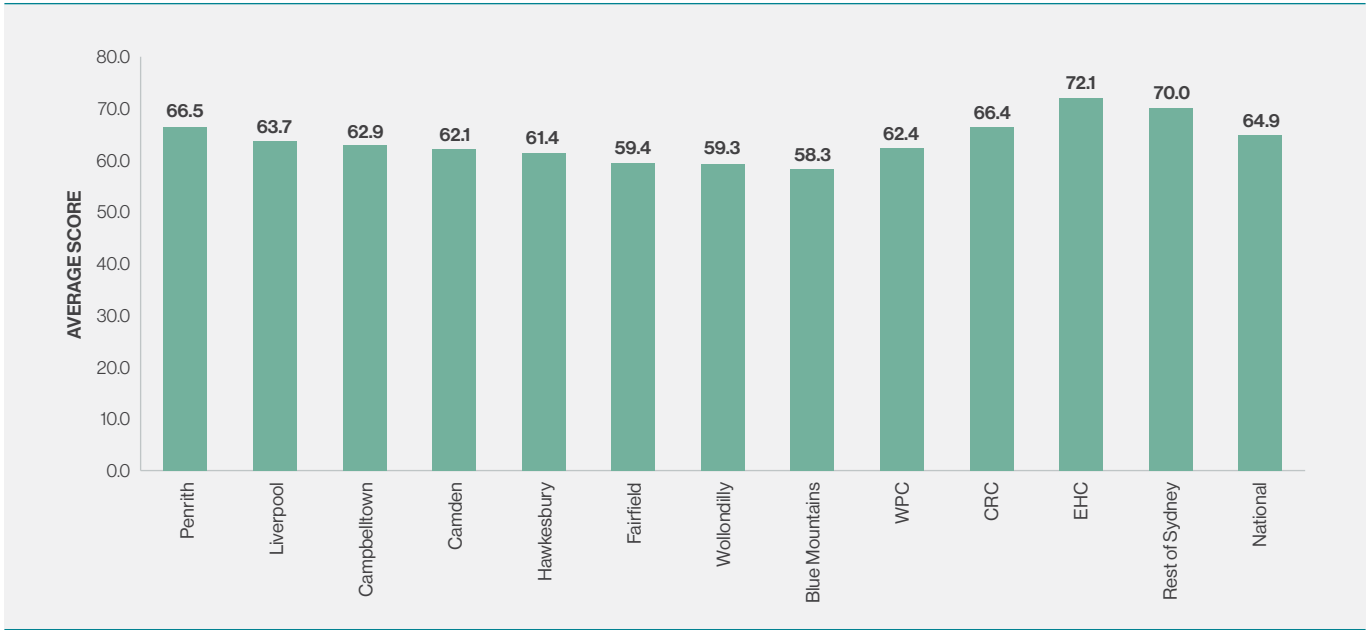
The higher Digital Ability scores for Penrith (66.5), Liverpool (63.7), Campbelltown (62.9) and Camden (62.1) potentially reflect their younger age profiles. Penrith has amongst the highest share of people aged 15-24 years and renting compared with other areas (see Appendix 1), which will lift scores in locations where this cohort is more concentrated.

3. Digital inclusion across Western Parkland City (continued)

Disparities within Council areas is also apparent (see Figure 14). For example, there are clusters of lower Digital Ability in Penrith and Liverpool despite higher overall scores for the council areas. Again, the lowest scores in Penrith and Liverpool can be found in the postcodes bordering with Fairfield and the peri-urban areas of Wollondilly, the Blue

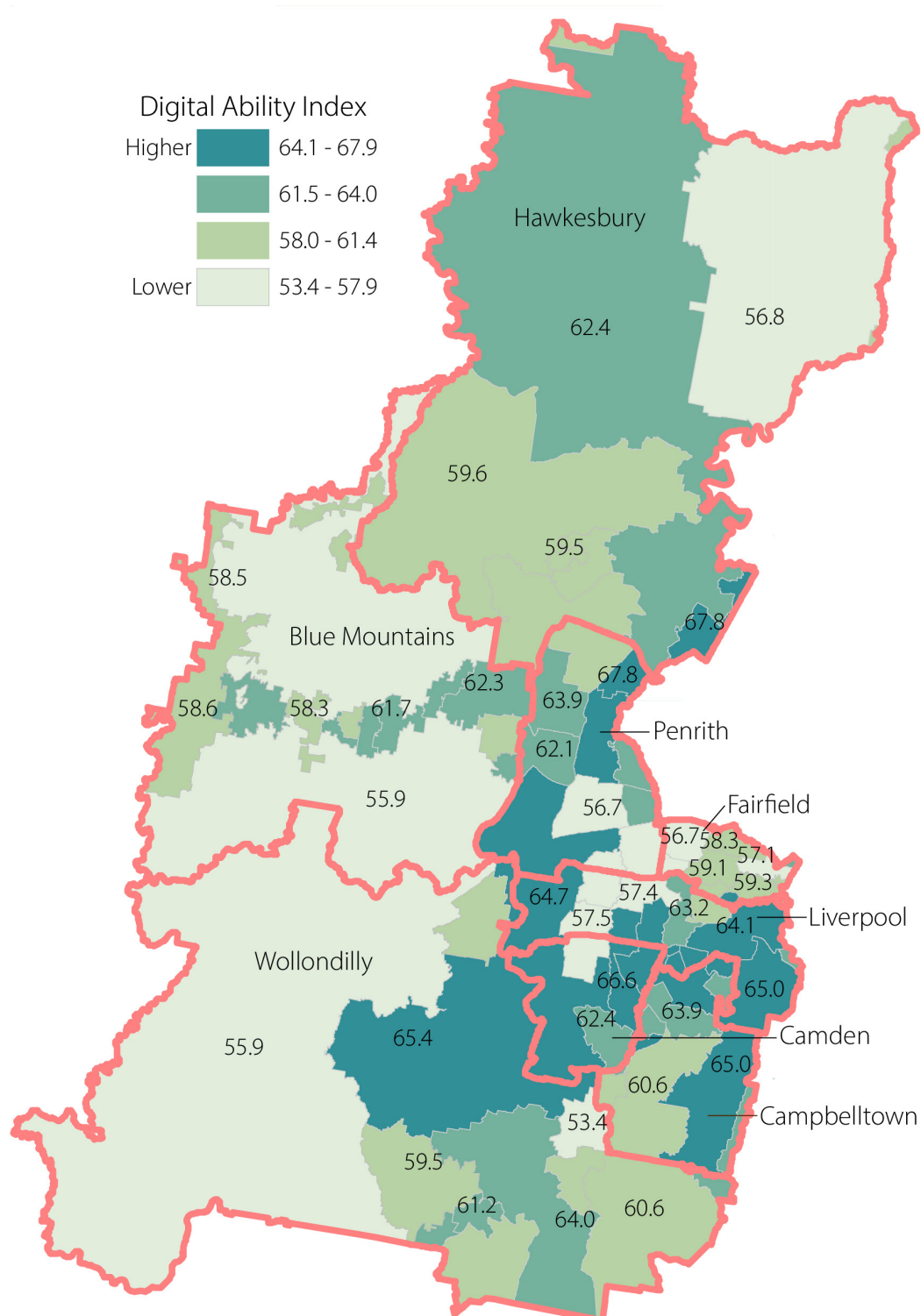
Mountains and Hawkesbury. A more detailed understanding of how scores vary across cohort groups is discussed in Section 4, where we look at findings of inequality in Digital Ability among young First Nations respondents and young people with disability.

Figure 13. Digital inclusion dimension: Ability by Western Parkland City and rest of Greater Sydney



Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

3. Digital inclusion across Western Parkland City (continued)

Figure 14. Digital Ability score by postcodes and LGA boundaries across Western Parkland City postcodes and LGA boundaries

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

3. Digital inclusion across Western Parkland City (continued)

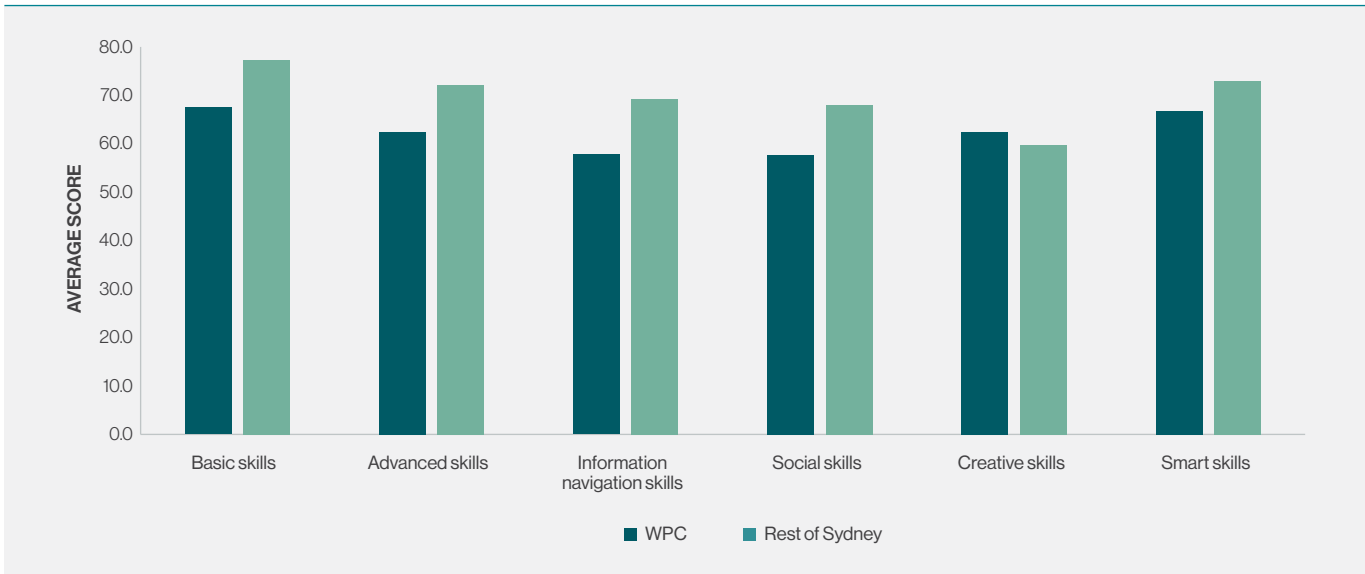
Digital Ability skills components

Figure 15 shows that digital skills of Western Parkland City residents fall below the rest of Greater Sydney across all components except creative skills. The largest gaps are for information navigation skills (11.2), and basic (9.8) and advanced (9.7) operational skills.

Table 4 shows average scores for digital skills for the eight Western Parkland City LGAs, compared to the rest of Sydney. The communities of Fairfield, the Blue Mountains and Wollondilly had the lowest scores across all components. Hawkesbury had the lowest average scores for creative skills. While the higher score for creative skills needs further investigation, there is a clear pattern of disadvantage

associated with older age and peri-urban location for residents in pockets of the Blue Mountains, Wollondilly, and Hawkesbury. The range of internet uses and skills typically declines with age, and this can be exacerbated by social isolation or distance from community services such as libraries or neighbourhood houses.³¹ As people move further away from the use of digital technologies and the internet through work, their confidence drops, and with it the ability to keep up with technology changes also drops. This has a flow-on effect – having lower information navigation skills, for example, has an impact on people’s ability to manage their health and wellbeing, or to find and make use of digital services.

Figure 15. Digital inclusion skills components by Western Parkland City and rest of Greater Sydney



Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

3. Digital inclusion across Western Parkland City (continued)

Table 4. Digital inclusion skills components by Western Parkland City and rest of Greater Sydney

	Basic skills	Advanced skills	Information navigation skills	Social skills	Creative skills	Smart skills
Blue Mountains	65.0	56.7	55.1	54.5	56.9	61.9
Camden	67.4	61.5	57.7	57.2	60.1	68.5
Campbelltown	67.5	63.2	57.4	58.1	63.5	67.7
Fairfield	63.7	59.0	55.3	53.7	61.2	63.3
Hawkesbury	67.8	60.9	57.4	58.3	59.7	64.3
Liverpool	68.0	64.2	58.5	58.2	65.6	67.8
Penrith	71.9	67.4	61.9	62.0	64.8	71.1
Wollondilly	66.8	59.6	55.2	55.2	57.4	61.7
Western Parkland City	67.5	62.4	57.8	57.6	62.4	66.8
Central River City	72.9	69.2	62.9	62.9	56.8	71.6
Eastern Harbour City	79.8	73.8	72.9	70.8	61.3	73.8
Rest of Greater Sydney	77.3	72.1	69.3	68.0	59.7	73.0

Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

Digital Inclusion: Affordability

KEY HIGHLIGHTS

- > Cutting back on essential household costs **to afford an internet connection** is twice as high in Western Parkland City (39.7 %) as in the rest of Greater Sydney (19.1%).
- > More households **compromise on the quality and speed of their internet connection** to afford it in Western Parkland City (22.0%) than in the rest of Greater Sydney (13.6%).
- > The **digital Affordability gap** between Western Parkland City (90.9) and the rest of Greater Sydney (95.4) is 4.5.
- > Digital Affordability is **lowest** in **Fairfield** (89.4), **Campbelltown** (89.9), **Liverpool** (90.4), and the **Blue Mountains** (91.5), consistent with lower median household incomes in these areas.
- > Around a third of households living in Fairfield (36.9%), Campbelltown (31.3%), the Blue Mountains (30.7%) and Liverpool (27.4%) would need to **pay over 5 percent of their household income** to afford a quality and reliable connection.

3. Digital inclusion across Western Parkland City (continued)

As connected technologies have developed and more people move online, some gaps in connectivity access have narrowed. However, for many people, particularly in areas with higher concentrations of low-income individuals and households such as the Western Parkland City, affordability can present significant barriers to achieving digital equity across the city. This includes being able to afford quality and reliable mobile and fixed broadband plans and the devices needed to connect online. For low-income households, the costs of digital participation are among the main household expenses after housing, food, and transport, and can be higher than domestic energy costs.³² Internet costs, especially for people with low incomes, will also compete or be weighed up against other competing essential expenses, particularly amidst current cost of living pressures.

A recent review by the NSW Council of Social Service (NCOSS, 2022³³) found that 11 percent of residents in the Blue Mountains and 18 percent of those in Hawkesbury could not afford mobile data or internet at home. In Fairfield, for instance, large numbers of households without internet access struggled to access services online during the COVID-19 restrictions. Further challenges identified included households not having enough access to devices to support their digital needs, a lack of knowledge on how to use devices, smart phone apps and web features and how to work with older adult community members with lower digital literacy. Initiatives that build digital literacy and affordable access to the internet and devices will be essential to ensuring community safety and wellbeing, especially with increased moves toward telehealth and video conferencing, including the management of COVID-19 related care and outbreaks, as well as the official use of online and text messaging of emergency updates and evacuation warnings during natural disasters.³⁴

The impact of affordability is examined in several ways. Within the ADII, Affordability represents a key dimension and is calculated from the ratio of the median price for a reliable quality bundle relative to household income for a couple or family, and for a single person. This idealised bundle enables both quality and reliable connectivity through a fast internet connection (such as that provided through a cable (HFC) service, nbn 50 or above, or 5G wireless service), an unlimited monthly data allowance through a fixed broadband service, and a mobile broadband or mobile phone data allowance above 61GB per month. For most households, the proportion of their income that would be required to be spent on a quality reliable connection is low, translating to average scores typically appearing in the mid to high 90s.

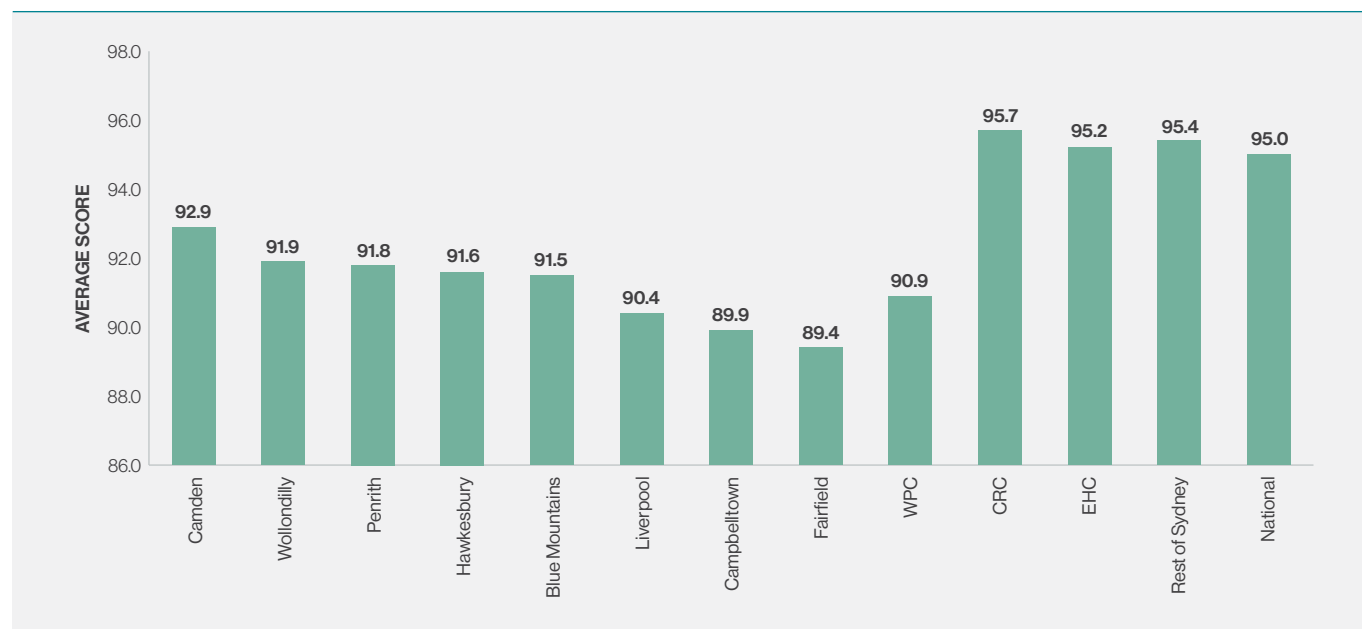
Outside the ADII, a further way of determining which groups are most impacted by affordability constraints is a measure of the extent to which households would be tipped into 'affordability stress' or having to pay more than five percent of their income to afford a quality and reliable internet bundle. In addition, we also examine self-reported questions relating to the types of affordability and data allowance compromises households have had to make to access the internet within their existing budgets.

Firstly, examining bundle scores, Figure 16 reveals a large affordability gap between Western Parkland City (90.9) and the rest of Greater Sydney (95.4) and the national average (95.0). Within Western Parkland City, the areas of Fairfield (89.4), Campbelltown (89.9), Liverpool (90.4) and the Blue Mountains (91.5) experience the greatest affordability pressures in obtaining a reliable and quality internet connection. This is broadly consistent with these four areas having the lowest median weekly incomes (see Appendix 1) across the Western Parkland City LGAs.

Figure 17 shows that affordability is lowest for the outer postcodes of Wollondilly and northern and southern parts of the Blue Mountains (within the corresponding postcode 2787). All areas in Fairfield are impacted by lower affordability scores, along with areas bordering Fairfield within Liverpool and Penrith, including Cecil Park, Kemps Creek, Mount Vernon (2178), Green Valley, Ashcroft, Busby, Hinchinbrook, Miller (2168) and Bonnyrigg (2177) and areas within Campbelltown such as Blairmount and Claymore (2559) and Macquarie Fields (2564).

3. Digital inclusion across Western Parkland City (continued)

Figure 16. Digital inclusion dimension: Affordability by Western Parkland City and rest of Greater Sydney



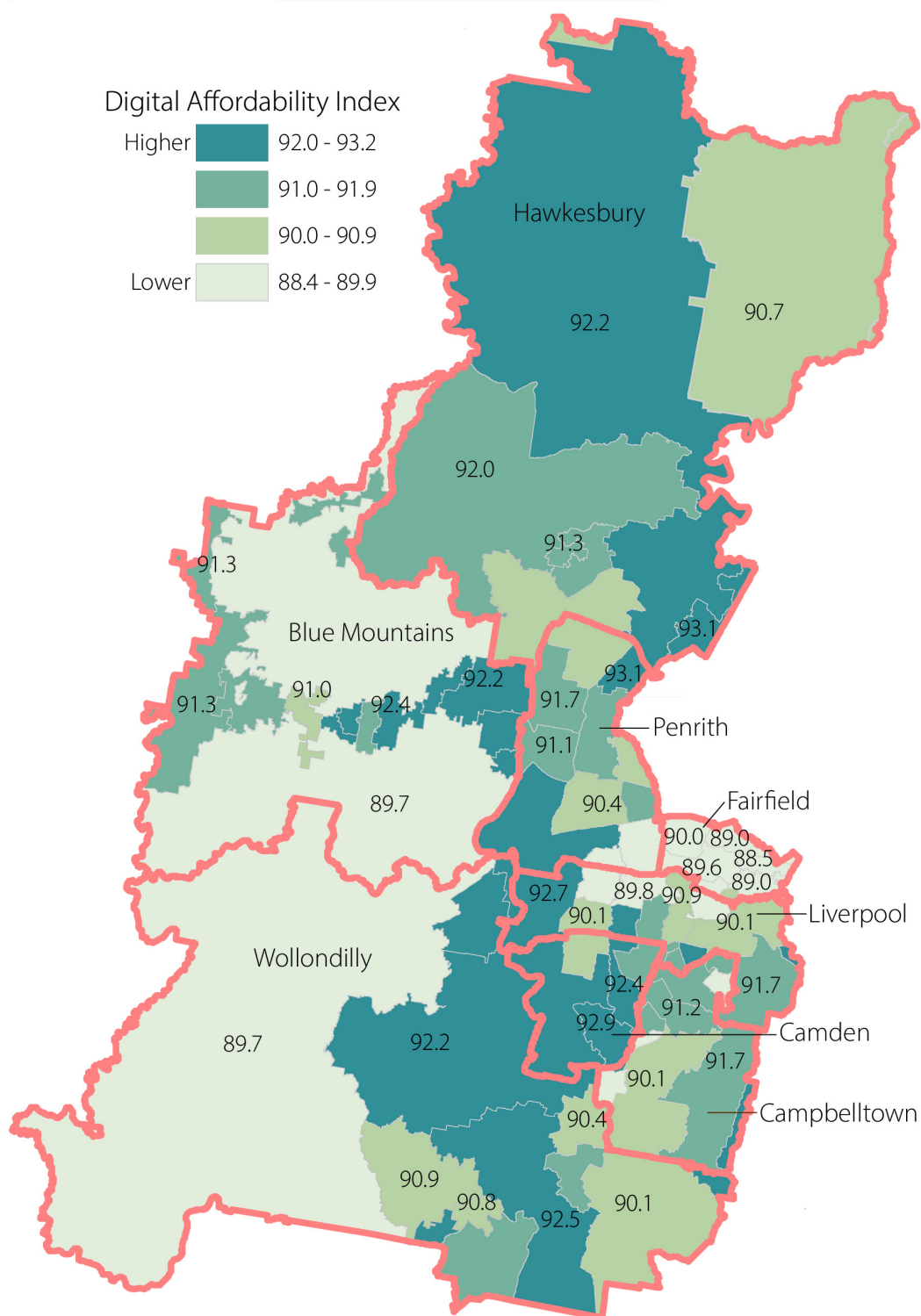
Source: Western Parkland City adapted Australian Internet Usage Survey, ADII



Image: Liverpool City Council

3. Digital inclusion across Western Parkland City (continued)

Figure 17. Digital Affordability scores by postcodes and LGA boundaries across Western Parkland City postcodes and LGA boundaries



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII & Small Area Estimate Modelling.

