History @ Willoughby

www.historyweek.com.au

POP!

HISTORY WEEK | 2–10 SEPTEMBER 2017
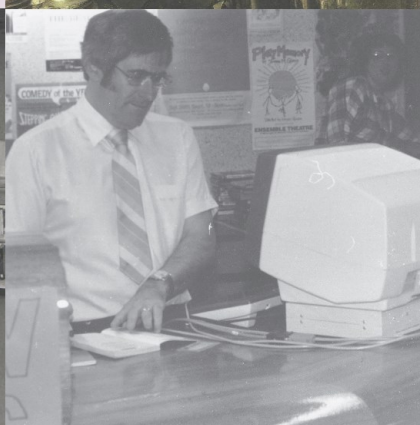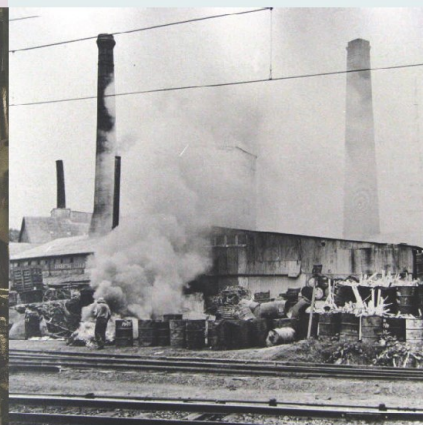
TECHNOLOGY ON TREND
at Willoughby

An exhibition of technology as a pop culture trend

Above left: Workmen on machinery, Hallstrom's factory, Artarmon (N.S.W.)

Above: Scrap metal and burning off rubbish, Gore Hill, Artarmon Brickworks, 1956

Far left: Circulation desk, Willoughby Municipal Library, Chatswood, 1980

Left: First computerised loan at Willoughby City Municipal Library, Chatswood, 1985

Explore the role of technology trends in Willoughby's development through the industries that took hold in the area. Look at how the library embraces technology to stay on trend and serve the community.

A Willoughby Library Exhibition — open during Library hours
Chatswood Library on The Concourse from Saturday 2 September 2017

The images used in this display are from Willoughby Library's online image library,
Picture Willoughby, at photosau.com.au/willoughby/scripts/home.asp

historycouncilnsw

WILLOUGHBY CITY COUNCIL
City of Diversity

Pottery

Mashman and Sanderson Pottery stood on the site of 179-194 Victoria Avenue, Willoughby for over 110 years. When first opened in the 1880s the firm bought a small pipe machine driven by horse power, but soon upgraded to steam power. It sold clay pipes to drainers and dealers.

Mashman Bros Ltd truck, Victoria Avenue, Chatswood. n.d.
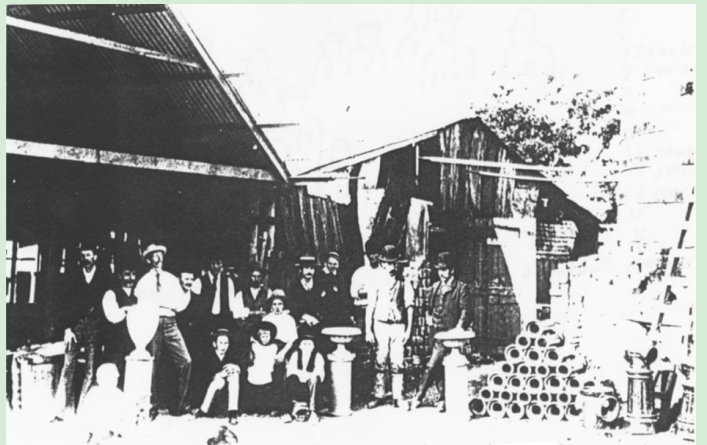
Mashman Bros pottery, Victoria Avenue, Chatswood. n.d.

TECHNOLOGY ON TREND
at Willoughby

1934
How Clay Was Worked

Because it has stood the test of time for nearly half a century the firm of Mashman Bros. Ltd, with head works at Chatswood, NSW, commands the respect of clayworkers and manufacturers, while to the outsider it furnishes an interesting study in modern methods of turning out articles of first rate utility and of surpassing beauty.

