



Queensland Public Library Standards and Guidelines

**Technology Standard
2018**

11. Technology Standard

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11.1 Overview

Public library services have invested considerable resources in technology to deliver services that effectively extend their reach and hours of operation. The focus on delivering technology and technology-reliant services is now ubiquitous with these services allowing for anytime / anywhere access to information, connection and new modes of discovering and sharing knowledge.

The technology standard provides both essential and leading measures for the effective application and management of technology and technology-reliant services in Queensland public libraries and Indigenous Knowledge Centres (IKCs)¹.

Essential

This is the basic level. A library service operating below the essential baseline requires local strategies for improvement.

Leading

This level recognises that the library service offers infrastructure, services and programs and management practices that are future focused and stand out compared to its peers.

The standard is organised into three domains: *Infrastructure*, *Services and Programs* and *Management*. A number of guidelines are also provided to assist in the interpretation of particular requirements.

11.2 Outcomes

The library service provides efficient, effective and innovative technology and technology-reliant services.

Infrastructure: the library service utilises technology that integrates with and supports library services and operations and enables staff to deliver services that meet community needs and expectations

Services and Programs: library services and programs are designed, selected and implemented to serve the technology needs of the community and are responsive to new and emerging technology trends

Management: the library service utilises a policy framework that enables best practice in technology and technology-reliant services that support the mission, vision and goals of the council

¹ Within this document the term "the library service" encompasses all Queensland public libraries, i.e. Independent, Rural Libraries Queensland (RLQ) and Indigenous Knowledge Centres (IKC).

11.3 Standard for Infrastructure

The library service has:

Essential		Leading	
11.3.1	broadband internet connectivity at all locations adequate to accommodate the maximum number of simultaneous connections available	or	high-speed internet connectivity at all locations that accommodates the maximum number of simultaneous connections available
<p><i>Guideline:</i> broadband connectivity allows users to access the internet and its related services at higher speeds than those available through dial-up services. The term refers to an always on, high-data-rate, connection. Speeds differ based on the type and level of services offered, typically providing faster download speeds than upload speeds. Services can be provided using a variety of high-speed wired (fixed) and wireless (wi-fi) networks.</p> <p><i>Guideline:</i> high-speed internet is a generic term used for a service that is faster than the average for broadband connections. As used in this document the term does not refer to a certain speed or specific service with local telecommunications infrastructure being the primary constraint when determining the interpretation of a high-speed connection. Additional information can be found at 11.7.</p>			
11.3.2	a Library Management System (LMS) to support the management and delivery of library services	and	additional modules and applications that improve the capability of staff, including analytics and mobile circulation or stock management tools and / or a digital repository to manage and store digital content, providing access to the library service's digital assets and user generated content
11.3.3	an authentication system that provides secure and reliable access for registered members to library resources and online services		
<p><i>Guideline:</i> library services utilise authentication systems to grant registered members remote authentication to library resources. Systems may be a standard component of the LMS or additional third-party applications.</p>			
11.3.4	one staff personal computer / device per management, administrative and technical services FTE staff member plus personal computers / devices located in a work area available to other staff members	and	portable devices connected to the Library Management System (LMS) for roaming staff members
<p><i>Guideline:</i> the distribution of personal computers / devices across the library service's branches will be influenced by several factors, including staff numbers and role mix, opening hours and transaction loads, wider council-service offerings and responsibilities, and local catchment population.</p> <p><i>Guideline:</i> where applicable to the duties and responsibilities of roaming staff members, portable devices may assist in the provision of circulation transactions or other assistance.</p>			