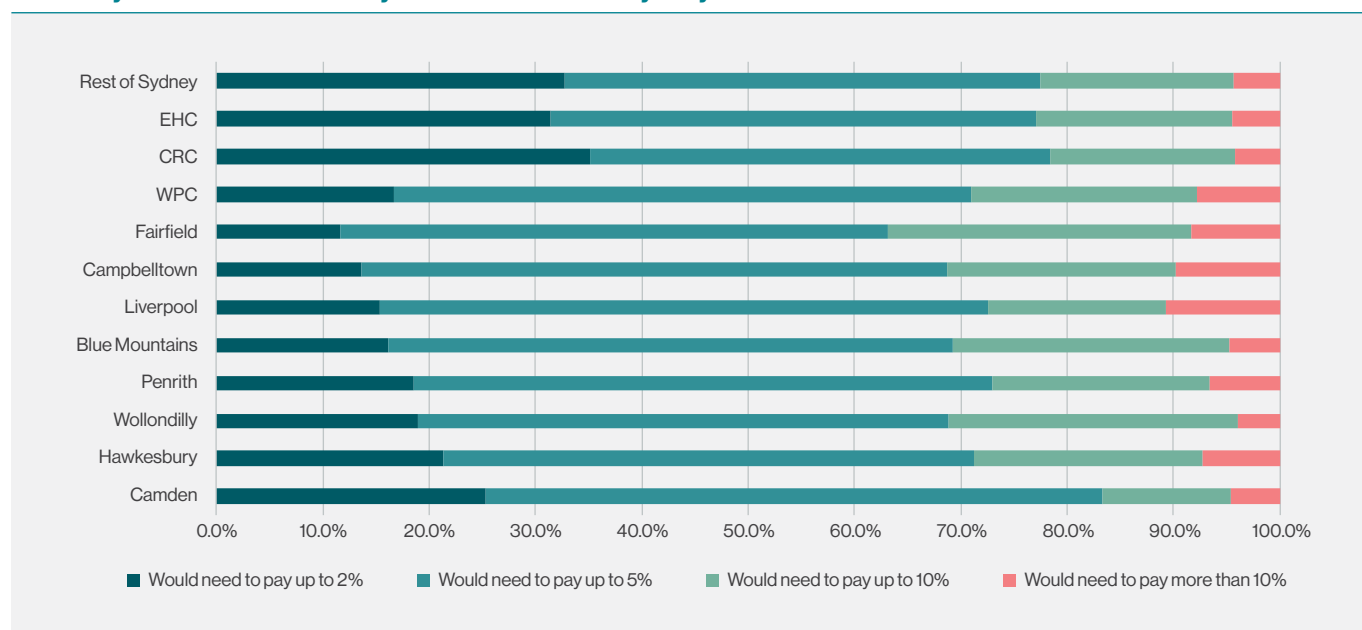
3. Digital inclusion across Western Parkland City (continued)

Affordability stress

These lower Affordability index scores translate to over a third of Fairfield (36.9%) and just under a third of Campbelltown (31.3%), Blue Mountains (30.7%) and Liverpool (27.4%) residents needing to pay over five percent of their household income to afford a quality and reliable internet bundle.

The share of residents who would need to pay up to two percent of their income for the rest of Greater Sydney (32.7%) is almost double that of Western Parkland City (16.7%) suggesting significant disparities on this dimension of digital inclusion.

Figure 18. Proportion of households needing to pay an unaffordable amount for a quality and reliable internet bundle by Western Parkland City and rest of Greater Sydney



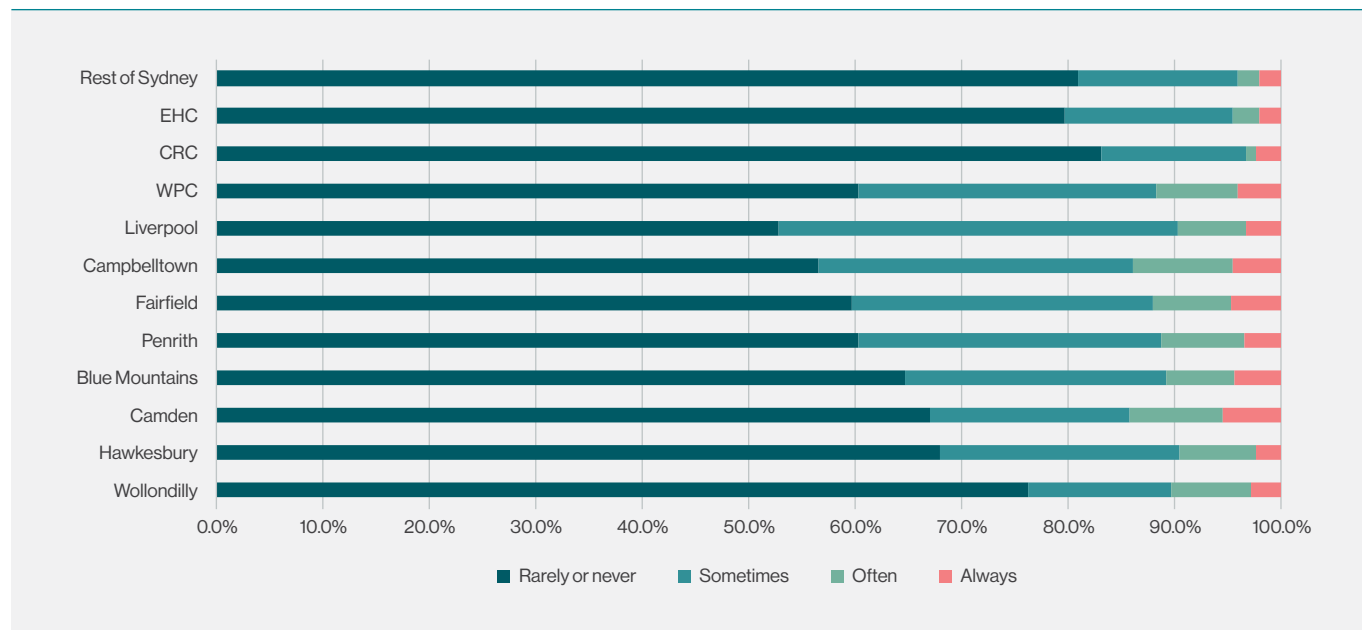
Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

A further measure of affordability stress is the extent to which households must cut back on other essential costs to afford their internet connection. More than double the share of residents in Western Parkland City (39.7%) compared with the rest of Greater Sydney (19.1%) reported having to 'sometimes', 'often' or 'always' cut back on other essential household costs to afford to connect to the internet.

Lower income households will often purchase plans that are cheaper upfront, such as a pre-paid service, to manage expenses. The higher use of lower quality plans in the Fairfield community appears to be one means of balancing competing essential expenditure. However, this may be less of an option for households with children or younger families, as in the areas of Campbelltown (47.2%) and Liverpool (43.4%) who had to cut back on other essential costs to afford their existing internet connection as shown in Figure 19.

3. Digital inclusion across Western Parkland City (continued)

Figure 19. How often respondents had to cut back on essential costs to afford an internet connection in the past six months by Western Parkland City and rest of Greater Sydney



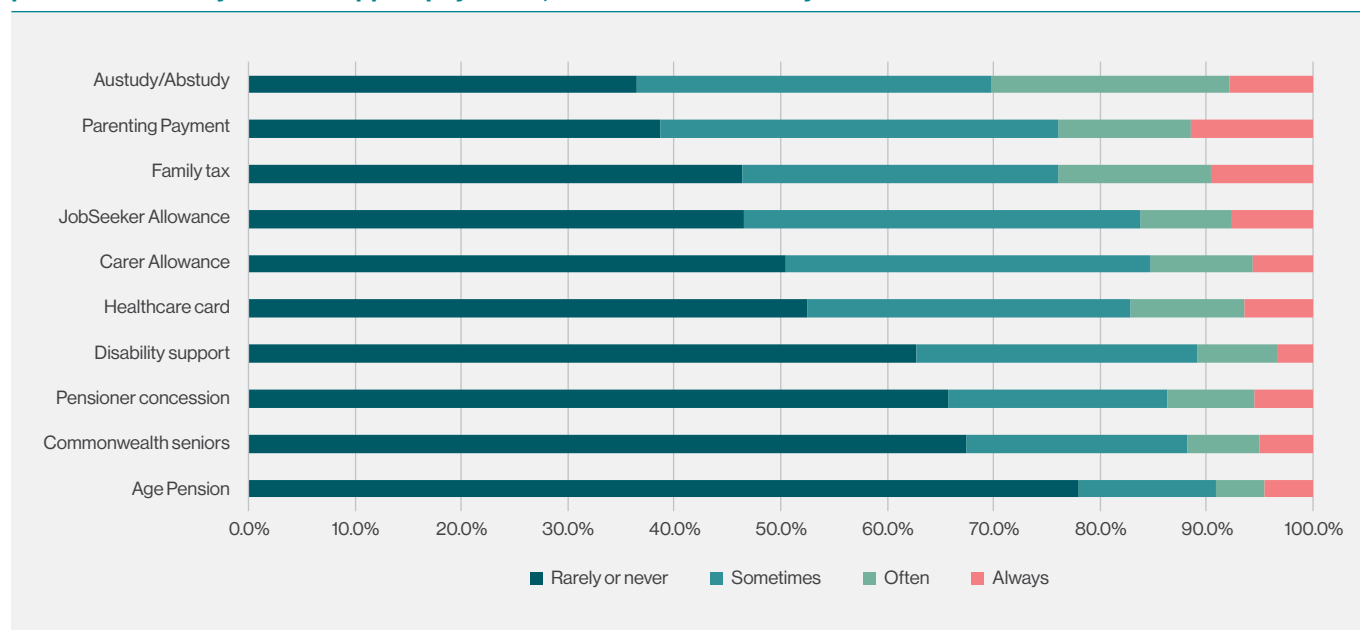
Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

For those living on low incomes, an assessment of whether to increase the type of internet plan purchased relative to spending on other essential costs, will also be influenced by how important the internet is to everyday life and activity. Figure 20 compares the extent to which different statutory income groups report they have had to cut back on other essential expenditure to afford an internet connection. The extent to which internet costs cut into other essential costs or overall 'cost of living' will also be influenced by the differing amounts of income support provided across different types of pensions and benefits.

Overall, having to 'sometimes', 'often' or 'always' economise on other essential costs was most prevalent among individuals in receipt of Austudy or Abstudy (63.5%), Parenting Payment (61.3%), Family tax benefit A or B (53.6%) and Jobseeker (53.4%). Individuals in receipt of a Disability Support (37.3%) or an Age Pension (22%) were less likely to report an adverse impact on their overall cost of living. Whilst preferences for data allowance and speed are likely to influence this trade off, young people and families will often have high internet use needs which they may be unable to avoid, especially among school-aged children or tertiary students needing to participate in online activities with higher speed and overall data allowance requirements. Income support payments do not currently provide additional subsidies to account for these needs.

3. Digital inclusion across Western Parkland City (continued)

Figure 20. How often respondents had to cut back on essential costs to afford an internet connection in the past six months by income support payments, Western Parkland City



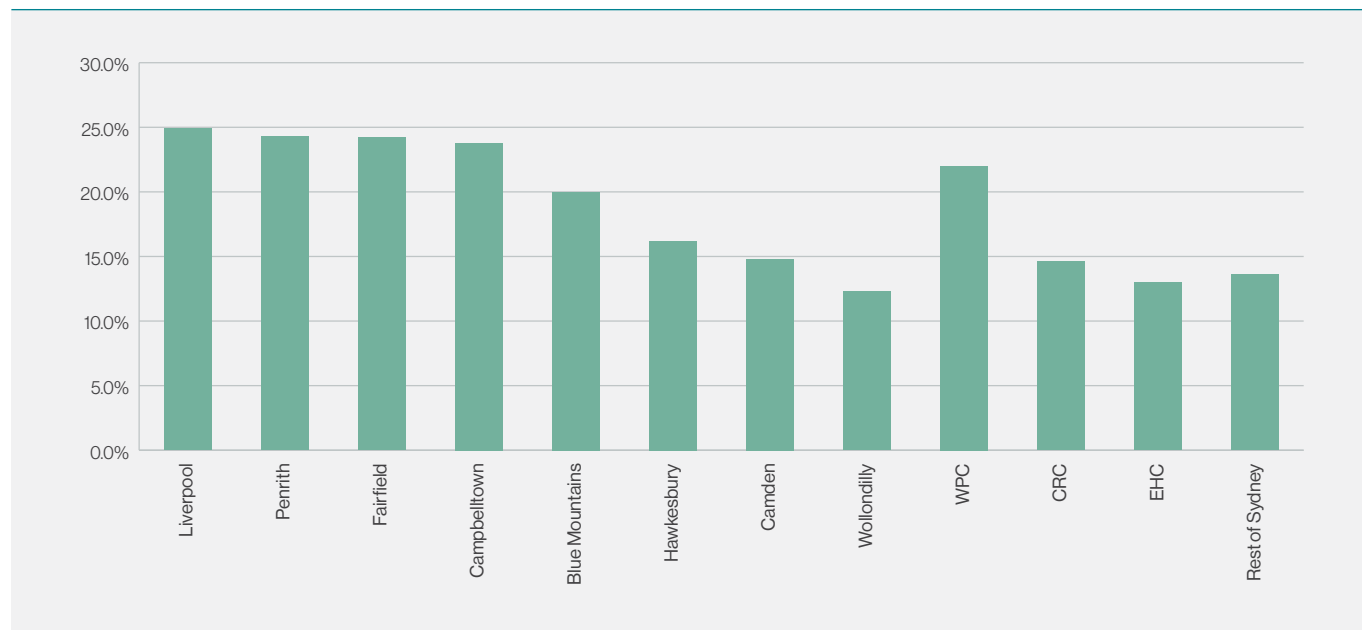
Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Internet plans typically increase in price as speed and data allowance increase. A further way of examining the impact of affordability is whether individuals and households have made compromises on the speed and data allowance on their internet plans due to the cost. As shown in Figure 21, around a quarter of residents in Liverpool (25%), Penrith (24.3%), Fairfield (24.2%) and Campbelltown (23.8%) identified that they had made compromises on their internet connection for affordability reasons in the past 6 months.

This compares with 13.6 percent of those residing in the rest of Greater Sydney and suggests that large numbers of households are under consuming a quality and reliable internet connection relative to need because of cost. This increases significantly, as shown in Figure 22, to over half of individuals in receipt of Austudy or Abstudy (50.8%) and around two fifths of Family Tax Benefit, Parenting Payment, and Job Seeker recipients.

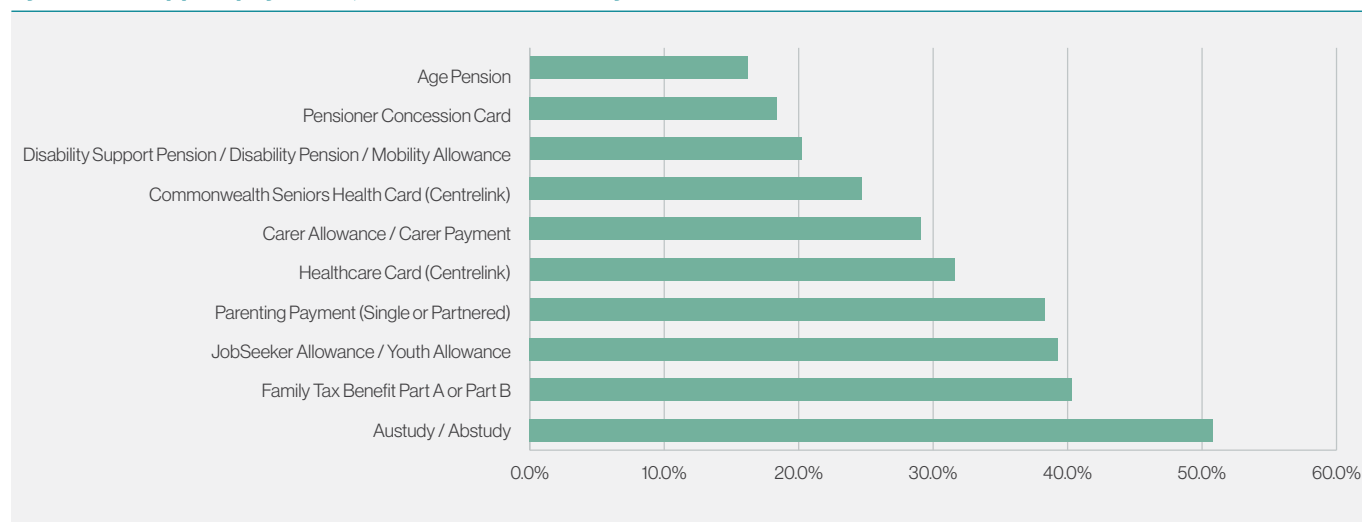
3. Digital inclusion across Western Parkland City (continued)

Figure 21. Compromised the speed and/or data allowance to afford an internet connection in the past 6 months by Western Parkland City and rest of Greater Sydney



Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

Figure 22. Compromised on speed and/or data allowance to afford an internet connection in the past 6 months by income support payments, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

4. Intersections of digital inclusion among community groups

KEY HIGHLIGHTS

- > Half of people **75 years or older** and around a third of households with the lowest incomes (below \$33,800) are digitally excluded.
- > Digital inequity is highest in communities where there is concentration of social and economic disadvantage across the life course.
- > People of **all ages experience lower digital inclusion** when they have intersecting experiences of lower educational attainment, living with disability, lower household income, or are from a First Nations or a culturally diverse background.
- > The **Digital Ability gap is largest for young adults with disability**, people with **lower educational attainment** and for **older adult residents** from a culturally and linguistically diverse background.
- > **First Nations people reported lower daily internet use**, fewer households with fixed broadband plans and a greater reliance on pre-paid mobile phone plans compared with non-First Nations people.



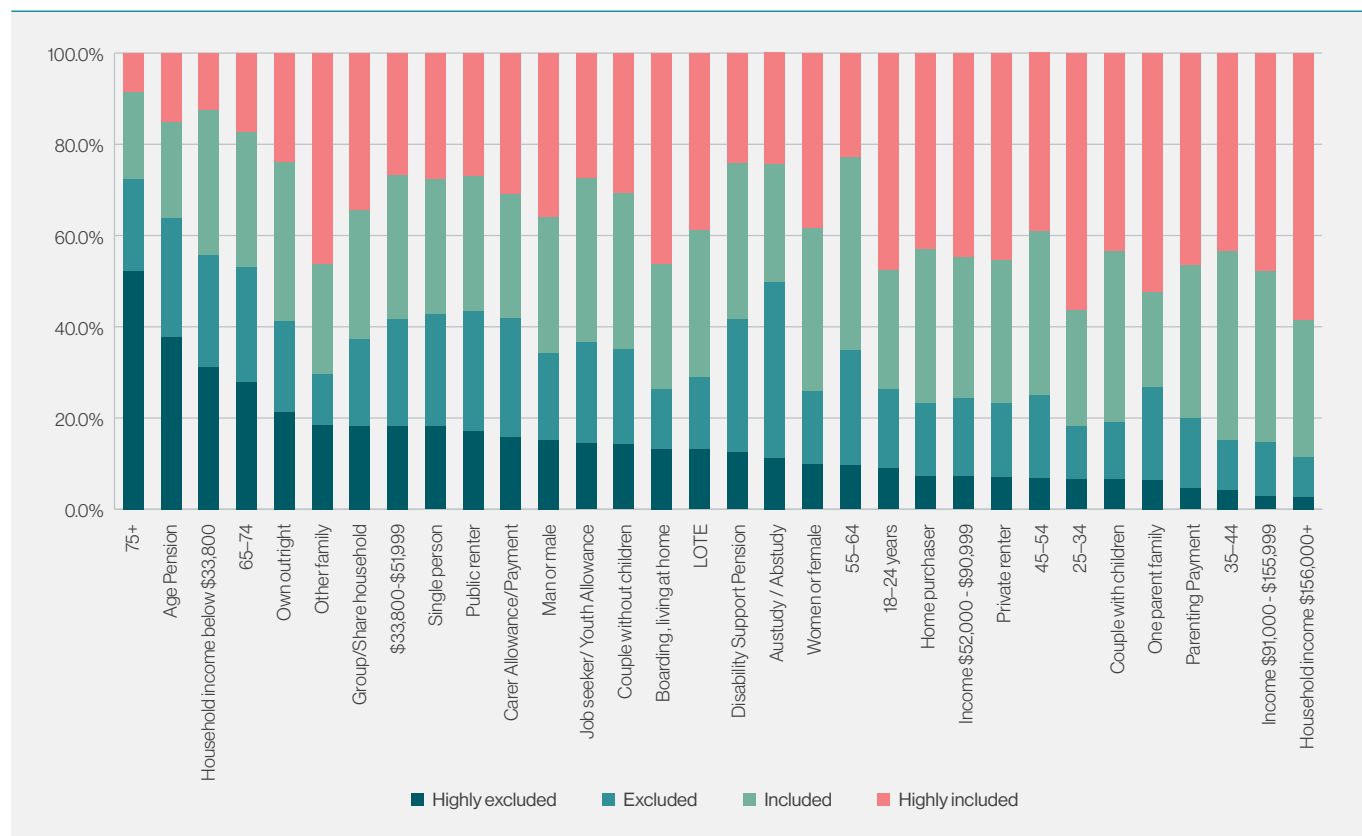
4. Intersections of digital inclusion among community groups (continued)

WHO IS DIGITALLY EXCLUDED?