The Clay Products Journal of Australia, November 1934, Great Australian Industry: A Look Over Mashman Bros.

Batches of raw clay were weighed and placed in a large ball mill containing hundredweights of round flint stones. The stone would grind the clay into a very fine mixture resembling cream.

This mixture was run through fine sieves and down a race where magnets caught and extracted any small particles of iron left over.

It then entered the *Blunger* which kept the mixture agitated until it was pumped through a filter press that forced the water out of the clay.

The solid slab of clay was put through a pug mill made up of revolving blades that forced the clay through a mouthpiece in a prepared block form.

The clay was then ready for the thrower or presser who formed the pottery shapes.

The Clay Products Journal of Australia, November 1934, Great Australian Industry: A Look Over Mashman Bros. Ltd

WAR TIME FACT

During World War II Mashman produced thousands of acid containers for the Middle East, condenser cases, industrial chemical appliances, hospital ware, high tension insulators and porcelain guides for textile industries.

After the war it returned to its specialised production of sanitary ware, including low down suites, pedestal pans, basin and bathroom fittings, hospital ware and stoneware pipes and fittings.
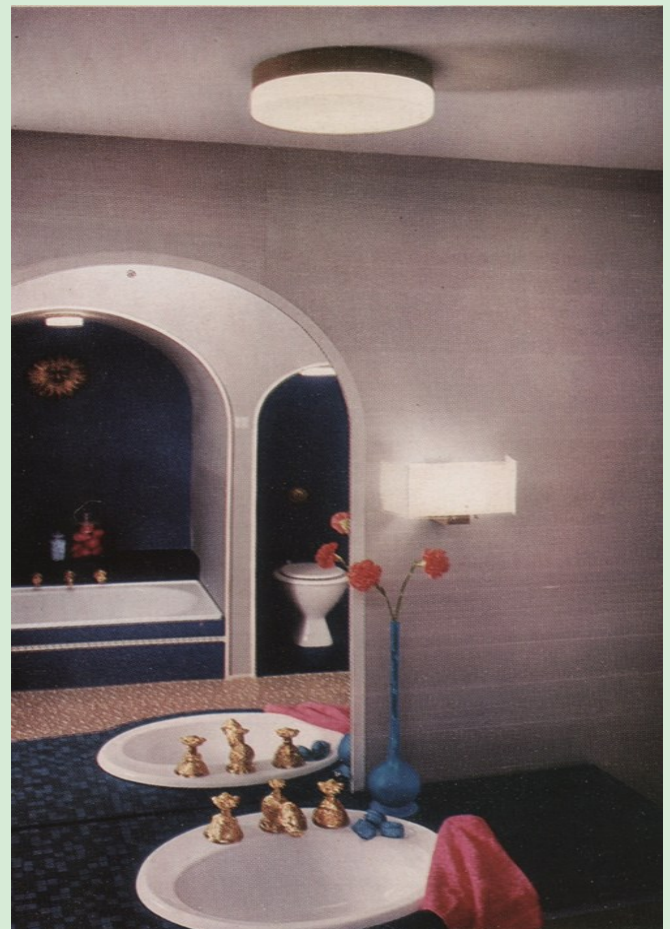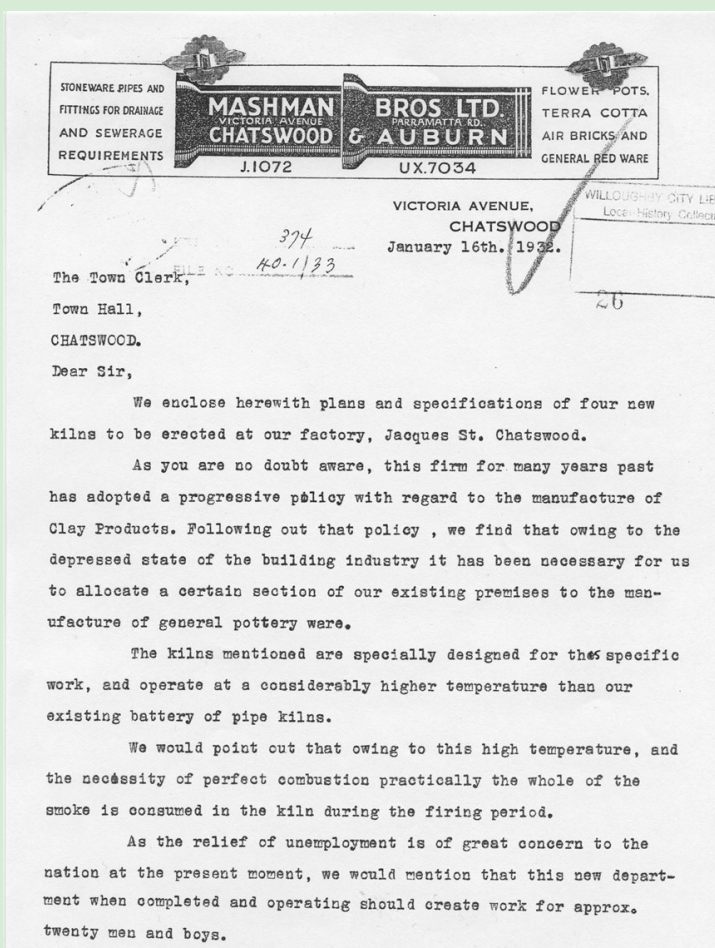
Australian-made vitreous china vanity basin, the *Royal Doulton Review*, March 1969