Essential		Leading	
11.3.5	<p>suitable and functional personal computers / devices that provide for reliable and accurate Circulation services, including:</p> <ul style="list-style-type: none"> • a minimum of <u>one</u> personal computer / device per branch plus <u>one</u> additional personal computer / device for every instance where annual staff-assisted transactions exceed 200,000 or part thereof • scanners / barcode readers for streamlined input of data • an offline circulation module or identified procedure for system downtimes 	and	<p>equipment that facilitates an Integrated Circulation Services Strategy, including an RFID solution for improved management, circulation and security of the library collection. This may include:</p> <ul style="list-style-type: none"> • self-check service points and /or self-service kiosks • automated returns and sorting facilities • automated vending and dispensing facilities • devices capable of scanning user details stored on mobile devices • security gates and alerts
11.3.6	<p><u>one</u> public access personal computer / device per 2,500 population or part thereof</p>	or	<p><u>one</u> public access personal computer / device per 2,000 population or part thereof</p>
<p><i>Guideline:</i> available personal computers / devices should have sufficient memory and processing power to enable access to the services and programs as outlined in 11.4.</p> <p><i>Guideline:</i> the distribution of personal computers / devices across branches should be determined by local population catchments and relative demand.</p>			
11.3.7	<p>public access workstation setups consistent with legislative requirements, including ergonomic, electrical safety, workplace health and safety and accessibility considerations</p>		
<p><i>Guideline:</i> public access workstation setups should include adjustable tables and chairs to improve ergonomics and comfort. Proximity to staff, security and possible distractions should be considered. Workstations, spaces and electrical outlets are additional considerations when supporting “bring your own device” (BYOD) users.</p>			
11.3.8	<p>functioning equipment to access all types of collections and resources held in non-print formats</p>		
11.3.9	<p>functioning and accessible printing, copying and scanning equipment for both staff and public use</p>	and	<p>functioning and accessible technology for both staff and public use that supports making and creating. Examples include: 3D printers, fabrication and other equipment that may be located in Digital Hubs / Makerspaces / Tech Rooms / Recording Spaces</p>

11.4 Standard for Services and Programs

The library service provides:

Essential		Leading	
11.4.1	an up-to-date and accessible website or significant presence on the council's website that includes location/s, hours, contact details, services, registration and membership options, training opportunities and programming, policies and other basic information.		
<p><i>Guideline:</i> Accessible web design ensures content is available to the widest possible audience, including persons using assistive technology or accessibility features. Visit www.w3c.org for more information. The library service's website or web presence should strive to maintain compliance to W3C's Web Content Accessibility Guidelines (WCAG).</p>			
11.4.2	an online catalogue available and accessible via the internet 24 hours per day, seven days per week	and	an online catalogue responsive across all devices, including personal computers (desktops, laptops), tablets and smart phones and / or an online catalogue or discovery tool that provides digital services, content enrichment, online readers advisory tools and enables access to digitised local collections, federated searching and article-level content
11.4.3	an online catalogue which meets disability standards to ensure that people with a disability can utilise the catalogue using adaptive and assistive technology		
<p><i>Guideline:</i> As per 11.4.1.</p>			
11.4.4	access to digital resources and electronic collections, including ebooks, downloadable music, audio and video files and streaming services		
11.4.5	communication and notifications to members in a variety of formats, including electronic and print	and	multiple communication and notification options to members, including email, SMS and social media applications
<p><i>Guideline:</i> social media applications can be a powerful channel to increase awareness of and engagement with the library service. Having access to at least one social media application as a standard communication channel that is routinely incorporated into the delivery of services and programs is essential. Exploring and implementing additional channels to increase the choices available for the community on how they connect to the library services should be encouraged and supported.</p>			