Nationally, we know that digital inclusion is significantly shaped by the life course and the opportunities that people in mid to later life or in their retirement years have previously had to connect to the internet. Digital inclusion and exclusion are also shaped by the distribution of household incomes, whether an individual lives with disability, their attachment to the labour market, cultural diversity, and where they live.³⁵ There is also a gendered dimension to digital inclusion, with women who experience digital exclusion more likely to be socially disadvantaged in multiple, intersecting ways that increase with age.³⁶

The community groups most impacted by digital exclusion in Western Parkland City (Figure 23) closely align with the national picture. Among the most highly excluded – with digital inclusion scores below a threshold of 45, are people aged 75 years or older (52.2%); receiving an aged pension (37.8%), with lowest household incomes (31.2%), own their home outright (21.3%); who live alone (18.1%) or in public housing (17.1%). The needs and effects of digital exclusion will be cumulative when community members experience multiple or intersecting experiences of social exclusion and disadvantage within their local area. In this section, we explore critical intersections that will be important for informing more targeted responses to achieving digital equity across Western Parkland City with an ageing, culturally diverse and lower income community profile.

Figure 23. Digital exclusion among community groups, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Opposite page: Oran Park Library. Image credit NSW Government (Transport for NSW)

4. Intersections of digital inclusion among community groups (continued)

DIGITAL EQUITY ACROSS THE LIFE COURSE

The extent of digital exclusion across the life course is shaped by a combination of attributes such as educational and income status, identity, and personal preferences, as well as experience with internet use in midlife prior to leaving the workforce.³⁷ For some, digital exclusion may include social and personal disadvantages associated with disability and/or ageing, such as physical and cognitive factors, reduced mobility and wealth, and number of years since participating in work or learning contexts,³⁸ or be influenced by motivation, material barriers, skills limitations and access barriers.³⁹

Location and the life course

The place-based impact of digital inequity across the life course in Western Parkland City is more pronounced where there are higher shares of community groups that are vulnerable to digital exclusion. This pattern is evident (see Figures 24 and 25), where young adults aged 18–34 years living in Campbelltown (71.5), or the Blue Mountains (73.6) had lower overall digital inclusion scores compared with a similar-aged cohort living in other better-off areas across Western Parkland City such as Camden (80.1) or Wollondilly (79.2). The gap in scores across areas evens out for residents aged 35–65 years.

Urban communities with over-representations of older adult Australians experience higher and more persistent rates of digital exclusion, especially when these areas also have higher concentrations of socio-economic disadvantage. For adults aged over 65 years, there is a particularly sharp decline in digital inclusion scores for residents in Fairfield (49.1) at over 10 points below the Western Parkland City average (59.1).

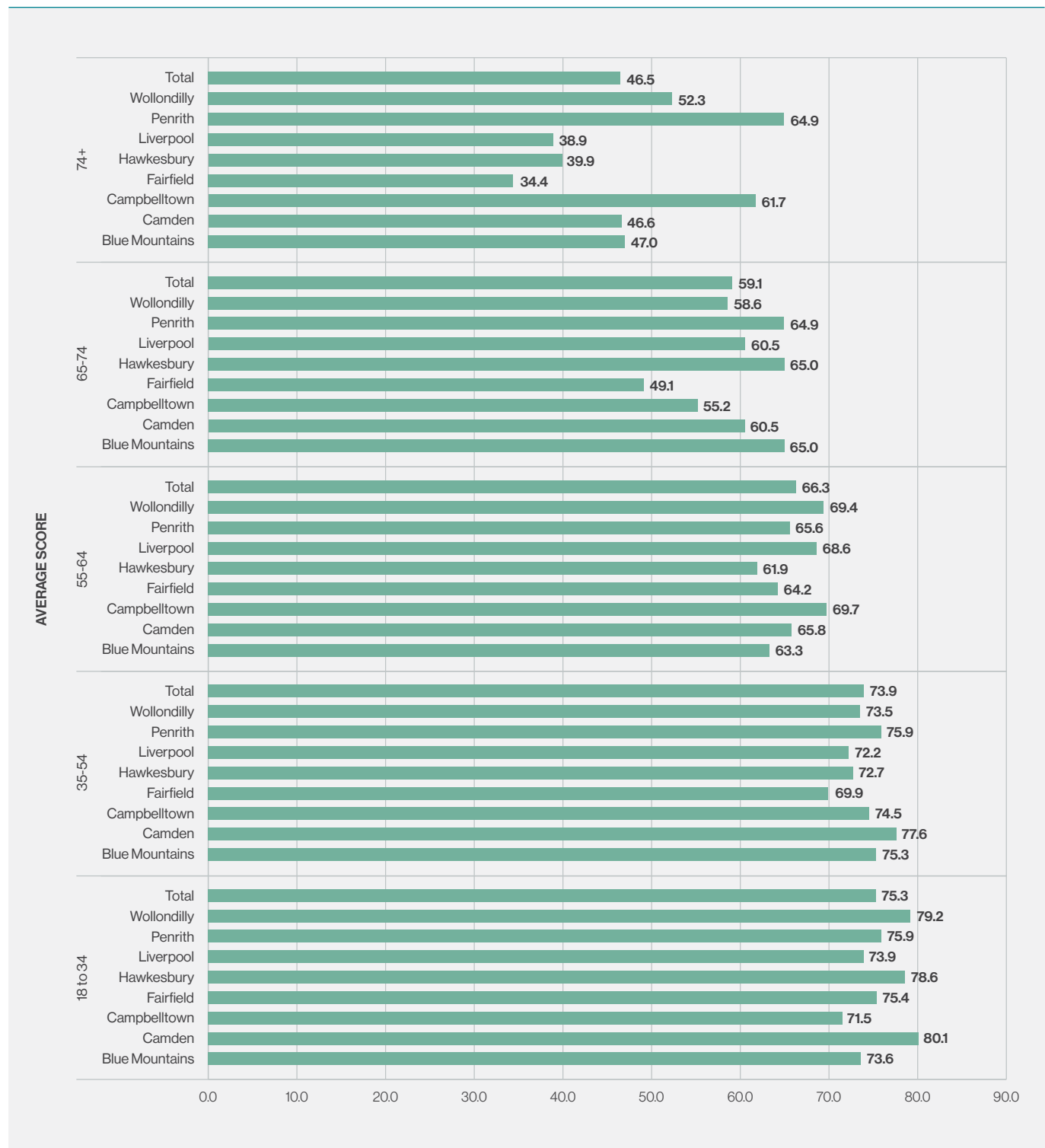
When looking at Digital Ability in Figure 25 the divide is less apparent among young to midlife adults aged 18–54 years across areas, suggesting that Access and Affordability are influencing variation in scores. The most notable differences in Digital Ability across areas start occurring after 55 years of age.



Penrith City Council, catching the train

4. Intersections of digital inclusion among community groups (continued)

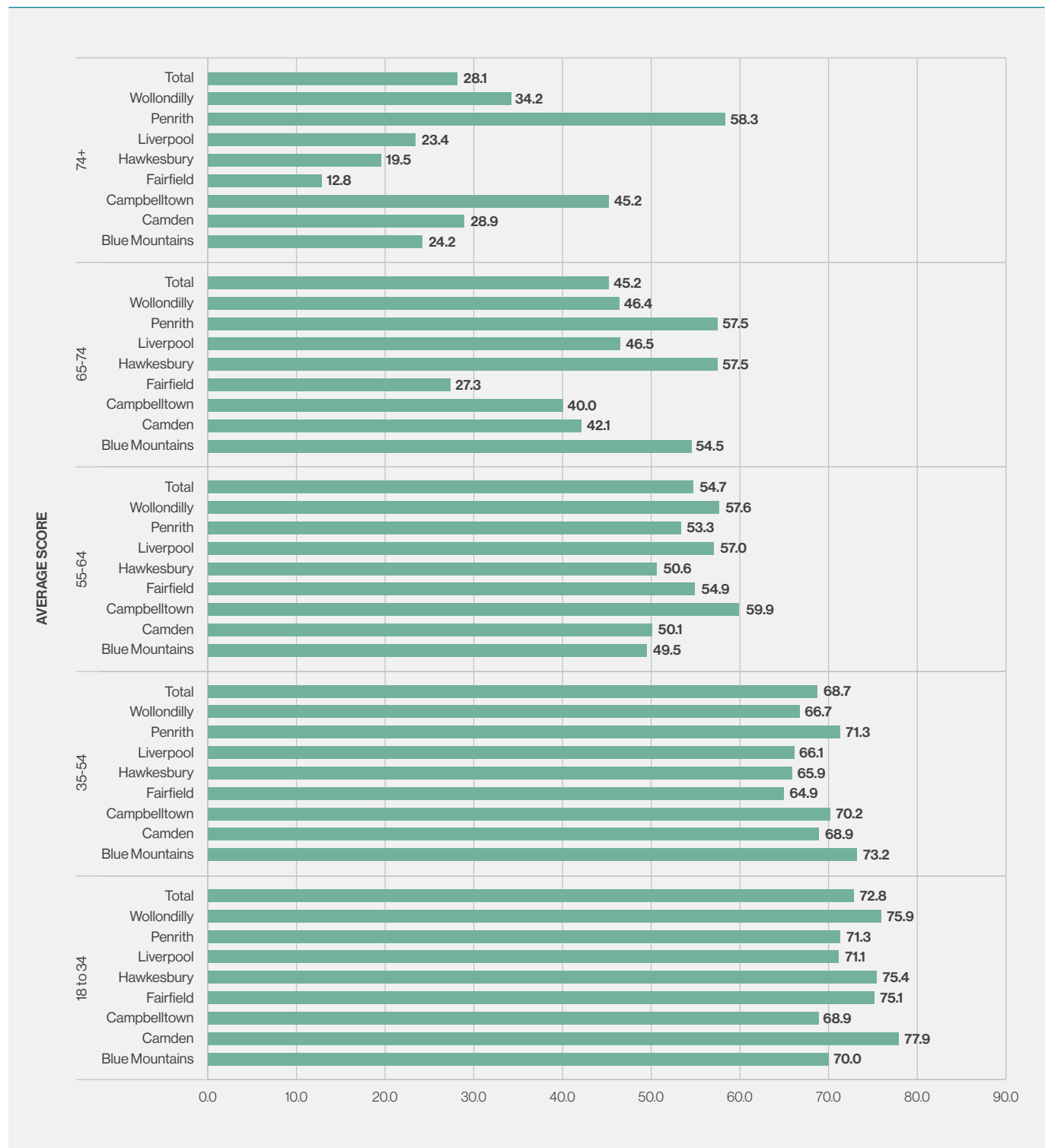
Figure 24. Digital inclusion by age and location, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

4. Intersections of digital inclusion among community groups (continued)

Figure 25. Digital Ability by Age, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

4. Intersections of digital inclusion among community groups (continued)

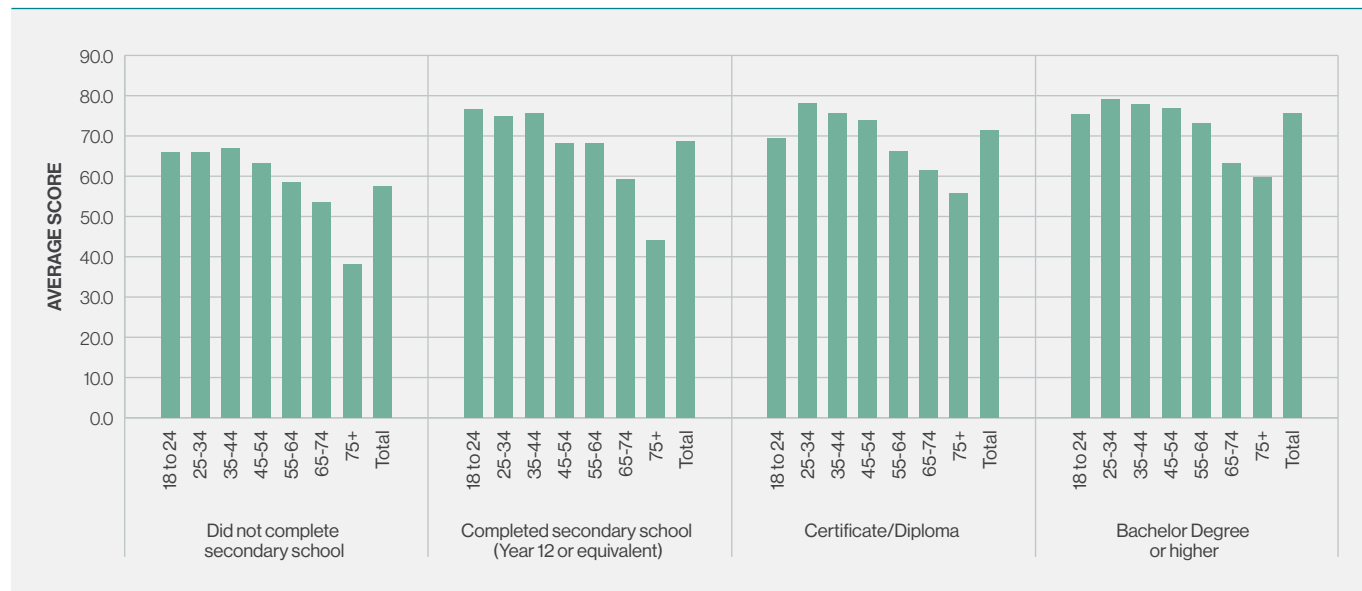
Educational attainment and the life course

Low educational attainment is a significant determinant of social exclusion that flows into decreased access to resources, networks, and life opportunities, shaping digital equity outcomes. Although young adults experience higher digital inclusion relative to those in later life, educational attainment matters for digital inclusion across the life course (Figure 26). For young adults aged 18–24 years, their digital inclusion score is lower without school completion. This suggests that young people not completing school and going on to participate in further education or training during this stage of life may fall behind. The association with further study is complicated to untangle, especially when someone's digital inclusion can be lifted or depressed based on their parents' access and socioeconomic position. For young adults, the gap in Digital Ability is perhaps more informative. However, Digital Ability is not necessarily higher among those with a degree or higher education. As shown in Figure 27, the

gap in digital Ability among young adults aged 18–24 years without school completion (61.9) is large compared with those who complete year 12 (77.0) and a degree (71.3).

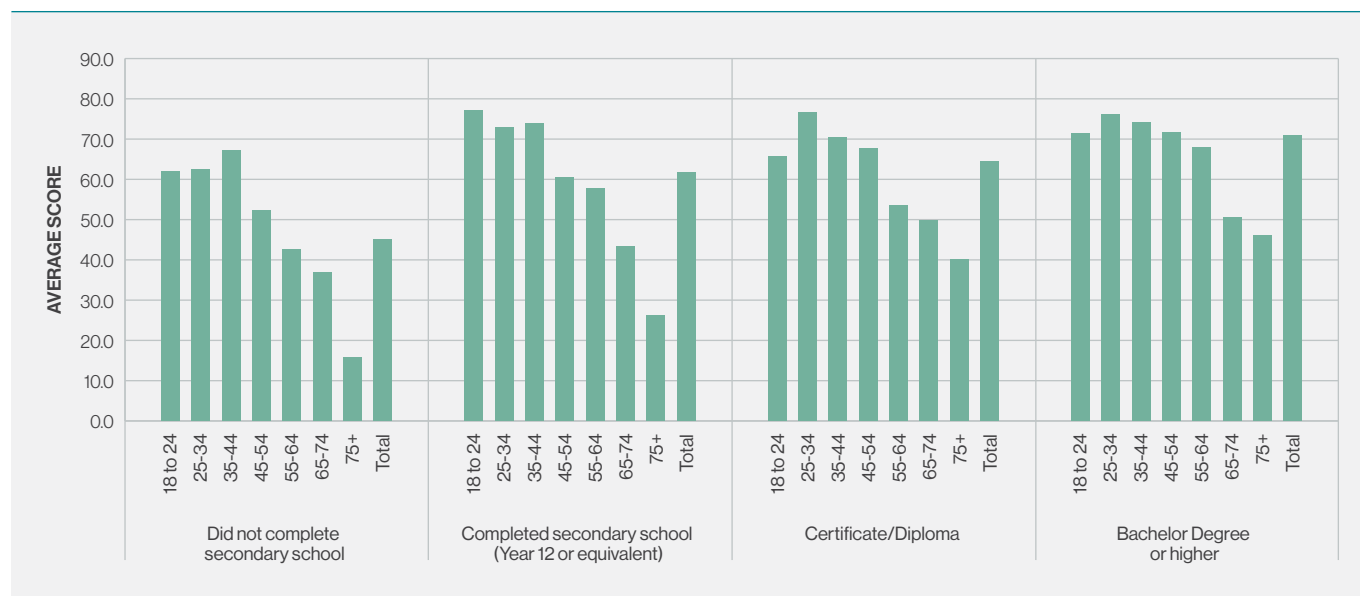
The disparity in total digital inclusion among those without school completion (65.9) and those with a degree or higher education (79.1) is clearer and more sequential with young adults aged 25–34 years. This pattern continues across all age cohorts where we see a large and rising digital inclusion gap between non-school completers and those with a degree or higher level of education. The influence of educational attainment is especially marked among people 75 years or older without a year 12 education, with a comparative digital inclusion score of 38.0 versus 59.8 – 21.8 points lower than those in the same age group with a degree or higher education. The Digital Ability gap of 30.2 for 75 years and older non-school completers (15.8) versus those with a degree (46.0) cohort is larger again.

Figure 26 Digital inclusion: Age by educational attainment, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

4. Intersections of digital inclusion among community groups (continued)

Figure 27. Digital Ability: Age by educational attainment, Western Parkland City

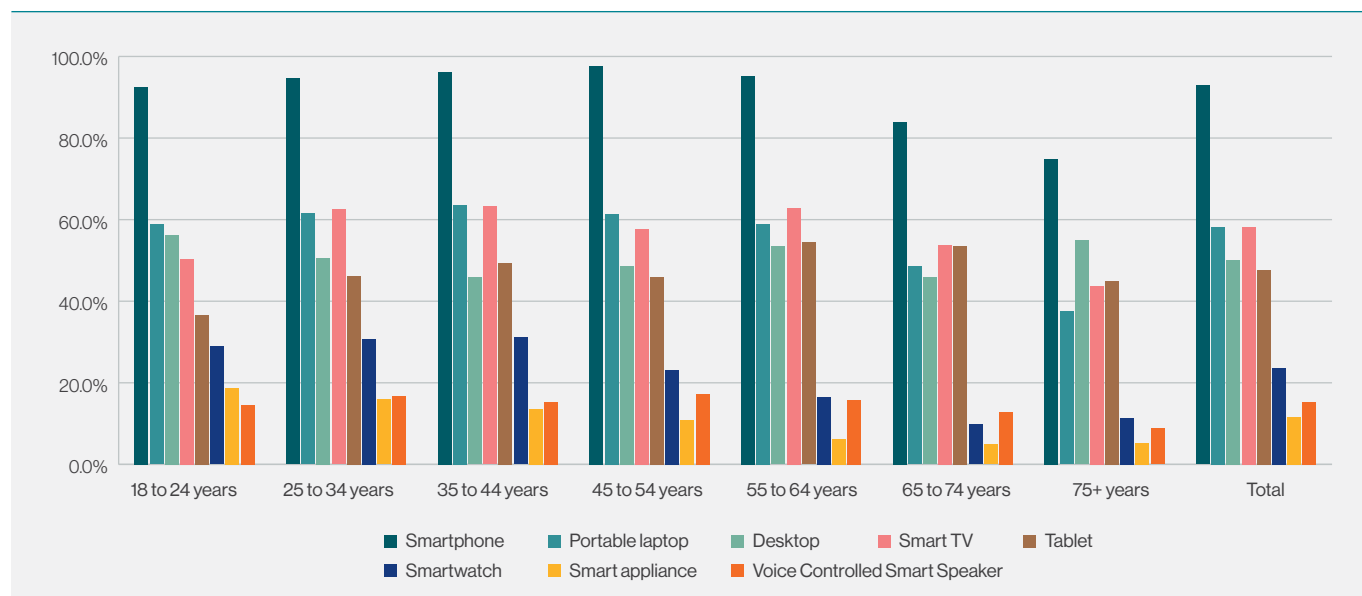
Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Internet usage and the life course

Access to devices and the way they are used varies considerably across the life course. Younger and mid-life adults tend to rely on mobile plans and computer-related devices whereas people in later life have a higher use of fixed plans and tablets for internet access. For instance, Figure 28 shows that smartphone use is highest for people aged 45–54 years (97.1%) and declines significantly among

people aged 65–74 years (84.0%) and 75 or older (74.8%). Use of notebook computers peaks among those aged 35–44 years (63.5%) whilst desktop use is highest among young people aged 18–24 years (56.2%). Conversely, tablet use is highest among residents aged 55–64 (54.4%) and 65–74 (53.4%) years.