Tanneries

Johnston Bros Tannery, Chatswood, c. 1905 - drying the hides

1880s

Salt hides were soaked in pits and limed before the removal of hair and flesh residue. Hides were then de-limed and placed in tanning pits containing tan liquor derived from wattle bark. After several months, the tanned hide was dried and finished.

Excerpt from *A Tradition in Leather* by the Chaffer Group

As many as 16 tanneries operated over the years...

Year	Tannery
1869	James Forsyth
1873	HC Owen - Union Tannery
1881	Stephenson and Sons - The Grange Tannery
1882	William Cunningham
1887	George Francis Bailey
1887	Chaffer and Sons – Glenrock Tannery
1892	JB Forsyth – Rosewall Tannery
1896	Scott Bros
1897	George White
1898	Horlsey and Sons
1898	Geering and Son
1899	CT Saxton – Roslyn Tannery
1900	JB Johnston
1902	Wilson Bros
1906	Broomham Bros – Enterprise Tannery
1912	Forsyth Pizzey and Gates
1924	Obern and Sons

TECHNOLOGY ON TREND at Willoughby

Wilson's Tannery interior, rollers, 1993

Form No. 379

NEW SOUTH WALES

Address all Communications to
THE SECRETARY
Box 3944 V, G.P.O.,
Sydney
and quote

No.

MUNICIPALITY
RECEIVED
21 OCT 1959
ANSD.
WILLOUGHBY

BOARD OF HEALTH

52 Bridge Street

Sydney

14th October, 1959.

Dear Sir,

"NOXIOUS TRADES ACT, 1902."

With reference to recent application from your Authority for Noxious Trade License for

Name: W. CHAFFER & SONS PTY. LTD., GIBBES STREET, CHATSWOOD.

Trade: TANNER.

I am directed to inform you that the Board of Health has approved granting of license, which has been prepared accordingly and sent you for completion and issue to trader.

2. I have been instructed to specially point out that although the Board has approved licensing in this case, it is necessary that certain improvements, mentioned hereunder, be effected as speedily as possible at the premises; your Authority, therefore, should require the trader to carry them out without any delay.

3. It is desired that you will be good enough to report when the requisite work has been duly completed.

Yours faithfully,

G. LOUGHREY,

Secretary per

WILLOUGHBY CITY LIBRARY
Local History Collection VF
Industries
Tanneries

IMPROVEMENTS AND ALTERATIONS REQUIRED:—

1. Thoroughly clean after each day's operations the machines and floor in fleshing department.

CHIEF HEALTH AND BUILDING INSPECTOR

The Town Clerk,
Willoughby Municipal Council,
CHATSWOOD.

Where are they now?

As the uses for leather goods declined and more synthetic materials were introduced into the market the tanneries slowly disappeared.

TECHNOLOGY ON TREND
at Willoughby

What if tanneries were still in operation in beautiful and bustling Willoughby?

Can you imagine the smell?

Tanners at Johnston Bros. Tannery, Chatswood, 1884.