Essential		Leading	
11.4.6	personal computers / devices that offer productivity software allowing users to create, modify and save their work	and	personal computers / devices that offer extended and additional capabilities, including: <ul style="list-style-type: none"> • audio and video editing tools • graphic and design applications
<i>Guideline:</i> the use of personal or portable storage devices with the library service's public access personal computers / devices should be permitted where adequate security protocols are in place, as per 11.5.5.			
11.4.7	free and equitable public internet access at all branches	and	dedicated wired (fixed) and wireless (wi-fi) internet connections at all branches
<i>Guideline:</i> the availability and combination of wired (fixed) and wireless (wi-fi) connections across staffed service points should be determined in consideration of 11.4.8.			
11.4.8	80% of public access personal computers / devices with internet access or a combination of fixed personal computers / devices and dedicated wireless connections that equate to 80% of the total number of public access personal computers / devices available	or	100% of public access personal computers / devices with internet access and additional wireless (wi-fi) connections and loanable devices (laptops, tablets, wireless hotspots) that assist disadvantaged groups to access information services
<i>Guideline:</i> in each branch the distribution of public access personal computers / devices should be according to local circumstances, including space availability, demographics, on-going analysis of usage patterns and intended function.			
11.4.9	a booking system for public access workstations / devices that ensures equitable access	and	an online booking system that integrates personal computers / devices and printing and payment services to optimise accessibility and availability
11.4.10	public access to printing, copying and scanning services	and	public access to services that provide a range of additional services including: <ul style="list-style-type: none"> • 3D printing • Digital Hubs / Makerspaces / Tech Rooms / Recording Spaces
11.4.11	free support and assistance to individuals in the use of technology and technology-reliant services.		
<i>Guideline:</i> the type and level of assistance provided is determined according to local needs. This may include information about or direct assistance with public access equipment, applications and tools available on this equipment, online services and information resources, downloadable resources and content, social media and government services.			

Essential		Leading	
11.4.12	free digital literacy programs and training opportunities	and	digital literacy programs and training opportunities tailored to the needs of specific groups and / or a learning experience based on measurable digital literacy outcomes for the community
<p><i>Guideline:</i> the topics and frequency of programs and training opportunities provided is determined according to local needs. Topics covered may include:</p> <ul style="list-style-type: none"> • basic computer skills and troubleshooting • the navigation of operating systems • file, folder and drive structure and management • the use of peripheral devices, including copiers, printers, scanners and external storage devices • productivity software • navigation of web browsers and searching the internet • the library service's online catalogue or discovery tool • downloadable resources • creation of digital content <p><i>Guideline:</i> programs and training opportunities should incorporate resources from the library service's collections as a supplement to the learning outcomes, including print and non-print resources.</p> <p><i>Guideline:</i> programs may be delivered in partnership with or through external organisations where current staff capability or capacity is lacking.</p>			

11.5 Standard for Management

The library service provides:

Essential		Leading	
11.5.1	staff access to all applications and productivity software required and relevant to their duties		
<p><i>Guideline:</i> library service staff and public access may require a different level of network security and internet access when compared to other council staff to facilitate the provision of online information. If a decision is made to utilise internet filters, they should not limit the comprehensiveness of internet searching for reasonable research and communication purposes for either staff or public users. For further information refer to the Australian Library and Information Association's (ALIA's) Statement on Online Content Regulation.</p>			
11.5.2	staff access to the LMS at all branches and locations with real-time transaction processing	and	integration of unstaffed service points (automated vending and dispensing facilities) into the LMS with real-time transaction processing
11.5.3	a regularly updated and maintained LMS providing high levels of availability / uptime	and	an LMS availability / uptime measure equating to 99% planned operational availability

Essential		Leading	
	<p><i>Guideline:</i> the LMS should be kept up-to-date with the installation of patches, updates and new releases, as outlined in the ICT plan. Systems and application life-cycles and evaluation of the capacity of the LMS to meet the library service's evolving requirements should be an integral part of an overall strategy to maximise return on investment.</p> <p><i>Guideline:</i> the level of LMS availability / uptime may be a component of vendor contracts specifying performance guarantees or targets. Planned maintenance downtime specified within these guarantees or targets does not count as unplanned downtime. Availability can be determined using an online calculator such as https://uptime.is/ , for example an availability / uptime measure of 99% results in an annual unplanned downtime allowance of more than 87 hours.</p>		
11.5.4	for service continuity with disaster management protocols and data integrity through backup, validation and recovery procedures for all library service systems and applications		
	<p><i>Guideline:</i> library service continuity planning is one component of the overall council risk management and disaster planning regime. Operational risks that may impact delivery of specific library services and programs should be identified and managed as a critical component of the overall council risk management strategy.</p>		
11.5.5	a secure digital environment to protect personal information and/or confidential data through practices consistent with the Information Privacy Act 2009		
	<p><i>Guideline:</i> a secure digital environment protects personal and/or confidential data through the controlled storage and use of information, preventing data loss. Practices include the implementation of ongoing security practices at the personal computer / device, server and network levels. Protection from malicious software (malware) is paramount.</p> <p><i>Guideline:</i> the library service should be aware of its responsibilities regarding the retention and or/disclosure of personal information on clients (such as internet search histories), and these should be clearly outlined in a <i>Personal Information Policy</i> or similar document. This policy should be consistent with any council privacy policies and relevant legislation.</p>		
11.5.6	accurate and current public information relating to the technology and technology-reliant services offered, including "how-to" guides for publicly accessible equipment and services		