4. Intersections of digital inclusion among community groups (continued)

Figure 28. Devices by age, Western Parkland City

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

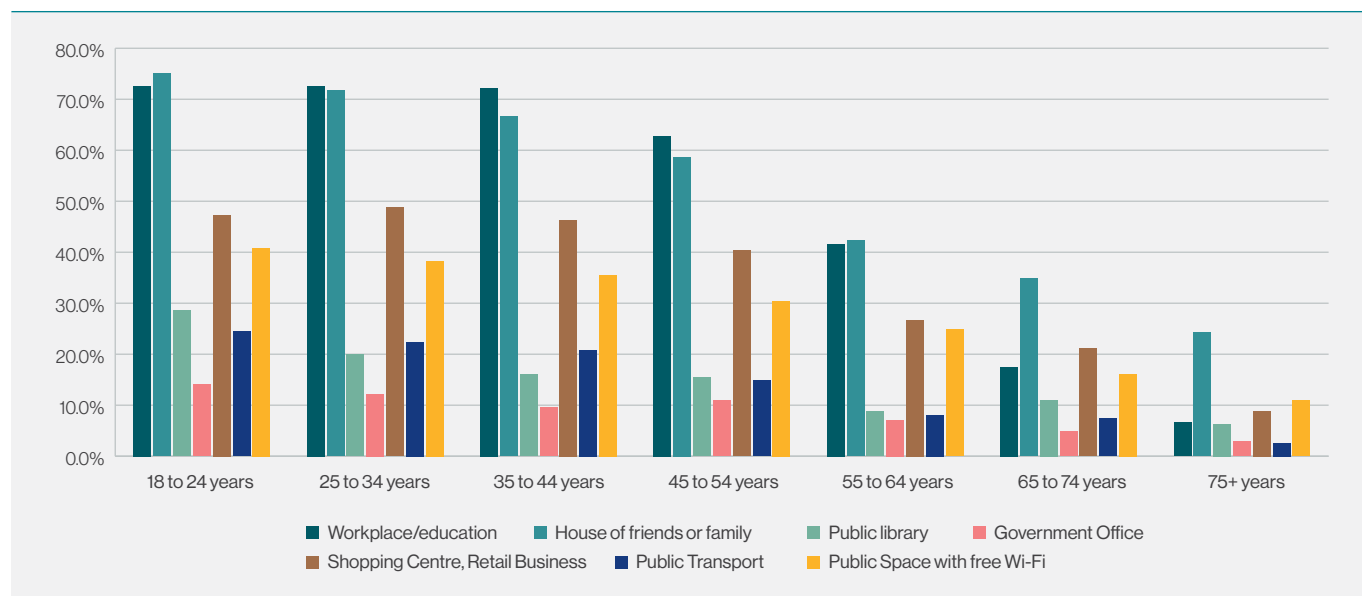
Pre-paid mobile use is more common among younger adults aged 18–24 years (46.2%). This is likely due to the increased flexibility and capacity to manage the costs associated with pre-paid plans. Young people may also be able to benefit from an ongoing connection in their parental home. Around a third of the remaining age groups rely on a pre-paid mobile service plan (ranging from lowest of 30.2 percent for people aged 64–74 years to 36.6 percent for people aged 25–34 years).

Around two thirds of Western Parkland City residents aged 18–44 years accessed the 5G network with their mobile phone. Use of 5G mobile phone plans declines to 43.7 percent among residents aged 45–54 years of age continuing to fall to a low of 18.5 percent for residents over 75 years. While the use of mobile broadband is lower across all age groups compared with a fixed or mobile service, the main type of mobile broadband used is a portable modem or Wi-Fi device (28.5%) with use increasing to 40 percent among young adults aged 18–24 years and declining to 7.8 percent for people over the age of 75 years. Overall,

59.8 percent of Western Parkland City residents do not have a mobile broadband service. Of those who subscribe to a broadband service around 35 percent choose a pre-paid plan, increasing to 40.9 percent for people aged 25–34 years.

Capacity to use the internet outside the home can greatly increase access, especially among households that struggle to afford a reliable connection. Figure 29 shows the changing patterns of internet use outside the home by age. Residents aged 18–34 years and engaged in employment are most likely to use the internet outside the home with the main spaces being workplaces or educational settings or at a friends or family member's house. Public and free internet use typically declines with age due to obvious reasons, such as lower participation in work and education and mobility, but in the Western Parkland City is also influenced by increased reliance on fixed broadband that reduces internet mobility. Limited access outside the home can further exacerbate experiences of exclusion or digital inequity and missing out on the benefits of free or publicly available internet.

4. Intersections of digital inclusion among community groups (continued)

Figure 29. Place of use by age, Western Parkland City

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Disability and the life course

People with disability confront barriers to digital inclusion along each dimension of Access, Affordability and Digital Ability. People with disability often have low or moderate incomes, which contributes to affordability barriers to purchasing necessary devices and connections. In this way, disability will intersect with other dimensions underpinning digital inequity. Disability tends to be concentrated unevenly across urban locations, especially alongside ageing communities, but there will be a high need for targeted interventions across all cohorts.

The barriers for people with disability in accessing technology tend to increase with age. However, young people with disability may have less access to the internet or to opportunities to build digital capacity compared with their peers. Figures 30 and 31 reveal the importance of focusing on the intersections of age, disability, and digital exclusion. While overall digital inclusion scores are significantly lower among older adult residents with disability, the divide within age cohorts is most marked for young adults aged 18–35 years

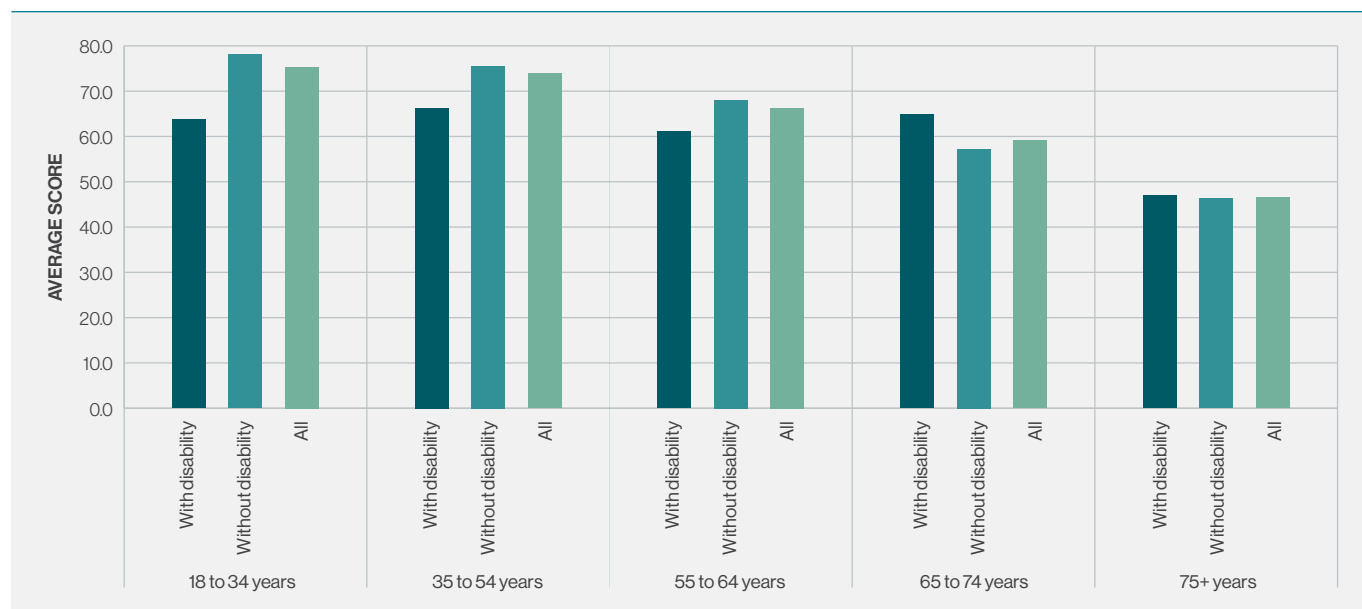


Oran Park Library. Image credit NSW Government (Transport for NSW)

with (63.8) and without (78.1) disability – a gap of 14.3 points. For residents aged 35–54 years, the gap remains significant, with a score of 66.3 for people without disability, and 75.6 for those with disability.

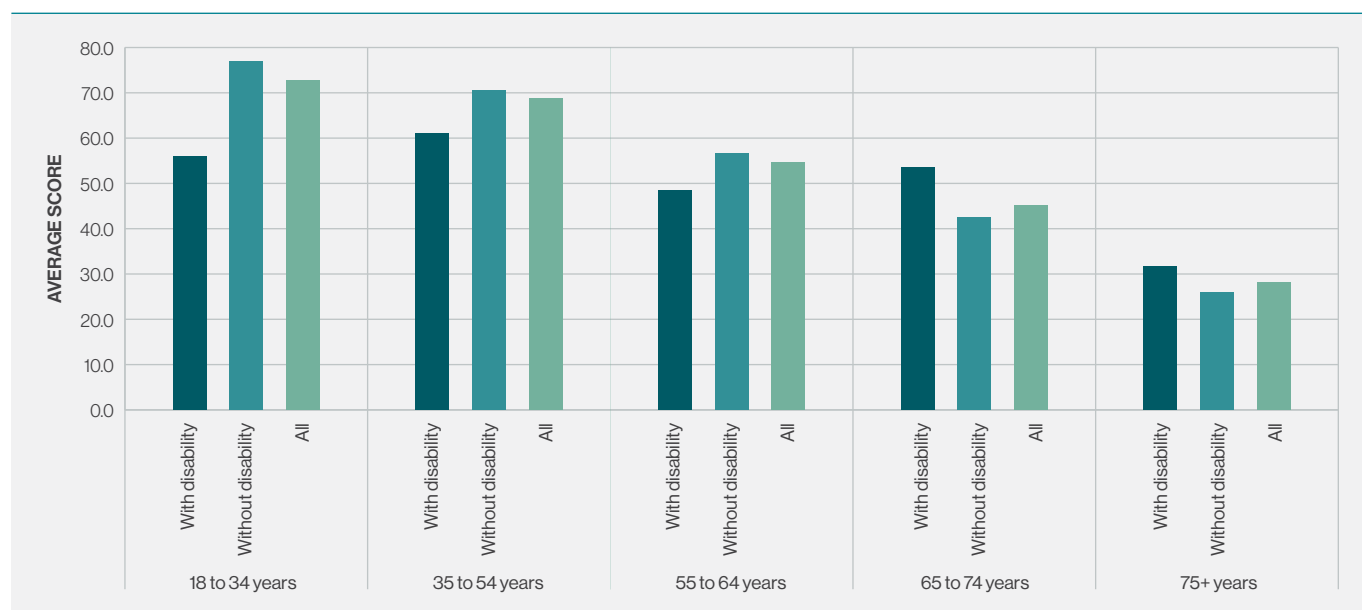
Image above: Oran Park Library, NSW Government (Transport for NSW)

4. Intersections of digital inclusion among community groups (continued)

Figure 30. Digital inclusion by disability and age, Western Parkland City

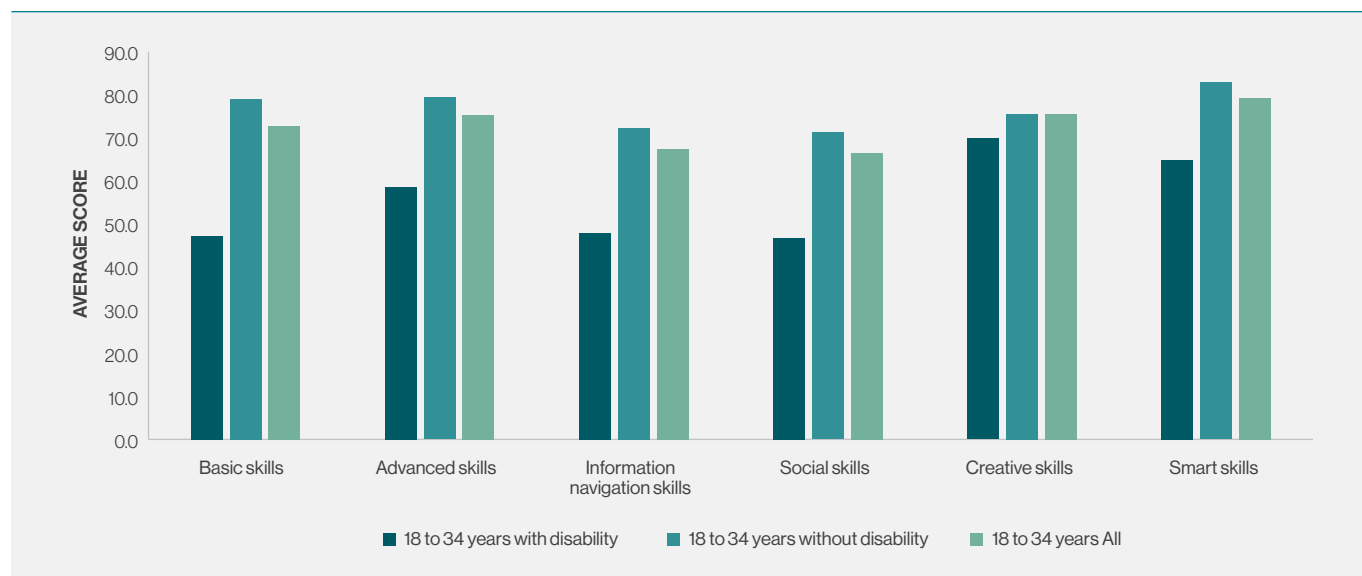
Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

The critical area where young people with disability are falling behind, as shown in Figures 31 and 32 is for Digital Ability, particularly with respect to basic, information navigation and social digital skills. The gap in Digital Ability among young adults aged 18–34 years with (55.9) and without (77.0) disability is 21 points.

Figure 31. Digital Ability by disability and age, Western Parkland City

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

4. Intersections of digital inclusion among community groups (continued)

Figure 32. Digital Ability skills, Western Parkland City

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

The unique digital equity needs of people with disability across the life course must be recognised in more specialised or tailored responses above and beyond population-wide initiatives. Specific needs include understanding the nature and impact of personal autonomy over the access of devices and/or the need for devices or content to be modified.⁴⁰ For example, family members or other carers (such as support workers) may act as a gatekeeper, moderating, regulating, or controlling use.⁴¹ As such, opportunities to engage with technology and derive potential benefits may be limited.

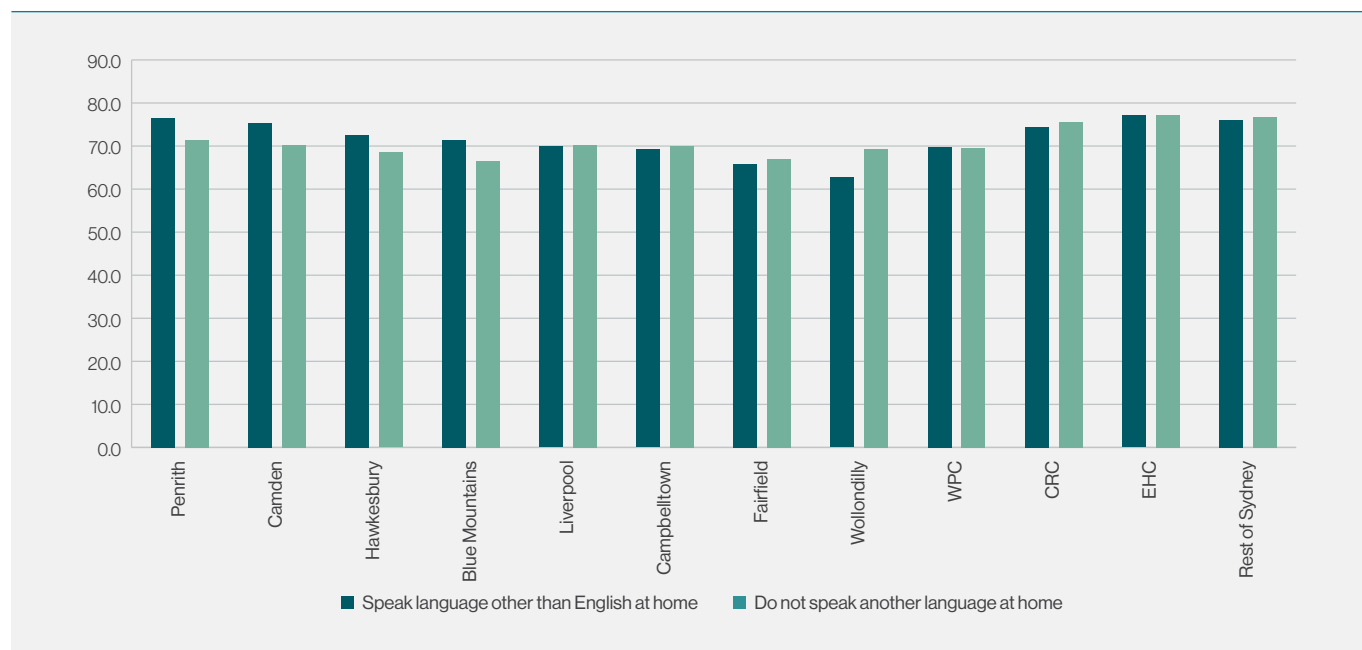
Digital equity among people with English as a second language

Ensuring that policies and initiatives designed to reduce digital inequalities reflect the rich cultural diversity of the Western Parkland City, including the many people for whom English is their second language, is critical. The underpinning experiences shaping digital inclusion among culturally and linguistic diverse communities play out in nuanced ways when intersecting with English language proficiency, the life course, social and economic opportunities relating to education, income, and employment, as well as varied connections to local communities and histories upon arrival and settlement.⁴²

For newly arrived refugees or migrants, becoming accustomed to new digital infrastructures and the need to 'discover' the depth of information available online, and 're-appropriate smartphones based on the localized digital infrastructure' can influence experiences of digital inclusion.⁴³ Access and digital abilities remain especially challenging for former refugees and marginalised migrants, with challenges exacerbated by low levels of English language proficiency, cultural barriers, and low socio-economic conditions.⁴⁴ As learning English can take significant time, people who are digitally excluded from the beginning of settlement tend to remain excluded for longer — sometimes for years.

Across Western Parkland City communities, apart from in Wollondilly, people with English as a second language have higher or similar digital inclusion scores compared to those only speaking English at home (Figure 33). The digital equity gap, however, becomes apparent across Western Parkland City when examining intersections across the life course.

4. Intersections of digital inclusion among community groups (continued)

Figure 33. Digital inclusion by English as a second language, Western Parkland City

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

English as a second language and the life course

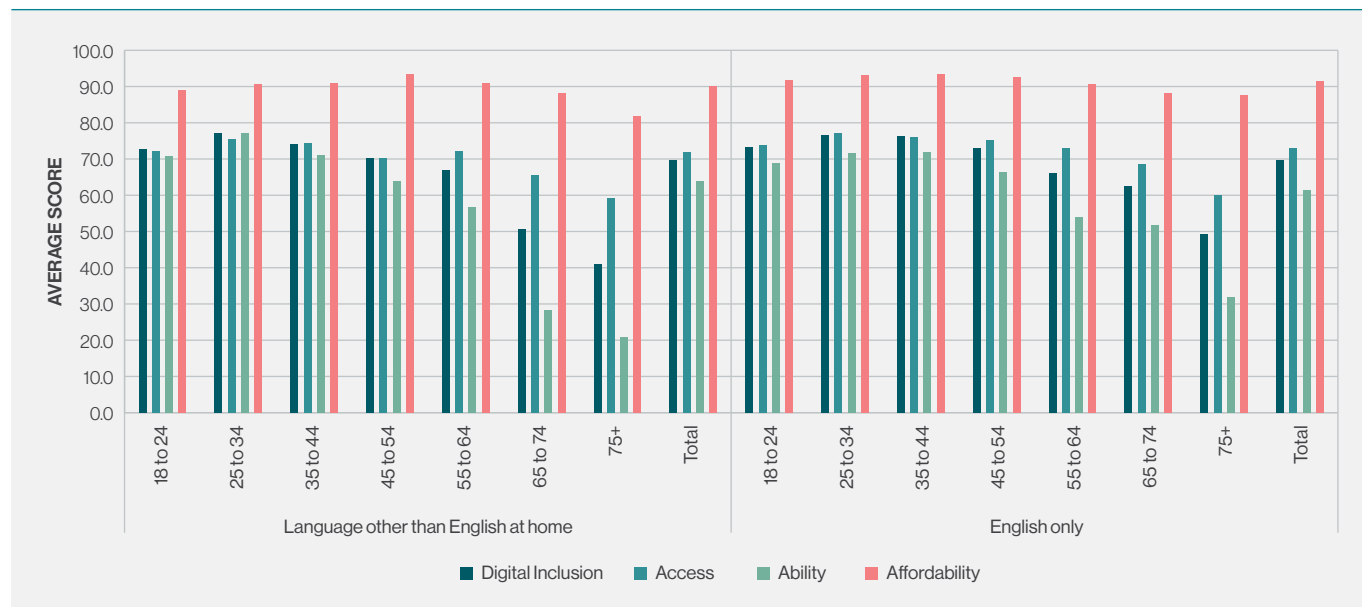
Young people from backgrounds where English is a second language, including newly arrived refugees and migrants, tend to have levels of digital access and participation that are comparable to the general population.⁴⁵ The primary barrier to digital inclusion for this group is not digital ability, but rather affordability and access to appropriate devices.⁴⁶ These households, for instance, are more likely to have a smartphone or tablet device rather than a laptop or desktop.⁴⁷ This can serve as a barrier for engagement with online services, as well as to online work and study.