Note the hooks, blades and aprons of these men – tanneries were a messy business!

Brickworks

Butcher Bros Brickworks

1901
- Consisted of a brickmaking plant, machine shed, engine and boiler and six open kilns. They had the capacity to produce 360,000 bricks per month.

- Over the years they built a patent kiln, upgraded their engines, installed new brickmaking machines and grinding pans.

1915
- Butcher Bros was turning out 1,500,000 bricks per month, employed 100 men and owned 30 horses and carts.

Steam power

In the middle of the 19th Century the invention of steam engines made it possible to use steam power in brick-making. *The semi-dry pressed brick* was created. Clay and shale were ground together with a very small quantity of water. This mixture was fed into a very strong press that pressed it into brick shaped moulds. The green brick was strong and could be loaded straight into the kiln without a long drying process.

From Brick Pits prosperity No 2 Pit., Artarmon, 7 December 1956

Cool tech for hot Willoughby Ice Works

> " *There was an Ice Works in Victoria Avenue which produced the ice for the carters. It was a magnet for the kids in the hot summer months. When the big circular saw cut the slabs of ice into blocks, there was always a large deposit of shavings on the floor underneath, which built up during the shift. We called it "snow". When the workers had a break we were allowed to go underneath with our billycarts, and pack them with this "snow". We buried oranges in this snow, and when they were frozen solid, threw them against a wall. They were softened so we could peel away a small piece of skin, and have ready-made icy cold orange drinks on those hot days.* "

Excerpt from *Tram to Balmoral Beach and Jesus* by Don Horne, 2015, p. 27

SEVERE SHORTAGE OF ICE IN SYDNEY

SYDNEY: Thousands of families in many districts have now been without ice for a fortnight, ice manufacturers revealed today. Health tragedies would face thousands unless the Government released men from the Army to produce more ice, they declared.

One man, among crowds who stormed Chatswood Ice Works yesterday, raced around picking up chips of ice and putting them in a tin.

"We found that he wanted them for an old man who was dying." said the iceworks foreman.

"Scores of times when I was answering phone calls by almost tearful women, pleading for ice to be sent, I heard small children crying. It seems ridiculous that men should be released to produce more meat but they can't release men to produce ice to keep the meat fresh."

Wastage and deterioration of food has been heavy in shops and homes. "An appalling dump for the public" was the description given to the position today by two ice manufacturers. Release of men from the Army was the only solution, they said.

The Telegraph (Brisbane, Qld), 29 December 1942

1839

Ice has long been used in the preservation of food. Sydney's first ice was natural ice transported from Boston USA in 1839. The natural ice trade plummeted when technological advancements led to man-made ice.

1908

Ice Works in Willoughby date back to 1908 when the Jackson Brothers established the Chatswood Ice Works on Albert Avenue. The plant manufactured blocks of ice that were delivered to residents by the "ice man" for the preservation of food.
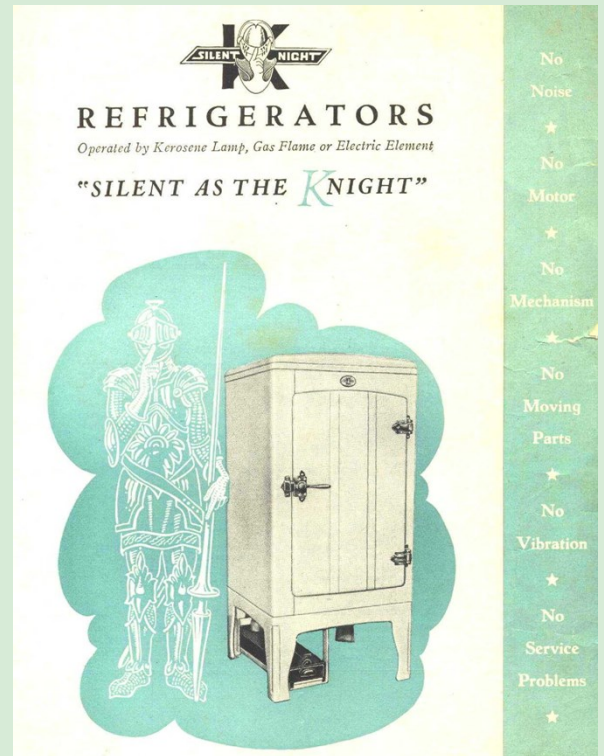
1954

The Ice Works became obsolete and closed in 1954 due to new technology that became common in many homes and shops...