Essential		Leading	
11.5.7	<p>for the library service's needs to be reflected in the council's ICT Plan (or similar document). This document should address:</p> <ul style="list-style-type: none"> • budget allocations / funding sources for technology services and operations • system/s and application lifecycle management • ongoing evaluation and technology needs analysis • asset depreciation and replacement cycles • social media strategy 	or	<p>a standalone Library Service ICT Plan (or similar document). This document should address:</p> <ul style="list-style-type: none"> • budget allocations / funding sources for technology services and operations • system/s and application lifecycle management • ongoing evaluation and technology needs analysis • asset depreciation and replacement cycles • social media strategy
11.5.8	<p>staff with capabilities and proficiencies in the provision of assistance and delivery of digital literacy programs and training opportunities</p>	and	<p>staff with advanced IT skills and qualifications</p>
<p><i>Guideline:</i> staff capabilities are linked to the delivery of 11.4.11 and 11.4.12. The development and of these capabilities will be influenced by 11.5.10.</p>			
11.5.9	<p>a dedicated staff position responsible for library service technology and technology-reliant services where the total council population exceeds 35,000</p>		
<p><i>Guideline:</i> Where overall staff numbers allow, the management of ICT should be a specifically allocated duty. Responsibilities should include ICT planning and coordination with council and vendors to support the effective management of technology and technology-reliant systems.</p>			
11.5.10	<p>a strategy or training plan for staff that:</p> <ul style="list-style-type: none"> • incorporates and supports the use of technology for staff development • ensures staff are sufficiently trained and familiar in the use of technology and technology-reliant services offered • prioritises training in the LMS as an essential competency 	and	<p>a strategy or training plan for staff that:</p> <ul style="list-style-type: none"> • provides for mentoring and skills transfer opportunities in technology related disciplines • encourages formal continued professional development in technology related disciplines

Essential		Leading	
11.5.11	a policy or set of policies for the public that address: <ul style="list-style-type: none"> the appropriate use of personal computers / devices, equipment and services the internet and online services offered / permitted content access and filtering the assistance and / or training provided social media / networking applications 		
11.5.12	a policy or set of policies or processes that are updated and reviewed regularly and take into account feedback, legislative changes and updates to council policies	and	formal assessment and review processes that enable the policy framework to permit the introduction of additional applications and new services as they become available, including the regular assessment of community technology needs to cater for new technology trends
<p><i>Guideline:</i> the regularity of updates and reviews to policies will depend on the activity in question. The uptake of the policy and feedback received can be used to inform reviews of these policies.</p>			

11.6 Additional resources

The Australian Public Library Alliance has published the [Australian Public Library Standards Guidelines and Outcomes 2016](#). They are accompanied by a benchmarking calculator for library services to use to assess their performance against the national standards and guidelines.

The Australian Library and Information Association's (ALIA's) Statement on Online Content Regulation (<http://www.alia.org.au/policies/content.regulation.html>) recommends that "libraries and information services support the right of all users to unhindered access to information of their choice regardless of format" and that "access to electronic information resources should not be restricted except as required by law". Internet filters should not limit the comprehensiveness of internet searching for reasonable research and communication purposes.

Information Privacy Act 2009 <http://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2009-014>

The Information Privacy Act recognises the importance of protecting the personal information of individuals. It contains a set of rules or 'privacy principles' that govern how Queensland Government agencies collect, store, use and disclose personal information. The IP Act also allows an individual to make a complaint about an agency's breach of the privacy principles.

Right to Information Act 2009 <https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2009-013>

The Right to Information is the Queensland Government's approach to giving the community greater access to information.