For older people where English is a second language, competency in digital abilities, familiarity with and attitudes towards technologies, age, English language proficiency, and lack of support networks are identified as barriers to digital equity. In families with English as a second language,

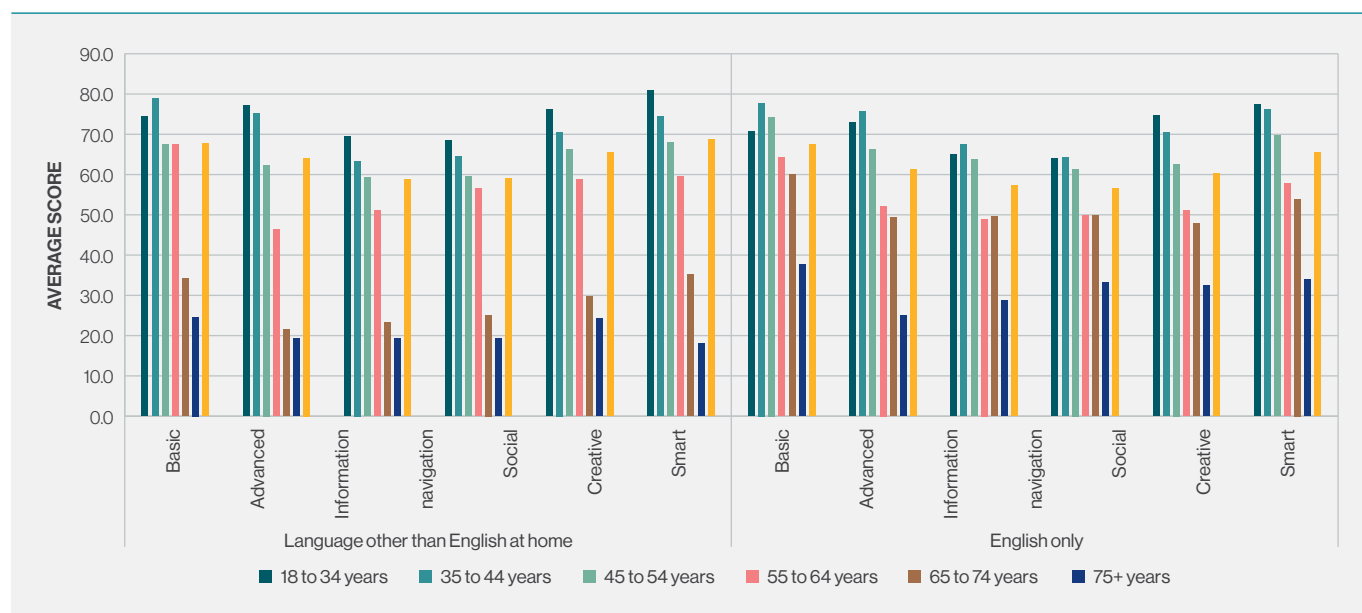
having young people within the home may result in improved digital inclusion outcomes when they act as facilitators to accessing online services and information.⁴⁸ Government communication strategies for CALD communities need to consider that young people may be translating material for their older family members.

While overall digital inclusion scores are comparable for English-speaking and English as a second language communities, specific differences become more apparent when disaggregating dimensions of Ability, Access, and Affordability, and when intersecting with age. As shown in Figure 34 digital inclusion scores are lower among cohorts over the age of 65 years who have English as a second language compared with their English-speaking counterparts, and this disparity is most apparent for Digital Ability (Figure 35).

4. Intersections of digital inclusion among community groups (continued)

Figure 34. Digital inclusion by LOTE status and by age, Western Parkland City

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Figure 35. Digital Abilities by LOTE status and by age, Western Parkland City

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

4. Intersections of digital inclusion among community groups (continued)

DIGITAL EQUITY AMONG FIRST NATIONS PEOPLE

The profound digital inequity experienced by First Nations communities in regional and remote areas, due to the cumulative effects of insufficient infrastructure, colonisation and dispossession, intergenerational poverty, and limited opportunities to develop digital literacy skills, has been well documented.⁴⁹ However, less is known about how digital inequity is experienced by urban First Nations communities. This section includes responses from First Nations people as part of the online survey launch and whole Western Parkland City population recruitment.

First Nations people and internet usage

When population wide internet use was last collected in the 2016 Census, a slightly lower share of metropolitan First Nations (82.8%) and non-First Nations people (85.8%) reported that they had accessed the internet.⁵⁰ Since this time, access based on a single measure of usage has continued to rise for both urban First and non-First Nations people. However, single access measures can conceal important differences in the way the internet is used among First Nations and non-First Nations people. As shown in Table 5, most First Nations respondents reported that they have used the internet in the past six months, however their use is less frequent with 88.5 percent identifying they had used the internet in the last week, compared with 96.3 percent of non-First Nations people.

Table 5. Internet use in the last six months among First Nations and non-First Nations communities

	Not First Nations %	First Nations %	Total %
In the last week	96.3	88.5	95.9
In the last month	0.8	2.8	0.9
In the last 3 months	0.7	6.1	1.0
In the last 6 months	0.3	0.0	0.3
More than 6 months ago	0.3	0.7	0.3
Never	1.7	2.0	1.7

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Previous studies have identified a higher prevalence of mobile-only use among First Nations people, with over one third of urban and regional First Nations people found to be mobile-only users, compared with one fifth of non-First Nations people.⁵¹ High mobile-only use is likely to be associated with low socio-economic conditions as well as cultural norms regarding shared use of resources and maintaining social ties.⁵²

While Tables 6 and 7 show that the prevalence of mobile phone and fixed broadband access is similar across First Nations and non-First Nations communities, there are important differences in how these services are used or packaged together and the quality and reliability of connections. For instance, more than half of First Nations respondents reported having a pre-paid mobile service plan (52.9%) compared with 34.3 percent of people from a non-First Nations background.

Increasing access to the necessary devices to undertake the full range of computing and online activities among First Nations communities is an essential component of ensuring greater digital equity. Mobile or portable computer access is lower among First Nations people in this sample (45.4%) compared with non-First Nation people (58.9%), as is use of at-home desktop computers (45.1% versus 50.6%) and tablet devices (31.8% versus 48.8%).

Although there is little difference in the uptake of fixed broadband services, fewer First Nations people in the Western Parkland City relied on a nbn connection (50.1%) compared with non-First Nations people (72.6%). A greater share of First Nations people used cable (10.7%), fixed wireless (non-nbn) (9.9%), or 5G Fixed Wireless Broadband (non-nbn) (11%).

A lower Access score among First Nations respondents appears to be due to lower overall use of unlimited mobile and fixed services. A lower quality connection is potentially also linked to affordability constraints, with 54.0 percent of First Nations respondents reporting that they made compromises on the speed and reliability of their internet connection to afford it compared with 19.8 percent of non-First Nations people. Similarly, 42 percent of First Nations respondents reported that they rarely had to cut back on other essential expenditure to afford internet compared with 61.4 percent of non-First Nations people.

4. Intersections of digital inclusion among community groups (continued)

Table 6. Mobile phone use among First Nations and non-First Nations communities

	First Nations %	Not First Nations %	Total %
Has a mobile phone	96.1	98.6	98.5
Main mobile phone is a smart phone	93.3	95.4	95.3
Pre-paid mobile phone	52.9	34.3	35.4
Post-paid mobile phone	47.1	65.7	64.6
Mobile Broadband	48.3	27.3	28.5
A SIM card inserted into a laptop/tablet	19.5	9.0	9.6

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Table 7. Fixed broadband use among First Nations and non-First Nations communities

	Not First Nations %	First Nations %	Total %
nbn	72.6	50.1	71.3
ADSL	3.4	5.5	3.6
Cable	2.9	10.7	3.3
Fixed Wireless (non-NBN)	2.7	9.9	3.1
5G Fixed Wireless Broadband (non-NBN)	5.2	11.0	5.5
Satellite (other than NBN Skymuster)	0.6	1.5	0.6
Other	1.0	2.7	1.1
Unsure	4.9	3.0	4.7
No fixed home internet	6.8	5.5	6.7

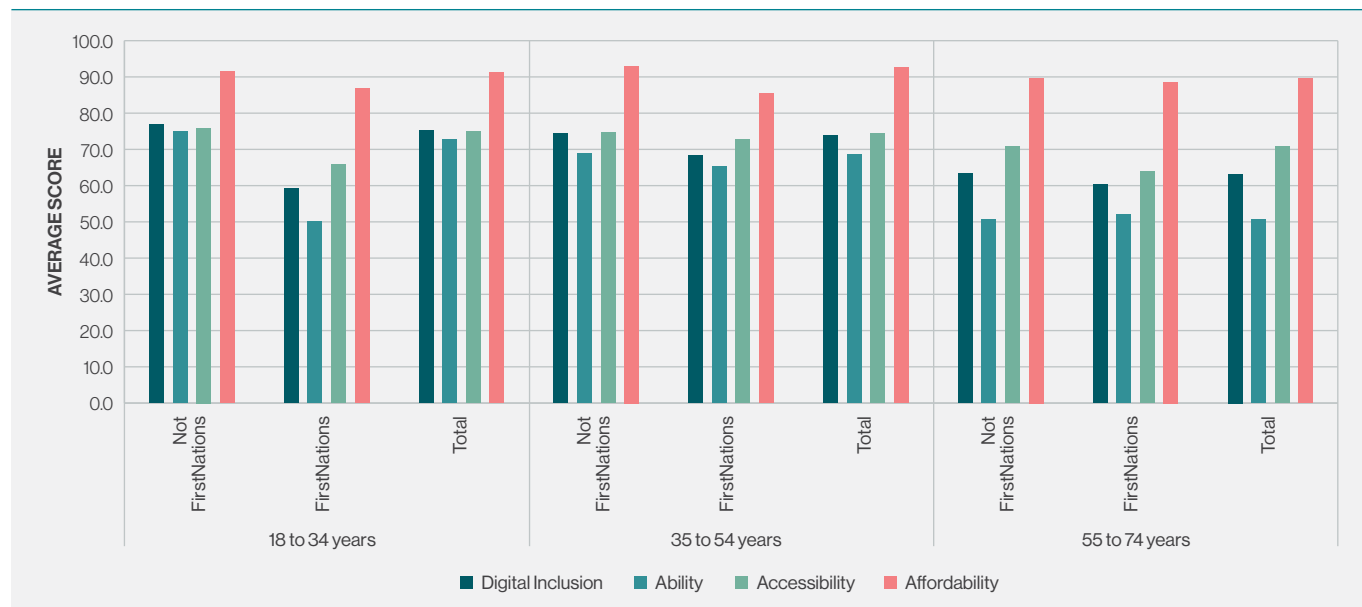
Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Use of the internet outside the home is more prevalent among First Nations residents compared with non-First Nations residents. The most accessed sites include workplaces (61.6%), public libraries (20.3%), government services (14.0%) and whilst using public transport (19.6%). Online activity is high among First Nations respondents. The types of online activities most frequently engaged with include learning or study (82.6%), booking a medical appointment (77.5%), and searching for work (63.4%) and housing and accommodation (74.6%). The use of online government services including Centrelink; My Aged Care; Veteran Affairs NDIS; Births, relationships and deaths; and Housing and property (i.e. to pay for public or social housing) is more prevalent among First Nations compared with non-First Nations respondents, as is using the internet for social connection, including engaging with people or content to feel connected to a community, making friends and engaging with clubs and communities online.

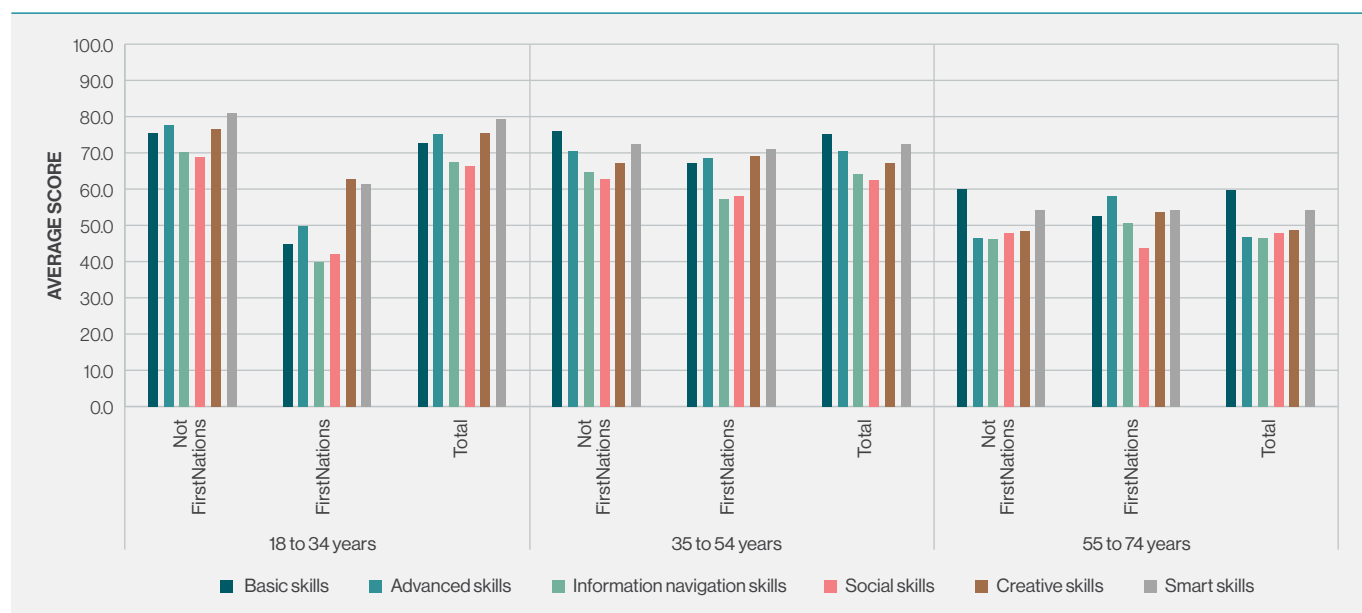
First Nations people and the life course

Digital inclusion scores for Ability, Access and Affordability among First Nations and non-First Nations respondents reveal significant disparities across comparable age groups (Figure 36). This is especially so among young First Nations (59.1) and non-First Nations (76.9) adults aged 18–34 years where the gap in digital inclusion scores is 17.8 points. Average digital inclusion scores for young First Nations adults across all dimensions are comparable with the more typically lower scores among older adult Australians. Figure 37 expands upon the types or components of Digital Ability to provide further insight into where disparities are highest between First Nations and non-First Nations communities.

4. Intersections of digital inclusion among community groups (continued)

Figure 36 Digital inclusion among First Nations and non-First Nations communities

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Figure 37. Digital Ability skills among First Nations and non-First Nations communities

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

5. Accessing digital resources, services, and training

KEY HIGHLIGHTS

- > **Fewer Western Parkland City residents** (88.6%) accessed an **online government service** in the past six months than in the **rest of Greater Sydney** (94.7%), but more accessed online services to look for work. Residents in Wollondilly were the lowest users of online services and activities.
- > Using online activities and services is lower **among people aged 75 and older**, even when they are internet users.
- > **Digital capability place-based programs** that are tailored, integrate financial and literacy support, build capacity of educators and mentors, and are embedded in existing networks of support are **critical to increasing digital equity**.
- > Low internet users **need direct financial assistance** to access the internet more often.
- > Increased visual support would **improve accessibility of websites** for people requiring modifications.
- > **Training in how to get started, navigate and be safe** using the internet would be most helpful for non-users to get online.



5. Accessing digital resources, services, and training (continued)

As more services and activities move to online modes of provision, exclusion from the benefits of online participation can further exacerbate social exclusion and disadvantage.⁵³ Online engagement results in significant 'offline' advantages in terms of social activities and connection, greater access to services, resources and opportunities that may have been previously unavailable or more difficult to access in the past, especially among people who have limited mobility.⁵⁴ Whilst the use of online services and information sites corresponds with how widely these services are needed, disparities in usage rates among Western Parkland City residents can also indicate inequities in access, including knowledge of what types of services are available, as well as the extent to which people are able to receive information for preventative care or social connections.

In addition to questions about online activities collected as part of the national ADII, Western Parkland City councils included a specific set of questions on the types of Federal and Service NSW online government services accessed in the past six months, based on the main service classifications listed.

National services added to the survey are listed below, with the five most frequently accessed services presented first:

- Centrelink (i.e., payments to help jobseekers, parents, pensioners)
- ATO (i.e., lodging or paying tax, managing superannuation)
- Medicare (i.e., help with healthcare costs, seniors healthcare cards, pharmaceutical benefits scheme)
- My Aged Care (i.e., online account, information on homecare packages)
- Veterans Affairs (i.e., online services to Australian Defence Force members)
- Child Support (i.e., online applications for child support)
- National Disability Insurance Scheme (i.e., linking NDIS to myGov; creating and managing service bookings)
- My Health Record (i.e., accessing personal health information)

NSW-specific services added to the survey are listed below, with the five most frequently accessed services presented first:

- Births, relationships and deaths (i.e., applying for a birth or marriage certificate online)
- Boating, fishing and outdoors (i.e. applying for a boat licence, finding a cycling trail, finding national parks walks)
- Business, industries and employment (i.e., getting started or registering a business, finding government employment employee entitlements)
- Concessions, rebates and assistance (i.e., transport concession cards, assistance vouchers, dinner vouchers)
- Driving and transport (i.e., driver and rider licences vehicle registrations)
- Education and training (i.e., financial support for students, libraries, careers NSW)
- Health and care (i.e., booking a COVID vaccination, finding child care providers, e health records)
- Housing and property (i.e., paying public or social housing rent; information on first homebuyer schemes, applying for a Rentstart Bond loan)
- Legal and Police services (i.e., reporting crimes help for victims of crime, legal information online)

Online service use across locations

The most used online services and activities included banking and government services, comparing prices of products and services, tracking the delivery of purchased products, and keeping in touch with friends and family. However, the use of these online services and activities is typically lower among Western Parkland City residents compared with the rest of Greater Sydney, with the exceptions of using online services to look for work, or booking a taxi, hire car or a shared e-scooter or bike (see Appendix 6 for more detail). Whilst some online transport services were more prevalent, fewer Western Parkland Residents (60.7%) used a public transport app compared with the rest of Greater Sydney (78.1%). Similarly fewer Western Parkland residents booked a ride share service (41.2%) (such as Uber) compared with the rest of Greater Sydney (50.0%).

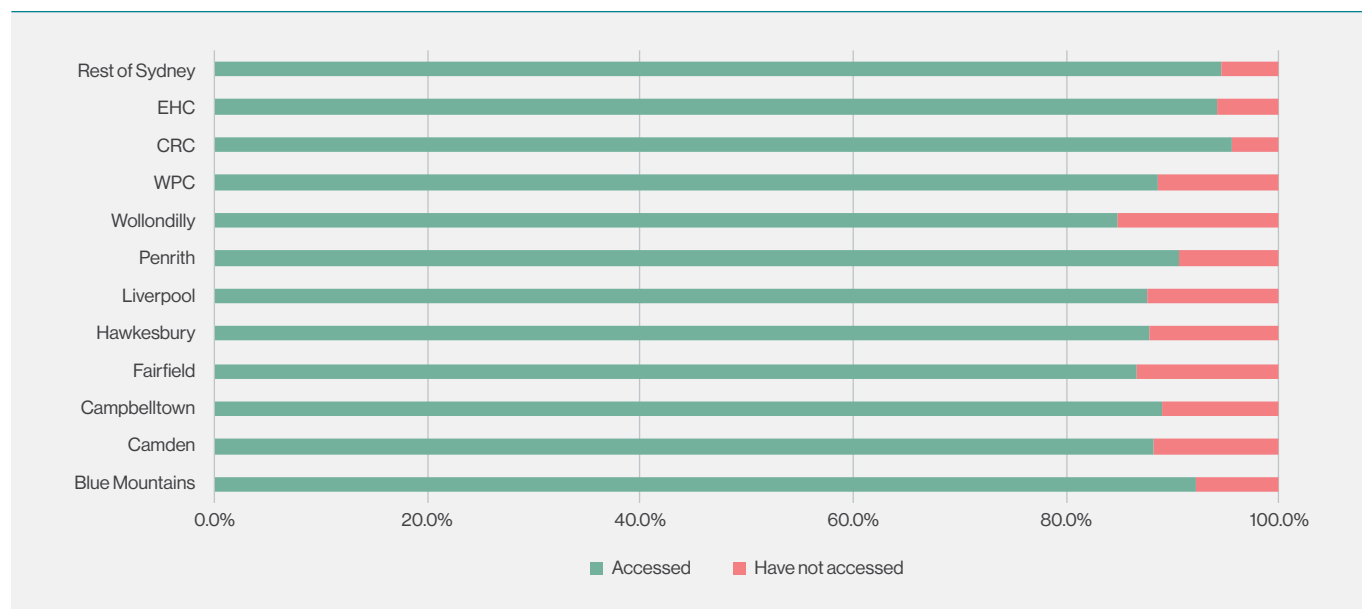
5. Accessing digital resources, services, and training (continued)

Areas with the highest and lowest online activity and service use compared with the Western Parkland City average include:

- **Wollondilly:** No highest use of online activities or services. Lowest use of government services (84.9% versus 88.6%), job search (38.5% versus 52.7%), accessing online buying or selling (75.9% versus 81.6%), keeping in touch with friends and family (83.8% versus 90.8%), making new friends online (48.8% versus 63.4%), engaging with a club (41.1% versus 48.3%), attending a music event (22.8% versus 34.1%) and booking/using private or public transport services.
- **Blue Mountains:** Highest use of banking (91.9% versus 89.3%) and government services (92.3% versus 88.6%) services. Lowest use of entertainment services (72.2% versus 80.8%) and navigating a route via maps with a smartphone (71% versus 79.1%).
- **Fairfield:** Highest use of attending a music, arts, or cultural event (40.6% versus 34.1%), booking a taxi with an app (26.5% versus 22.1%) and booking a hire car service (22.1% versus 17.7%). Lowest use of using a banking website or app (84.7% versus 89.3%), tracking the delivery progress of an online purchase (79.0% versus 84.3%) and booking a medical appointment (67.3% versus 73.2%).
- **Hawkesbury:** Highest use of keeping in touch with family and friends (93.8% versus 90.8%) and engaging with a club or organisation (53.1% versus 48.3%). Lowest use of looking for housing or accommodation (46.6% versus 55.1%), booking a shared e scooter or bike (8.8% versus 13.5%) and booking a hire car service (10.5% versus 17.7%).
- **Camden:** Highest use of booking a medical appointment (81.8% versus 73.2%) and online buying and selling (84.9% versus 81.6%). Lowest use of education and learning sites (61.8% versus 69.3%).
- **Campbelltown:** Lowest use for interacting with people or content to connect to a community (63.3% versus 67.1%). No highest online activity or service use.
- **Liverpool:** Highest use for studying and learning (73.9% versus 69.3%), interacting with people and content to connect to a community (70.1% versus 67.1%), making new friends or reconnecting with old friends (68.5% versus 63.4%), booking a rideshare service (e.g., Uber, Didi) (49.9% versus 41.2%) or booking an e scooter or bike (18.1% versus 13.5%). No lowest online activity or service use.
- **Penrith:** Highest use of job searches (56.7% versus 52.7%), comparing the prices of products and services (92.6% versus 88.2%), looking for housing and accommodation (60.6% versus 55.1%), tracking the progress of an online purchase (88.2% versus 84.3%), use of entertainment services (85.8% versus 80.8%) and navigating a route via maps with a smartphone (82.0% versus 79.1%). No lowest activities or service use.

Fewer Western Parkland City residents (88.6%) accessed an online government service in the past six months compared with the rest of Greater Sydney (94.7%) (Figure 38). Use of an online government service was lowest in Wollondilly (84.9%), Fairfield (86.7%), and Liverpool (87.6%). The types of online national government services most used among Western Parkland City residents include Medicare (58.7%), Centrelink (51.0%) and the ATO (53.1%). The least used online services include police and legal services (3.1%) and Veteran Affairs (3.4%). Fairfield and Wollondilly residents were least likely to access Medicare and ATO services whilst residents in Penrith and Camden had the highest use, potentially reflecting a greater share of working families in the areas. However, Fairfield had the highest share accessing NDIS and Veteran Affairs online services.

5. Accessing digital resources, services, and training (continued)

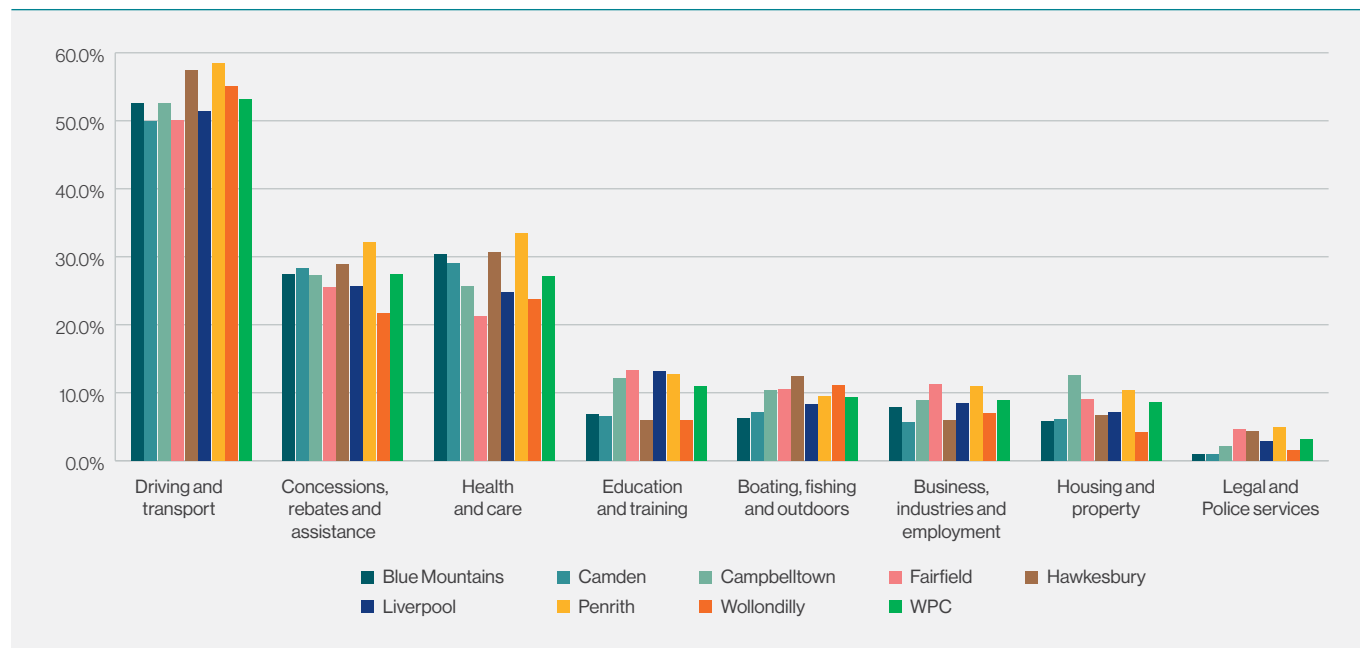
Figure 38. Used a government service in the past six months by location

Source: Western Parkland City adapted Australian Internet Usage Survey (AIUS), and National AIUS, ADII 2022

The main types of NSW Government services, as shown in Figure 39 accessed online by more than half of Western Parkland City residents in the past six months, were for driving and transport (53.1%) with shares highest in Penrith (58.5%) and Hawkesbury (57.5%). Despite more disadvantage within the Fairfield community, fewer residents (21.3%) accessed health and care services online compared with the Western

Parkland City average (27.1%). Sites providing concessions, rebates and assistance were less frequently accessed by residents in Wollondilly (21.7%) and Fairfield (25.5%). Education and training services were more widely used by residents in Liverpool (13.2%), Fairfield (13.3%), Penrith (12.7%), and Campbelltown (12.2%) compared with the remaining Western Parkland City areas.

5. Accessing digital resources, services, and training (continued)

Figure 39. Use of NSW government online services and information, Western Parkland City

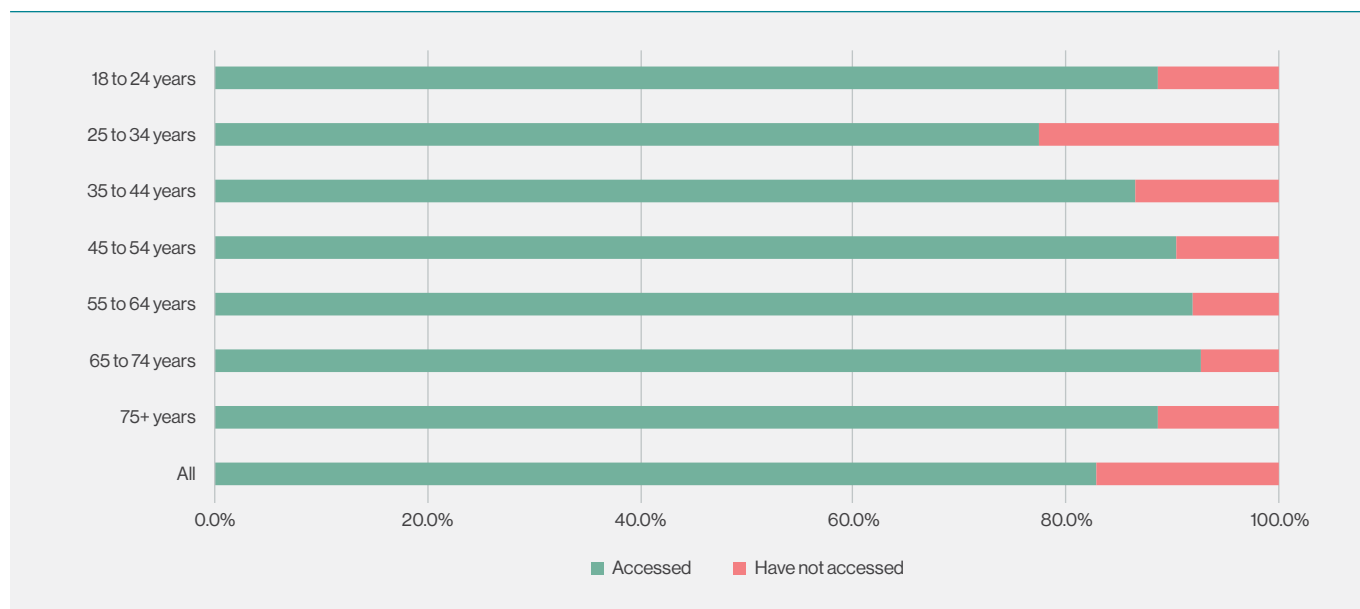
Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Online service use and the life course

Older adult Australians are increasing the types of activities they do online, but not at the same rate as younger Australians, leading some to argue that digital exclusion in later life is best understood as 'a participation divide'.⁵⁵

Although it would be expected that the need to access government services would be comparable if not higher among people in later life compared with younger adults, use of online government services, as shown in Figure 40, declines among internet users aged between 65–74 years (86.6%) and 75 years and older (77.5%).

5. Accessing digital resources, services, and training (continued)

Figure 40. Used a government service in the past six months by age, Western Parkland City

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

While the overall use of online services and activities is higher among younger to midlife adults (see Appendix 6 for more detail) there is significant variation across age cohorts depending on the type services/activities. Adults aged 25–44 years tend to access online services focused on support, information and transactions relating to care of children – such as registering births. Midlife to older adult residents tend to access sites for concessions and rebates, health,

and care services. Centrelink access drops for adults aged 55–64 years and for those 75 years and older, corresponding to the key life stages where initiating access for income support is most common for family and pension support. Only 18.6 percent of people 75 years and older accessed My Aged Care online – relatively low use compared to expected need.

5. Accessing digital resources, services, and training (continued)

TRAINING AND SUPPORT TO PROMOTE DIGITAL EQUITY

Locally tailored or personalised digital inclusion initiatives and programs remain an essential component of a coordinated national, state-wide, and local approach to achieving digital equity and social and economic participation. There are few formal evaluations of locally provided digital equity programs. However, many promising practices are emerging that reinforce the importance of place-based initiatives and demonstrate the critical service elements that can increase engagement in services leading to safe and confident internet use among participants. A summary of four core elements with program examples is discussed below.

1. Designed to meet the diverse and evolving needs of individuals and communities

Programs aiming to increase digital equity must be tailored, co-designed and delivered in a manner that recognises the specific needs, skills, and interests of diverse communities based on their access to social and economic resources, cultural and gender identity, and stage of life. This includes working with existing capacities, at a pace of learning that suits participants and delivering content through multiple modes of learning and ways of engaging.⁵⁶

Targeted interventions also need to remain current and constantly evolve to keep pace with rapid changes in technology – what worked a decade ago in a particular location might not work now in a different or even the same area.⁵⁷ Some studies point to the need to shift ICT curricula from ‘technical activities’ to ‘making connections or creating new resources’ to motivate non-users to participate.⁵⁸

It is critical that communication strategies and content be made available in multiple languages and/or engage with transmedia and ensure access to bilingual staff. While families can be an important support for ongoing digital learning, people from culturally and linguistically diverse (CALD) backgrounds may over rely on other family members to act as ‘facilitators’ and translate material to help access services and information through the internet.⁵⁹ This includes recognising the importance of in-language support across online government services or targeting prominent community members to disseminate information. For example, one study in Western Sydney found the community-led WhatsApp groups they created had the capability and flexibility to disseminate official messages and advice that were meaningful to Muslim communities because



Liverpool City Council, Tafe NSW, College Street

they were translated into local languages and localised with reference to cultural and social dynamics and protocols.⁶⁰

Maintaining ties to cultural identity and transnational support networks is an important component of increasing digital participation among CALD people.⁶¹ Young and older CALD adults require different digital inclusion initiatives to bridge the digital divide. The Settlement Council of Australia⁶² recommends initiatives to promote digital inclusion among new migrants and refugees such as providing digital devices to students to support learning and including appropriate digital technology in basic household goods packages.

People with disability will require additional support, including ensuring that devices and equipment are modified to increase access and usability. While assistive technologies and simplified versions of high frequency websites (like social media) are increasingly available, people with disability may be unfamiliar with or not know how to access these supports.⁶³ Some digital inclusion initiatives for people with disability will involve support workers, carers, or family members and include assessments of each person’s needs and abilities as well modifying technological platforms or devices to increase usability.⁶⁴ This type of customised training and support can provide greater independence and autonomy away from their service providers and significant others, enabling people with disability to complete online activities such as shopping, banking, taking and sharing photos, or socialising with family and friends.⁶⁵

5. Accessing digital resources, services, and training (continued)

2. Continuous building of capacity of educators and mentors

Programs that build the capacity of trainers, peer mentors and family members within support networks extend the benefits and enable learning to continue beyond the life of the program or initial contact. An example is the LEAP (now Digital Literacy Foundation) Links Digital Literacy program, which supported regional and remote low-income students and teachers, via a series of workshops, to identify and address the digital skill gaps needed to succeed in school and transitions to higher education.⁶⁶ The program was successful in increasing teacher confidence to explore different ICT tools whilst increasing student motivation and engagement to learn content using a variety of different technologies, leading to students feeling better prepared for higher education.⁶⁷

3. Integrated to overcome material access, social, and learning barriers

People, particularly in low-income households, often present to services with multiple intersecting barriers relating to access, affordability, and digital skills. Program effectiveness increases when interventions respond to and overcome these barriers within one intervention. Programs and content covered also need to align with broader goals and measurable outcomes for different levels of government and the community. An example of an integrated approach is the 'Internet Essentials' program⁶⁸ involving a private Internet Service Provider (ISP) combining a low-income broadband program with digital skills training, which led applicants to change their subscription to a more affordable provider.⁶⁹

Low-income interventions that include distribution of ICT devices should also be tailored and integrated into existing social services and the daily lives of excluded groups.⁷⁰ Digital literacy programs targeting low-income households that include the distribution of ICT devices that are integrated into existing community and health services, such as engaging with parents accessing generalist services with their children for other reasons, can increase reach to lower-income households.⁷¹ An example of such an approach is the Westerly Coalition, formed to advocate for digital inclusion in Western and South-Western Sydney for low-income families experiencing hardship. This program has five service elements: access, affordability, capacity building,

collaboration and representation, and integrates digital literacy programs and resources such as Be Connected with other support services as needed.⁷²

4. Locally based and embedded within existing networks of support and service use

Although training can be accessed online, people with limited or no prior experience of the internet, often require face to face support or facilitated group workshops within local communities to get started and coordinate required resources. Effective training also involves drawing on existing support networks and family members to problem solve or help with digital tasks. Moreover, as more community, health and wellbeing services and information move to online formats or are delivered virtually, it is critical that digital capability be built into treatment and ongoing social support for people receiving acute and long-term health and social care. One example where this integration contributed to increased service effectiveness is a clinical program that incorporated digital literacy and capability support for women surviving breast cancer who were initially identified as having low digital literacy and barriers to receiving online information, diagnosis, follow up and/or participating in ongoing online support groups.⁷³

Linking digital support through existing programs such as the NDIS is another example where government could seek to regulate media companies and organisations to ensure they provide accessible and inclusive technology.⁷⁴ While the NDIS provides assistive technology for some, digital equity is not directly addressed by the scheme and many people with disability miss out on simple but vital forms of digital support. For people with disability, making devices and the internet available in public spaces such as libraries, has the potential to address access and affordability barriers. Accessibility features such as larger screens and keyboards address digital barriers affecting people with both intellectual and other disabilities.⁷⁵ However, these forms of support rely on an individual's Digital Ability, or the availability of support staff willing and able to train a person to engage with the technology.

5. Accessing digital resources, services, and training (continued)

SELECTED DIGITAL EQUITY PROGRAMS WITHIN WESTERN PARKLAND CITY

A review of place-based digital equity initiatives in Western Parkland City regions participating in this research identified a range of efforts designed to target specific groups and their digital inclusion needs. These are illustrated in Table 8 below. For instance, Fairfield City Council allow up to three hours of internet-connected computer use per day, and USBs and mobile device charging cables that can be borrowed using a library card inside the libraries.⁷⁶ Through a Penrith City Council and Telstra partnership agreement, 19 hotspot sites are provided across Penrith so residents can enjoy 30 minutes of free Wi-Fi daily.⁷⁷ Council libraries

offer other free services including study rooms with internet access and bookable computers and aim to be accessible and welcoming for people of all socio-economic and cultural backgrounds. Libraries are especially important for lower-income households unable to afford access to resources such as computers with internet access and books at home.

Support services and educational programs to uplift digital skills available across the Western Parkland City have been spatially represented in an open data portal as part of the Western Parkland City Digital Equity and Inclusion Program.

Table 8. Selected digital inclusion programs delivered within Western Parkland City

LGA	Source/Author	Target group(s)	Type of initiative	Description
Camden, Wollondilly, Campbelltown	Camden City Council (2022); Campbelltown City Council (2019 ⁷⁸); Wollondilly City Council (2022 ⁷⁹)	Older adult Australians	Digital literacy	Café Connect program offers digital assistance for people who are 55 years or older in the community
Campbelltown	Campbelltown City Council (2022 ⁸⁰)	Unspecified; open to all	Digital Literacy	Library staff assist with IT questions and use of a device four times a week for two hours a day or on a as needs basis. Library staff also facilitate drop-in sessions for public 1:1 assistance
Fairfield	Fairfield City Council (2023 ⁸¹)	CALD and open to all	Digital Literacy; Digital Provision	The Workary offers free use of hot desks, Wi-Fi and other tools required to build and support employment
Hawkesbury	Falson (2022 ⁸²)	Older adult Australians, First Nations People	Digital literacy	A two-month program run through the Digital Literacy Foundation and library where volunteer digital mentors assist with digital skills
Hawkesbury	Hawkesbury Library Service (2023 ⁸³)	Unspecified; open to all	Digital Literacy	Provides free access to The Computer School to lift digital skills
Hawkesbury	Hawkesbury Library Service (2023 ⁸⁴)	Unspecified; open to all	Digital Literacy	Provides Tech Help, a service provided by librarians at various locations at a set time per week
Liverpool	Liverpool City Library (2023 ⁸⁵)	People with Disability	Digital Literacy	The Accessible Technology Space provides a drop-in service for people to learn how to use accessible technology
Penrith	Penrith City Council (2022 ⁸⁶)	Older adult Australians; CALD; First Nations	Digital literacy; Digital provision	Council partnered with LEAP to deliver Click and Connect workshops to grow digital skills – funded by NSW gov't and provide a 3–12 month iPad Loan Program.
Penrith	Penrith City Library (2023)	Unspecified; open to all	Digital Literacy	Tech Help is offered Tuesday and Wednesday mornings at two library branches to assist with digital skills
Penrith	Penrith City Council (n.d. ⁸⁷)	Unspecified; open to all	Digital Provision	Council partnered with Telstra to provide 19 hotspots across Penrith so residents can access 30 minutes of free Wi-Fi per day
South Western Sydney	Independent Education (2022 ⁸⁸)	CALD; low-income	Digital Literacy; Digital Provision; Affordability	The Westerly Coalition formed to advocate for digital inclusion – links to resources such as Be Connected and acts as an aggregate to other services.

5. Accessing digital resources, services, and training (continued)

TRAINING AND SUPPORT FOR LOW INTERNET USERS

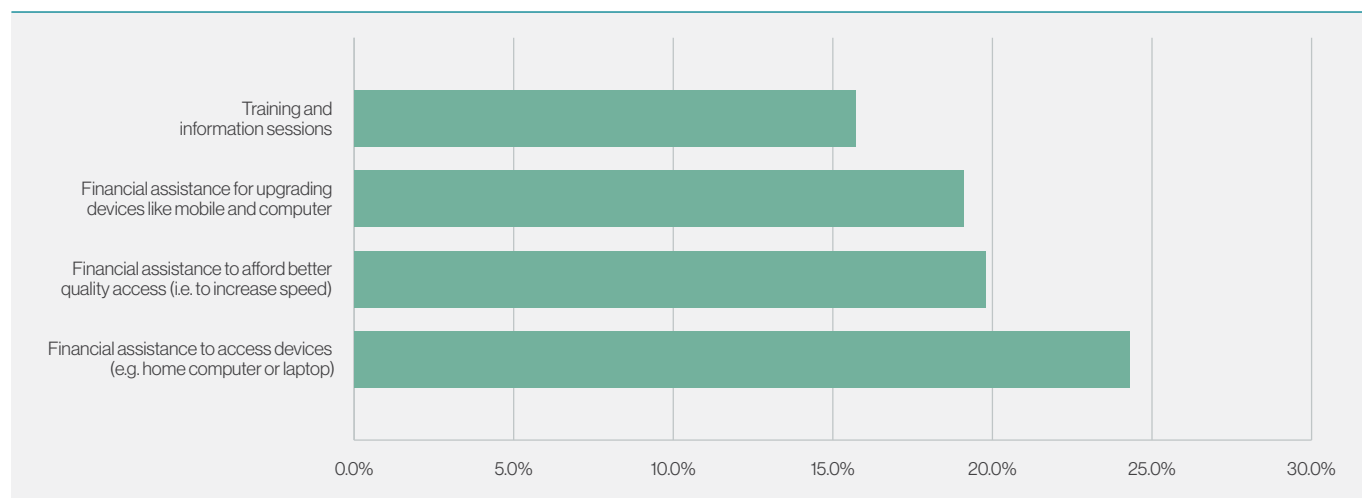
As part of the Western Parkland City special collection, infrequent internet users – that is people who have never used the internet or last used it more than a month ago – were asked to identify the types of digital training, support and modifications that would assist them in overcoming barriers as well as increase their confidence and build capacity to enable more frequent and safe internet use.