11.7 Definitions

BYOD (bring your own device): refers to the policy of permitting members of the public to bring personally owned devices (laptops, tablets, and smart phones) into the library facility, and to use those devices to access the services offered through a wireless connection.

Circulation services: the control and regulation of access to library materials. An **Integrated Circulation Services Strategy** aims to provide the fastest and most efficient circulation service possible.

Digital hub: a shared workspace with a focus on bringing people together through a range of complementary activities. This may include high-speed and cutting-edge technical facilities and service offerings such as meeting rooms, event or training spaces.

Digital literacy: the ability to use information and communication technologies to find, evaluate, create, and communicate information. The three core components are: finding and consuming digital content, creating digital content and communicating or sharing it.

Discovery tool or Discovery layer: are software components for libraries that provide a search interface for users to find information held in the library's catalog and beyond. Typically, a discovery tool is based on an enterprise search platform that can interact with a metadata index and will normally include additional features that allow library users to customise search results.

ICT (Information and Communication Technology): any computer-based resources, hardware or software tools used for business functions and processes. It refers to technologies that provide access to information through telecommunications, computers as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information.

Internet connectivity: the speed of an internet connection is measured in *Megabits Per Second (Mbps)*, with factors such as the transmission medium, delivery technologies and the coverage available at a particular location influencing the type of connection implemented. As a specific service "broadband" is used to refer to any kind of internet service that provides high-speed, continuous internet access. The [International Telecommunication Union \(ITU\)](#) defines a broadband service as having a transmission capacity that is faster than primary rate ISDN, at 1.5 or 2.0 Mbps. High-speed internet connectivity is also provided through some form of broadband technology to access higher bandwidth limits, resulting in faster uploads and/or downloads. In 2017 the national average download speed was 11.1 Mbps.

LMS (Library Management System): a library service's automated management system that would typically include functions or modules such as circulation, acquisitions, cataloguing, public enquiry, stock control and reporting.

Makerspace: creative, DIY spaces where people can gather to create, invent, and learn. In libraries they often have 3D printers, software, electronics, craft and hardware supplies and tools. They give community members access to tools, technology and social connections that may not be easily accessible otherwise. Also referred to as a fablab.

Malware: malware is any program or file that is harmful to a computer user and includes computer viruses, worms, Trojan horses, spyware, key-loggers, true viruses, worms, or any type of malicious code that infiltrates a computer, device or network.

Personal computer / device: for the purposes of this document the term "personal computer / device" includes desktop computers, laptops and tablets (general-purpose

computers contained in a touchscreen panel) where it is intended to be used by one person at a time.

Personal / portable storage devices: devices which permit a library service user to access, edit, and save personal files on library service equipment. Types of portable digital storage devices include: portable hard drives, solid state drives (SSD), USB flash drives (thumb drives) and memory cards (including SD cards).

Productivity software: business application suites such as Microsoft Office, which include word processing, spreadsheet and presentation programs.

Real-time transaction processing: transactions are processed immediately as they occur without any delay to accumulate transactions. It can also be referred to as online transaction processing.

RFID (Radio Frequency Identification): the technology that uses radio frequency identification to facilitate fast, accurate collection management and self-service functions.

Roaming staff: roaming staff provide services beyond a static desk or workstation. Staff that provide these services may require connected devices to fulfill this role.

Social media: websites and applications that enable users to create and share content or to participate in social networking. Social media is the collective of online communications channels dedicated to community-based input, interaction, content-sharing and collaboration.

Staff-assisted transactions: circulation transactions provided at a static desk or workstation with staff physically handling items for each recorded transaction.

Wireless or Wi-Fi (a trademarked term) connections: wireless is the term used to describe any computer network where there is no physical wired connection between sender and receiver. Wireless networking technology uses radio waves to provide high-speed network and Internet connections to personal computers and other devices to access library services.

11.8 References

Australian Library and Information Association's (ALIA) Statement on Online Content Regulation. (viewed March 2018)
<http://www.alia.org.au/policies/content.regulation.html>

Australian Public Library Standards Guidelines and Outcomes 2016 / The Australian Public Library Alliance, 2016. (viewed March 2018)
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