Around a quarter of low internet users, as shown in Figure 41, considered financial assistance to purchase or receive free devices to be the most beneficial support that local services could provide to help with their access to the internet. Additional types of support required included provision

of direct financial assistance to be able to afford a better-quality internet connection (19.8%) or to help afford upgrades existing devices such as computers (19.1%). A further 16 percent felt that provision of training and information sessions would help to increase access.

While most low to non-users felt they did not require any modifications to access the internet (53.5%), the most identified modifications required included visual support (27.2%) followed by additional infographic information to help with learning and literacy (18.6). A further 17.3 percent felt that upgrades to mobile phones, browsers or software were necessary to increase their internet accessibility.

Figure 41. Main types of local services needed to support access, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

For most people, internet training is self-directed or gained incidentally through school or other educational settings, workplaces, or via assistance from friends and families. Figure 42 shows that around 44 percent of low and non-users believe they do not require any training to start or use the internet more frequently. Nevertheless, many people require structured programs, especially those not connected to other forms of support, who live alone or are retired.

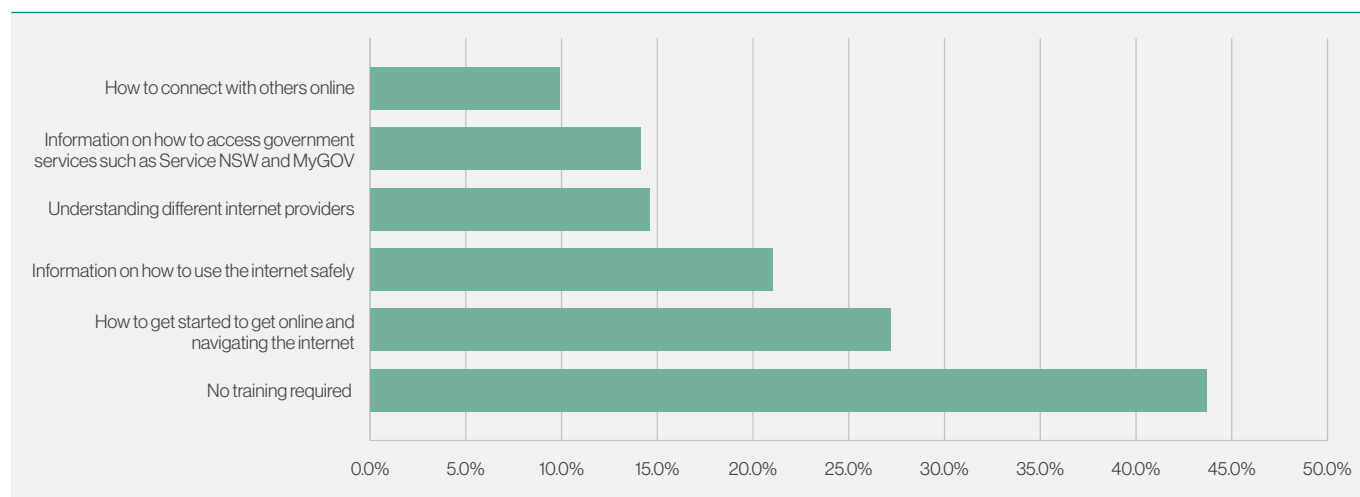
The importance placed on whether internet training is needed or not will often relate to perceptions of whether the internet is a priority for or assists in being able to meet a person's everyday needs. However, as more services and resources are delivered or only accessible online, opting out will be more difficult in the future. Accessing training poses its own barriers, with the main obstacles identified as being a lack of knowledge of what types of services are available (14.6%), not being able to get to a training provider or program on their own (7.5%), and not being able to afford training or support, including initial access to online resources (6.5%).

5. Accessing digital resources, services, and training (continued)

For low and non-users across the Western Parkland City who identify that training would be helpful to them, topics focusing on building digital literacy, such as how to get started online and how to navigate the internet, were considered most valuable (27.4%) (Figure 43). This is followed by preferencing training that provides information on how to be safe online (21.0%) and how to understand different

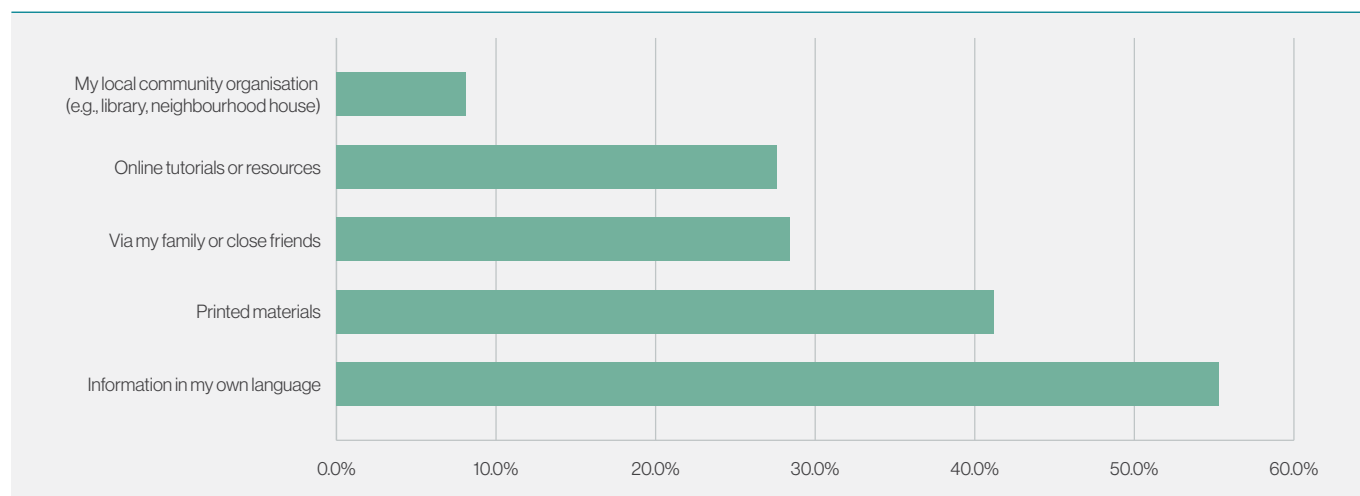
internet providers and plans (14.6%). The rapid pace of technological development, particularly in the fields of AI and automation, means that evolving factors that shape current and future generational digital divides must be recognised in the development of a state-wide digital literacy and inclusion strategy.

Figure 42. Main types of training identified to assist with increasing internet use, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Figure 43. Preferred format of training to assist in increasing internet use, Western Parkland City



Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Opposite page: Oran Park Library. Image credit NSW Government (Transport for NSW)

6. Recommendations for achieving digital equity

This report, undertaken on behalf of the Western Parkland City Digital Equity and Inclusion Insights Program sets out the clear and urgent need for increased attention to digital equity. The findings of the special ADII collection provide a detailed evidence base across each local area highlighting priorities for addressing the digital equity divide between Western Parkland City and the rest of Greater Sydney.

6. Recommendations for achieving digital equity (continued)

Achieving digital equity across Western Parkland City will require targeted policies and programs that can respond to the changing mix of community needs over time. The findings highlight the areas and cohorts most in need of assistance and the training and support programs that can address existing digital equity gaps.

Commonwealth and State governments play a pivotal role in partnership with telecommunications providers to deliver affordable and accessible digital infrastructure. They can also provide strategic oversight through the coordination of policies and resourcing to improve digital equity across all groups currently missing out or falling behind. Local Government can play a key role in leading place-based change from the ground up and through coordinated consortiums such as Western Parkland City.

Significant inroads have been made into the implementation of the Digital Action Plan, including:

- The establishment of the Digital Equity and Inclusion Office to research, collate data and develop case studies of the deepest pockets of digital inequity within Western Parkland City.
- Identification of and implementation of smart city initiatives by the Smart Places team to drive the ongoing implementation of the Digital Action Plan, including driving the development of the Open Data portal with a focus on enabling economic, social and environmental outcomes.
- The establishment of the Smart Western City Program (SWCP), which defines the smart place initiatives and solutions that will ensure the Western Parkland City is a connected and digitally enabled, future focussed city.

The Western Parkland City Digital Equity and Inclusion Insights Program (the Program), with the support of Smart Places, Cities and Active Transport, Transport for NSW, will continue to implement digital equity initiatives through the appointment of a Digital Equity Program Manager with responsibility for coordinating and monitoring progress on the current Digital Action Plan.

Recommendations for addressing digital equity across Western Parkland City

The findings show that Digital Access, Affordability and Ability intersect in nuanced ways across locations, the life course, and among cultural and social-economic community groups. Closing the digital equity gap will require locally tailored place-based responses that can meet diverse community needs within each Western Parkland City council area. In locations with interrupted connectivity, such as the Blue Mountains, Hawkesbury, Wollondilly, priority should be placed on improving digital infrastructure. In addition, the larger number of ageing residents within these areas will also require more targeted initiatives to increase Digital Ability. Locations with higher concentrations of socio-economic disadvantage, especially Fairfield, will require integrated programs that can respond to all three dimensions of the divide. Specific recommendations follow, which may be considered by local and state governments as they plan responses to digital inequity within the Integrated Reporting and Reporting (IP&R) framework and other related government strategies:

1. Provide tailored support for excluded groups and communities, including First Nations people, young people with disability, people aged over 65, and people who predominantly speak languages other than English:

- 1.1 Establish a Digital Fund through which eligible low-income individuals and families can apply for subsidised internet connection and device packages, targeted through schools, frontline support services and social housing providers.
- 1.2 Collaborate with local government to provide integrated packages that deliver stepwise capability building and training support with subsidised digital access, targeted at most the excluded communities and groups.
- 1.3 Support Migrant Resource Centres to provide digital inclusion programs in diverse languages and using multilingual digital mentors.
- 1.4 Integrate digital capability and access programs as part of personalised packages of support that can be purchased through the National Disability Insurance Scheme (NDIS).

6. Recommendations for achieving digital equity (continued)

2. Address place-based digital equity needs, drawing on specific evidence about digital disadvantage covered in the body of this report as a guide to localised interventions:

- 2.1 Develop a detailed Digital Implementation Strategy to support the recommendations of this report, with targeted initiatives to improve affordability and capability directed to communities most in need.
- 2.2 Appoint Digital Equity Officers representing each local government to coordinate and implement WPC digital priorities and monitor digital inclusion measures in WPC, including uplifting the skills of frontline service staff to support digital equity.
- 2.3 Undertake an inclusiveness audit across all online government services and implement an awareness campaign encouraging digitally excluded residents to access online services, including co-design of online services with user groups to ensure built-in usability for excluded residents.
- 2.4 Undertake research and consultation by and with First Nations communities to better understand culturally appropriate strategies for increasing digital inclusion.
- 2.5 Conduct Digital Skills and Readiness screening through frontline service providers and local government services to identify digital access needs and design targeted programs to reach the most excluded residents.

3. Foster digital inclusion partnerships between government and prominent community groups to support trusted local action:

- 3.1 Encourage digital collaboration and innovation across government and between universities, industry, and community, in Western Parkland City, to facilitate broad uplift in community digital access and capability, leveraging existing digital capability programs and strategies under development by government.
- 3.2 Deliver community awareness campaigns to increase the profile of and access to funded digital inclusion programs and learning opportunities listed on The Parks Online Service Hub.

3.3 Release competitive grant programs to encourage and fund innovative, market-led solutions to enhance digital capability.

3.4 Engage delivery partners, such as local government, to run targeted capability uplift programs for key cohorts, with additional resource allocation targeted to Fairfield, Wollondilly, the Blue Mountains, and Hawkesbury.

3.5 Plan for and invest in infrastructure to reduce barriers to Access, for example expanding affordable access through free, quality Wi-Fi services in public places for supported internet use, and mobile connectivity in new development areas.

4. Invest in infrastructure, including expanding affordable access through free, quality Wi-Fi services in public places for supported internet use, including for new development areas.

4.1 Continue to collaborate with the Australian Government and telecommunication providers to reduce barriers to the provision of critical digital connectivity infrastructure for mobile and fibre, especially for growth communities, including ongoing monitoring and investment to address mobile blackspots in areas such as Hawkesbury, Wollondilly, and the Blue Mountains.

4.2 Continue to invest in free public-access Wi-Fi, and public facilities for computer and internet access, particularly in local libraries.

4.3 Explore partnering with telecommunication providers to reduce barriers to access fixed and mobile packages, service plans and bundles – particularly targeting areas and community groups that are reliant on or have access to only one mode of connection.

Appendices

Appendix 1

Demographic profile of each Western Parkland City Councils

Table A1.1. Demographic profile of each Western Parkland City Council

	Population size	First Nations People	English only spoken at home	Age	Share of social housing	Families	Median weekly income	Education Bachelor/ diploma	Employment
Fairfield	208,475	0.7%	23.4%	Median age 39	Owner 56% Private rent 28.3% Social housing 7.7%	Couple with children 50.1% One parent 23.0%	\$1,390	20.5%	Unemployed 8.7% NLF: 52.5% P/time: 26.5%
Campbelltown	176,519	4.1%	57.8%	Median age 35	Owners 60% Private rent 24.0% Social housing 8.4%	Couple with children: 49.6% One parent: 20.3	\$1,700	29.7%	Unemployed: 6.4% NLF: 37.3% P/time: 26.4%
Blue Mountains	78,121	2.7%	90.1%	Median age 45	Owners 78% Private rent 15.4% Social housing 1.9%	Couple with children: 41.6% One parent: 14.9%	\$1,756	44.3%	Unemployed: 3.9% NLF: 38.0% P/time: 34.0%
Liverpool	233,446	1.6%	39.5%	Median age 34	Owner 59% Private rent 26.9% Social housing 6.4%	Couple with children: 55.8% One parent: 18.6%	\$1,819	29.6%	Unemployed: 6.6% NLF: 40.4% P/time: 25.8%
Penrith	217,664	5.0%	74.2%	Median age 35	Owner 61% Private rent 27.7% Social housing 4.1%	Couple with children: 48.0% One parent: 19.5%	\$1,903	26.2%	Unemployed: 4.6% NLF: 31.7% P/time: 26.9%
Hawkesbury	67,207	4.8%	88.4%	Median age 39	Owner 70% Private rent 19.8% Social housing 3.3%	Couple with children: 46.8% One parent: 15.7%	\$1,980	25.8%	Unemployed: 3.2% NLF: 31.8% P/time: 30.4%
Wollondilly	53,961	4.4%	89.6%	Median age 37	Owner 77% Private rent 14.7% Social housing 1.0% social	Couple with children: 50.6% One parent: 13.0%	\$2,151	23.9%	Unemployed: 2.9% NLF: 30.3% P/time: 30.0%
Camden	119,325	3.2%	74.0%	Median age 33	71% owners 22.8% private rent 1.3% social housing	Couple with children: 56.1% One parent: 14.3%	\$2,353	32.6%	Unemployed: 3.5% NLF: 27.3% P/time: 27.4%

Appendix 2

ADII Dimensions and Components

Access is about the types of digital connections and devices and how frequently we use them to get online. It also includes how much data we can use. A typical individual with a high Access score has:

- Daily use and high intensity of use
- Fixed broadband
- Fast and unlimited data allowances that are not exceeded.
- Access via a range of devices

Access	Frequency and intensity of use, ranging from no use at all to daily use
	Connection type, such as fixed broadband or mobile-only
	Data allowance and speed
	Types of devices, including desktops, laptops, smart phones, tablets, and an array of smart home devices

The Affordability dimension measures the percentage of household income that would be required to be spent to gain a good quality service with reliable connectivity. To do this, we consider the price of a basket of goods and services required for a well-connected household.

Affordability	Ratio of household income to the median cost of an 'internet bundle' for an ideally connected household. The bundle is costed for both single headed and family households.
	<p>The internet bundle enables both quality and reliable connectivity through:</p> <ul style="list-style-type: none"> • A fast internet service, including a cable (HFC) service, NBN 50 or above, or 5G wireless service. • Unlimited monthly data allowance through a fixed broadband service • Mobile broadband or mobile phone data allowance above 61GB per month

Digital Ability is about our skill levels: what we are able to do online, and our confidence in doing it. A person with a high Digital Ability score can perform the range of tasks across each of the below components, while those with lower scores may only have basic or no operational skills.

Digital Ability	Basic operational: Including downloading and opening files, connecting to the internet, and setting passwords.
	Advanced operational: Including saving to the cloud, determining what is safe to download, customising devices and connections, and adjusting privacy settings.
	Information navigation: Including searching and navigating, verifying trustworthy information, and managing third party data collection.
	Social: Including deciding what to share, how, and who with, manage and monitor contacts, and communicate with others.
	Creative: Including editing, producing, and posting content, as well as a broad understanding of the rules that may apply to these activities.
	Automation: Including connecting, operating, and managing smart devices and IoT technologies.

Appendix 3

Survey Sample

Table A3.1. Weighted and unweighted sample demographics

	N	Unweighted %	Weighted %
<i>Gender</i>			
Man, or male	1177	49.0	47.7
Woman or female	1216	50.6	51.8
Non-binary	9	0.3	0.5
<i>Age</i>			
18–24 years	436	18.2	12.5
25–34 years	618	25.7	19.3
35–44 years	417	17.4	18.0
45–54 years	312	13.0	16.5
55–64 years	273	11.4	15.3
65–74 years	245	10.2	11.6
75+ years	101	4.2	6.7
Not First Nations	2241	93.3	94.2
First Nations	161	6.7	5.8
<i>Language other than English at home</i>			
Yes	664	27.6	40.2
No	1738	72.4	59.8
<i>With disability</i>			
Yes	490	20.4	22.0
No	1912	79.6	78.0
<i>Education</i>			
Did not complete secondary school	208	8.7	11.4
Completed secondary school	520	21.6	24.9
Certificate level I or II	93	3.9	4.3
Certificate level III or IV	374	15.6	18.0
Advanced Diploma or Diploma	299	12.4	15.7
Bachelor's degree	555	23.1	14.9
Graduate Diploma or Graduate Certificate	89	3.7	2.1
Postgraduate Degree	212	8.8	6.2
Other	52	2.2	2.5

Appendix 3: Survey Sample (continued)

Table A3.1. Weighted and unweighted sample demographics (continued)

	N	Unweighted %	Weighted %
<i>Employment</i>			
Employed	1602	66.7	60.8
Unemployed	103	4.3	4.4
Student	116	4.8	4.2
Retired or on a pension	344	14.3	18.5
Home duties	138	5.7	6.8
Have a disability and not able to work	45	1.9	2.6
Unpaid carer	21	0.9	1.1
Given up looking for work	5	0.2	0.2
Other	28	1.2	1.5
<i>Occupation</i>			
Manager	352	22.0	19.4
Professional	472	29.5	24.4
Technician or trade worker	119	7.4	8.0
Community or personal service worker	121	7.6	8.5
Clerical or administrative worker	233	14.5	17.6
Sales worker	132	8.2	8.9
Machinery operator or driver	53	3.3	5.0
Labourer	120	7.5	8.3
<i>Tenure</i>			
Own outright	652	27.1	29.8
Own, paying off mortgage	787	32.8	31.2
Rent from private landlord/ real estate agency	578	24.1	24.5
Rent from public housing authority	136	5.7	5.9
Other (boarding, living at home etc.)	249	10.4	8.6

Appendix 3: Survey Sample (continued)

Table A3.1. Weighted and unweighted sample demographics (continued)

	N	Unweighted %	Weighted %
<i>Household type</i>			
Single person	462	19.2	18.5
Group / Share household	150	6.2	6.3
Couple without children	510	21.2	22.5
Couple with children	863	35.9	35.7
One parent family	169	7.0	6.9
Other family (e.g., multi-generational household)	171	7.1	7.0
Other household type	77	3.2	3.2
Total	2402	100.0	100.0

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Appendix 4

Digital Inclusion: Small Area Estimate Modelling Scores

Table A4.1. Digital Inclusion: Small Area Estimate Modelling Scores

Post code	LGA Code	LGA Name	Digital Inclusion Score	Digital Ability	Digital Access	Digital Affordability
2787	10900	Blue Mountains	64.6	55.9	70.2	89.7
2787	13800	Hawkesbury	64.6	55.9	70.2	89.7
2787	16350	Penrith	64.6	55.9	70.2	89.7
2787	18400	Wollondilly	64.6	55.9	70.2	89.7
2786	10900	Blue Mountains	67.4	58.5	71.8	91.3
2786	13800	Hawkesbury	67.4	58.5	71.8	91.3
2785	10900	Blue Mountains	67.6	58.6	71.6	91.3
2784	10900	Blue Mountains	70.2	61.9	73.0	92.2
2783	10900	Blue Mountains	69.8	61.3	73.6	92.1
2782	10900	Blue Mountains	67.9	58.3	74.0	91.0
2780	10900	Blue Mountains	70.0	61.5	71.4	91.9
2779	10900	Blue Mountains	69.3	61.8	72.7	91.5
2778	10900	Blue Mountains	69.9	61.7	72.7	92.4
2777	10900	Blue Mountains	70.8	62.3	72.6	92.2
2777	13800	Hawkesbury	70.8	62.3	72.6	92.2
2777	16350	Penrith	70.8	62.3	72.6	92.2
2776	10900	Blue Mountains	70.4	62.3	73.0	92.4
2775	13800	Hawkesbury	66.3	56.8	71.5	90.7
2774	10900	Blue Mountains	69.0	61.1	71.6	92.6
2774	16350	Penrith	69.0	61.1	71.6	92.6
2773	10900	Blue Mountains	71.6	63.0	72.8	92.7
2773	16350	Penrith	71.6	63.0	72.8	92.7
2765	13800	Hawkesbury	75.1	67.8	77.1	93.1
2765	16350	Penrith	75.1	67.8	77.1	93.1
2760	16350	Penrith	71.1	63.6	74.6	90.7
2759	12850	Fairfield	70.2	61.6	75.2	91.6
2759	16350	Penrith	70.2	61.6	75.2	91.6
2758	10900	Blue Mountains	67.9	59.6	71.5	92.0
2758	13800	Hawkesbury	67.9	59.6	71.5	92.0
2757	13800	Hawkesbury	68.7	59.5	73.0	91.3
2756	13800	Hawkesbury	70.9	62.4	73.9	92.2
2756	16350	Penrith	70.9	62.4	73.9	92.2

Appendix 4: Digital Inclusion: Small Area Estimate Modelling Scores (continued)

Table A4.1. Digital Inclusion: Small Area Estimate Modelling Scores (continued)

Post code	LGA Code	LGA Name	Digital Inclusion Score	Digital Ability	Digital Access	Digital Affordability
2754	13800	Hawkesbury	67.6	59.4	71.0	91.2
2753	10900	Blue Mountains	67.7	60.4	70.8	90.3
2753	13800	Hawkesbury	67.7	60.4	70.8	90.3
2753	16350	Penrith	67.7	60.4	70.8	90.3
2752	14900	Liverpool	70.0	61.2	74.4	92.3
2752	18400	Wollondilly	70.0	61.2	74.4	92.3
2750	10900	Blue Mountains	69.3	62.2	71.6	91.1
2750	16350	Penrith	69.3	62.2	71.6	91.1
2749	10900	Blue Mountains	70.8	63.9	72.1	91.7
2749	13800	Hawkesbury	70.8	63.9	72.1	91.7
2749	16350	Penrith	70.8	63.9	72.1	91.7
2748	16350	Penrith	65.8	56.7	70.9	90.4
2747	16350	Penrith	71.8	64.7	74.5	91.4
2745	10900	Blue Mountains	72.8	64.8	75.5	92.7
2745	11450	Camden	72.8	64.8	75.5	92.7
2745	14900	Liverpool	72.8	64.8	75.5	92.7
2745	16350	Penrith	72.8	64.8	75.5	92.7
2745	18400	Wollondilly	72.8	64.8	75.5	92.7
2574	18400	Wollondilly	69.4	60.3	72.6	91.4
2573	18400	Wollondilly	69.0	61.2	72.7	90.8
2572	18400	Wollondilly	68.1	59.5	71.9	90.9
2571	18400	Wollondilly	72.7	64.0	75.6	92.5
2570	11450	Camden	73.0	65.4	75.8	92.2
2570	11500	Campbelltown	73.0	65.4	75.8	92.2
2570	14900	Liverpool	73.0	65.4	75.8	92.2
2570	18400	Wollondilly	73.0	65.4	75.8	92.2
2569	18400	Wollondilly	68.8	59.7	73.4	91.6
2568	11500	Campbelltown	64.3	53.4	69.5	90.4
2568	18400	Wollondilly	64.3	53.4	69.5	90.4
2567	11450	Camden	71.8	62.4	77.0	92.9
2567	11500	Campbelltown	71.8	62.4	77.0	92.9
2567	18400	Wollondilly	71.8	62.4	77.0	92.9

Appendix 4: Digital Inclusion: Small Area Estimate Modelling Scores (continued)

Table A4.1. Digital Inclusion: Small Area Estimate Modelling Scores (continued)

Post code	LGA Code	LGA Name	Digital Inclusion Score	Digital Ability	Digital Access	Digital Affordability
2566	11450	Camden	70.7	63.9	72.0	91.2
2566	11500	Campbelltown	70.7	63.9	72.0	91.2
2566	14900	Liverpool	70.7	63.9	72.0	91.2
2565	11450	Camden	73.0	66.0	75.0	91.9
2565	11500	Campbelltown	73.0	66.0	75.0	91.9
2565	14900	Liverpool	73.0	66.0	75.0	91.9
2564	11500	Campbelltown	67.9	61.8	72.4	88.9
2564	14900	Liverpool	67.9	61.8	72.4	88.9
2563	11450	Camden	67.1	60.1	71.7	89.9
2563	11500	Campbelltown	67.1	60.1	71.7	89.9
2563	18400	Wollondilly	67.1	60.1	71.7	89.9
2560	11500	Campbelltown	68.4	60.6	73.0	90.1
2560	18400	Wollondilly	68.4	60.6	73.0	90.1
2559	11450	Camden	69.0	64.6	70.1	89.8
2559	11500	Campbelltown	69.0	64.6	70.1	89.8
2558	11450	Camden	69.6	61.8	73.1	91.6
2558	11500	Campbelltown	69.6	61.8	73.1	91.6
2557	11450	Camden	73.5	66.6	76.0	92.4
2557	11500	Campbelltown	73.5	66.6	76.0	92.4
2557	14900	Liverpool	73.5	66.6	76.0	92.4
2556	11450	Camden	66.4	57.5	72.2	90.1
2556	14900	Liverpool	66.4	57.5	72.2	90.1
2555	14900	Liverpool	63.7	55.0	68.8	88.9
2555	16350	Penrith	63.7	55.0	68.8	88.9
2508	11500	Campbelltown	72.0	63.8	74.7	92.4
2508	18400	Wollondilly	72.0	63.8	74.7	92.4
2250	13800	Hawkesbury	69.0	61.2	72.2	90.8
2179	11450	Camden	71.9	65.2	73.9	91.9
2179	11500	Campbelltown	71.9	65.2	73.9	91.9
2179	14900	Liverpool	71.9	65.2	73.9	91.9
2178	12850	Fairfield	65.7	57.4	70.4	89.8
2178	14900	Liverpool	65.7	57.4	70.4	89.8

Appendix 4: Digital Inclusion: Small Area Estimate Modelling Scores (continued)

Table A4.1. Digital Inclusion: Small Area Estimate Modelling Scores (continued)

Post code	LGA Code	LGA Name	Digital Inclusion Score	Digital Ability	Digital Access	Digital Affordability
2178	16350	Penrith	65.7	57.4	70.4	89.8
2177	12850	Fairfield	68.0	60.8	70.4	89.7
2177	14900	Liverpool	68.0	60.8	70.4	89.7
2176	12850	Fairfield	67.0	59.1	70.4	89.6
2176	14900	Liverpool	67.0	59.1	70.4	89.6
2175	12850	Fairfield	65.7	56.7	69.7	90.0
2175	16350	Penrith	65.7	56.7	69.7	90.0
2174	11500	Campbelltown	73.2	67.9	74.6	92.6
2174	14900	Liverpool	73.2	67.9	74.6	92.6
2173	11500	Campbelltown	71.2	65.0	73.6	91.7
2173	14900	Liverpool	71.2	65.0	73.6	91.7
2173	18400	Wollondilly	71.2	65.0	73.6	91.7
2172	14900	Liverpool	71.4	63.9	73.9	92.4
2171	12850	Fairfield	70.4	63.2	74.7	90.9
2171	14900	Liverpool	70.4	63.2	74.7	90.9
2170	11500	Campbelltown	70.5	64.1	72.9	90.1
2170	12850	Fairfield	70.5	64.1	72.9	90.1
2170	14900	Liverpool	70.5	64.1	72.9	90.1
2168	12850	Fairfield	66.6	60.0	69.5	89.4
2168	14900	Liverpool	66.6	60.0	69.5	89.4
2167	11500	Campbelltown	72.1	65.2	73.4	91.3
2167	14900	Liverpool	72.1	65.2	73.4	91.3
2166	12850	Fairfield	66.3	59.3	69.5	89.0
2166	14900	Liverpool	66.3	59.3	69.5	89.0
2165	12850	Fairfield	64.0	57.1	68.2	88.5
2164	12850	Fairfield	65.9	58.3	70.8	89.0
2163	12850	Fairfield	67.8	61.1	70.2	89.7
2161	12850	Fairfield	68.1	62.3	69.4	89.9

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII & Small Area Estimate Modelling of Western Parkland digital inclusion scores

Appendix 5

Access

Table A5 1. Accessibility: Mobile devices and plans by age

	18–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75+ years	All
Have a mobile phone	98.6	98.4	98.9	100.0	97.5	98.3	96.3	98.5
Main mobile phone is a smartphone	97.7	98.3	97.4	96.6	98.4	91.0	73.1	95.3
Pre-paid mobile	46.2	36.6	35.5	33.2	32.3	30.2	32.8	35.4
Use the 5G network with your mobile phone	66.9	65.8	65.0	43.7	34.9	22.4	18.5	49.3
Use mobile as a hotspot	61.2	57.4	53.5	47.8	24.8	22.5	6.6	43.2
Use a portable modem or Wi-Fi device	40.0	38.2	34.2	25.1	20.4	19.1	7.8	28.5
Use a SIM card inserted into a laptop or tablet	17.3	13.5	9.8	6.7	6.6	5.8	3.8	9.6
Other type of mobile broadband	2.6	2.6	1.0	2.7	0.7	3.1	2.0	2.1
Do not have mobile broadband	40.0	45.7	55.0	65.6	72.3	71.9	86.4	59.8
Broadband Pre-paid (pay-as-you-go, top-ups)	39.2	40.9	35.4	30.6	20.7	39.7	15.6	35.2
Post-paid (on a monthly bill)	60.8	59.1	64.6	69.4	79.3	60.3	84.4	64.8
Use 5G Mobile Broadband	60.0	64.3	61.4	39.1	32.8	30.2	13.5	52.1

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Appendix 5: Access (continued)

Table A5.2. Place of internet use outside the home by age

	18–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75+ years	Total
Place of work	72.5	72.2	72.8	63.5	43.5	17.2	5.9	56.3
House of friends/family	74.7	72.5	66.5	58.4	40.4	33.4	24.1	56.9
Public library	28.3	20.1	16.1	14.8	8.8	10.8	6.0	15.8
Government Office	14.8	11.9	10.0	11.1	6.5	4.9	2.9	9.6
Shopping Centre	43.0	48.0	46.0	39.6	24.4	20.8	7.9	36.4
Public transport	25.4	22.0	20.6	14.7	8.4	7.1	2.3	15.9
Public space with free Wi-Fi	40.8	37.4	34.4	28.9	23.3	16.8	9.6	29.6
Other place	3.8	5.7	4.5	5.1	5.1	7.7	2.2	5.1
None of the above	4.1	5.5	5.2	11.7	23.8	40.9	63.8	16.7

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Table A5.3. Use of laptops and other mobile devices by employment/activity status

	Employed	Unemployed	Student	Retired or on a pension	Home duties	Have a disability and not able to work	Unpaid carer	Given up looking for work	Other	Total
<i>Types of Mobile Devices</i>										
Portable laptop or notebook computer	63.1	51.8	62.4	46.0	42.3	61.1	57.2	100.0	38.6	57.8
Tablet (e.g. Apple iPad, Google Pixel Slate)	49.1	39.0	32.7	48.7	49.1	49.6	56.1	16.0	36.8	47.8
Smartphone	95.6	88.0	88.5	83.0	92.7	92.7	93.6	100.0	76.8	92.3
A portable modem or Wi-Fi device (e.g., a dongle, or Nighthawk)	31.7	36.1	36.3	17.9	23.7	21.2	5.1	16.0	32.1	28.5
A SIM card inserted into a laptop or tablet (not a mobile phone)	10.6	10.0	14.0	4.9	13.7	11.7	15.2	26.7	3.2	9.9
Other Mobile Broadband	1.6	3.6	2.1	0.9	2.1	1.3	5.1		24.0	1.9

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Appendix 6

Online service and activity use

Table A6.1. Use of online activities by Local Government Areas

	Blue Mountains	Camden	Campbelltown	Fairfield	Hawkesbury	Liverpool	Penrith	Wollondilly	Western Parkland City	Rest of Greater Sydney
Used the internet for learning or study	67.2	61.8	66.7	72.3	63.1	73.9	72.4	64.7	69.3	81.3
Used banking websites or apps to manage money	91.9	90.3	88.8	84.7	91.2	91.1	90.7	85.3	89.3	92.8
Accessed a government service	92.3	88.3	89.1	86.7	87.8	87.6	90.7	84.9	88.6	94.7
Booked a medical appointment or accessed a health service	72.8	81.8	73.9	67.3	76	69.6	76.8	68.7	73.2	84.0
Compared the prices of products or services	89.3	88.6	88.9	82.1	89.6	88.4	92.6	85.4	88.2	91.2
Looked for work	41.2	50.6	55.8	55.8	43.2	54.9	56.7	38.5	52.7	49.6
Looked for housing or accommodation (e.g., buy, sell or rent)	50.8	52.8	52.7	56.5	46.6	57.8	60.6	48.3	55.1	64.7
Online buying and selling (e.g., through Amazon, eBay, Gumtree)	81.7	84.9	81.4	78.4	81	82.3	83.5	75.9	81.6	85.6
Tracked the delivery progress of an online purchase	85	86.2	83.2	79	82.1	85.7	88.2	83.6	84.3	91.8
Interacted with people or content that made you feel connected to a community	65.5	64	63.3	70.6	69.6	70.8	65.7	63.7	67.1	75.1
Kept in touch with family or friends	89.8	89.9	92.9	89.6	93.8	90.4	92	83.8	90.8	95.1
Made new friends or reconnected with old friends	56.5	55.4	67.5	66.4	64.5	68.5	61.9	48.8	63.4	72.3
Engaged with a club, organisation, or group you found online	46.9	44.7	47.5	49	53.1	49.3	49.9	41.1	48.3	56.4
Used entertainment services (e.g., streaming video/music, playing online games)	72.2	82.5	79.6	77.2	78.6	84.3	85.8	78.1	80.8	85.5
Attended a music, arts or cultural event (e.g., virtual exhibition, live streamed event)	37.7	28.2	32.6	40.6	23.2	39.8	31.5	22.8	34.1	38.3
Booked a rideshare service (e.g., Uber, Didi)	29.8	38.4	38.5	46.7	33.8	49.9	41.4	27.2	41.2	50.0
Booked a taxi service with an app (e.g., 13cabs, Rydo)	21	18.3	20.6	26.5	16.1	24.7	22.9	13.4	22.1	18.6
Booked a hire car service with an app	15.7	15.7	14.2	22.1	10.5	21.6	17.9	13.2	17.7	11.9
Booked a shared e-scooter or bike (e.g., Neuron, Lime)	10.5	11.7	10.4	17.2	8.8	18.1	12.7	9.6	13.5	10.1
Navigated a route via maps with a smartphone	71	78.7	81.5	76.2	80.8	79.4	82	80.9	79.1	89.0
Used a public transport app	55.6	54.8	60.2	64.4	53.4	66.1	61.8	52.7	60.7	78.1

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Appendix 6: Online service and activity use (continued)

Table A6.2. Use of online NSW and national government services by Local Government Areas

	Blue Mountains	Camden	Campbelltown	Fairfield	Hawkesbury	Liverpool	Penrith	Wollondilly	Western Parkland City
NSW services									
Boating, fishing and outdoors	6.3	7.1	10.3	10.5	12.5	8.3	9.5	11.1	9.3
Business, industries and employment	7.9	5.6	8.9	11.2	6.0	8.4	11.0	7.0	8.9
Concessions, rebates and assistance	27.4	28.3	27.3	25.5	28.9	25.7	32.1	21.7	27.5
Driving and transport	52.6	49.9	52.6	50.1	57.5	51.4	58.5	55.1	53.1
Education and training	6.8	6.5	12.2	13.3	6.0	13.2	12.7	5.9	11.0
Health and care	30.4	29.0	25.7	21.3	30.7	24.8	33.4	23.8	27.1
Housing and property	5.8	6.1	12.6	9.0	6.7	7.1	10.4	4.2	8.6
Legal and Police services	1.0	0.9	2.1	4.7	4.3	2.8	5.0	1.5	3.1
National Services									
Centrelink	48.2	43.4	53.9	53.7	49.0	48.2	55.5	48.6	51.0
ATO	45.9	57.4	54.8	48.4	53.7	52.4	58.3	46.8	53.1
Medicare	56.3	62.6	57.8	53.5	59.4	57.9	64.4	55.6	58.7
My Aged Care	8.2	3.5	5.7	8.8	2.5	8.9	7.9	8.2	7.1
Veterans Affairs	2.9	1.6	1.6	7.2	2.6	4.0	3.2	0.6	3.4
Child Support	7.3	3.3	8.8	6.4	7.7	6.8	8.0	3.1	6.9
National Disability Insurance Scheme	3.1	4.3	6.6	9.8	5.9	4.3	6.6	2.2	6.0
My Health Record	25.6	29.5	27.0	23.2	32.6	21.4	36.0	20.5	27.2

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Appendix 6: Online service and activity use (continued)

Table A6.3. Use online NSW and national government services by age.

	18–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75+ years	Total
NSW Services								
Births, relationships	19.0	24.0	19.6	10.9	8.5	8.7	2.2	14.9
Boating fishing and outdoor	11.2	12.2	11.9	9.5	6.6	6.0	0.6	9.3
Business, industries and employment	14.5	13.0	11.2	9.2	4.5	2.3	0.2	8.9
Concessions rebates/assistance	20.0	20.1	25.8	33.8	32.1	37.4	24.8	27.5
Driving and transport	45.6	58.8	53.6	62.0	56.3	42.4	36.5	53.1
Education and training	18.7	12.3	13.4	12.8	7.2	3.0	3.1	11.0
Health and care	22.6	27.6	31.5	32.7	23.2	24.1	22.1	27.1
Housing and property	11.5	10.8	11.4	10.8	4.5	2.1	3.7	8.6
Legal and police services	3.9	3.2	3.3	3.4	3.1	3.1	0.2	3.1
Other	0.6	0.2	1.7	2.2	4.4	3.2	0.0	1.8
None of the above	19.0	14.8	17.8	15.5	21.3	34.8	49.0	21.3
National Services								
Centrelink	57.7	57.1	56.5	51.2	36.5	50.4	38.4	51.0
ATO	47.8	69.3	62.2	61.9	51.3	26.0	15.1	53.1
Medicare	55.6	67.3	70.5	60.1	48.3	52.0	36.4	58.7
My Aged Care	5.7	4.5	5.5	6.1	6.7	11.9	18.6	7.1
Veteran Affairs	5.0	5.4	3.9	2.3	2.5	2.0	0.4	3.4
Child support	6.1	9.9	12.1	8.4	1.9	2.1	0.0	6.9
NDIS	5.4	6.2	8.0	8.6	3.7	4.7	1.6	6.0
My Health Record	18.4	26.9	29.5	27.9	29.5	29.0	28.4	27.2
Other	1.0	0.8	0.5	1.8	2.0	1.6	1.7	1.3
None of the above	10.8	4.0	7.4	10.2	15.4	23.9	40.1	12.7

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Appendix 6: Online service and activity use (continued)

Table A6.4. Use of online services and activities by age

	18–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75+ years	Total
Used banking	88.5	95.1	92.7	94.4	88.2	76.6	73.9	89.3
Accessed government service	82.9	88.6	92.8	92.0	90.4	86.6	77.5	88.6
Booked a medical appoint	76.0	82.7	77.9	75.3	68.1	62.7	48.8	73.2
Compared the prices of products or services	88.1	92.7	94.4	94.5	85.7	78.3	62.6	88.2
Looked for work	76.6	72.5	63.3	57.6	36.8	16.4	1.1	52.7
Looked for housing or accommodation	70.6	78.4	67.0	53.0	38.0	28.5	11.0	55.1
Online buying	86.9	89.3	90.0	84.9	75.7	66.4	54.6	81.6
Tracked the delivery of online purchases	87.1	92.8	92.7	83.1	81.2	68.4	66.3	84.3
Interacted with people or content to connect to a community	84.1	82.8	72.3	67.4	52.9	45.2	41.1	67.1
Kept in touch with family or friends	88.9	93.9	91.7	92.9	89.5	89.8	81.6	90.8
Made new friends or reconnected with old friends	78.2	78.4	69.7	63.5	50.5	40.0	41.6	63.4
Engaged with a club, organisation, or group you found online	67.2	60.6	56.5	50.2	31.3	27.8	20.1	48.3
Used entertainment services	91.2	93.0	90.9	82.7	80.8	54.0	34.3	80.8
Attended a music, arts or cultural event	60.1	50.4	42.8	28.3	14.6	10.7	10.6	34.1
Booked a rideshare service	68.7	64.1	50.1	35.4	20.0	13.6	4.9	41.2
Booked a taxi service with an app	33.8	33.4	28.0	18.2	11.2	9.2	5.4	22.1
Booked a hire car service with an app	30.3	32.6	22.1	12.5	5.2	4.6	0.6	17.7
Booked a shared e-scooter or bike	31.1	24.4	16.2	8.0	1.5	2.4	0.0	13.5
Navigated a route via maps with a smartphone	85.8	88.6	88.5	83.2	74.0	58.6	45.8	79.1
Used a public transport app	81.2	71.1	64.3	62.7	45.7	47.9	30.2	60.7

Source: Western Parkland City adapted Australian Internet Usage Survey, ADII

Footnotes

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