The Rise of the Refrigerator Hallstrom

Hallstrom began his career in refrigeration by inventing a kerosene-powered refrigerator for outback stations and country homes that did not have electricity. He opened a refrigerator factory in Willoughby in May 1934 where he manufactured kerosene, gas and electricity run models. His most popular refrigerator was the Silent Knight.

Cool Comfort for Country Homes!

Typical Hallstrom Recipes

MANUFACTURED BY: E. HALLSTROM
'PHONE: J 5844 - J 2992 462-464 WILLOUGHBY ROAD, WILLOUGHBY
Telegrams & Cables: "Halstro," Sydney

"One of the most popular units of kerosene operated refrigeration is the Hallstrom, produced by E J Hallstrom of Willoughby, Sydney. Thanks to the inventive genius of E J Hallstrom refrigeration is now available, readily, easily, and cheaply, to the most remote settler in the most torrid corner of the world."

Northern Times, 10 February 1939, Kerosene Operated Refrigeration

TECHNOLOGY ON TREND at Willoughby

Hallstrom's factory, interior. Artarmon, n.d.

Radio

Radio 2FC was one of Australia's first radio broadcast stations. It went to air in Sydney in December 1923 from a large wireless station belonging to Farmer and Company Ltd Broadcasting Service at Edinburgh Road and Lyle Street, Willoughby. The station transmitted via a powerful 5000 watt transmitter. At that time it was one of the largest in the world. This transmitter was later dismantled in 1929.

"Five Empire Broadcasts have now been carried out by Station 2.F.C. Sydney, Australia. These artists contributed to the Third Programme broadcast on 17th October, 1927, and relayed by the B.B.C. London and American Stations, on 16th October, 1927."

Radio 2FC postcard, 1927. Radio station 2FC was situated on the corner of Edinburgh Road and Eastern Valley Way, Castlecrag. It transmitted from that site from 1923-1929.
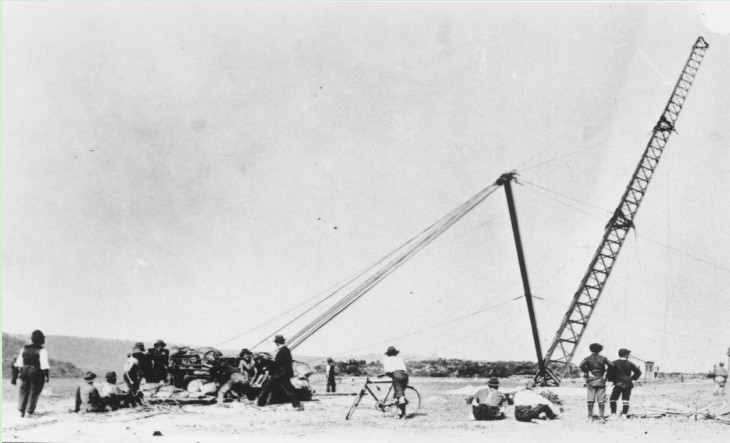
2FC radio aerial, Castlecrag, c. 1923

AUSTRALIAN BROADCASTING TRIBUNAL (Radio Reidy's papers)

153 WALKER STREET NORTH SYDNEY N.S.W. 2060 P.O. BOX 1308 NORTH SYDNEY 2060 TELEX 'ABTEE' 26683
TELEPHONE 922 2900

INQUIRY INTO AN APPLICATION FOR THE GRANT OF A LICENCE
FOR A PUBLIC BROADCASTING STATION TO SERVE THE AREA
WITHIN THE BOUNDARIES OF THE LOCAL GOVERNMENT AREAS OF
KU-RING-GAI, WILLOUGHBY, LANE COVE, NORTH SYDNEY AND
MOSMAN

DECISION

The Tribunal decides:

1. To grant a licence for a public broadcasting station, to
serve the area within the boundaries of the Local Government
Areas of Ku-ring-gai, Willoughby, Lane Cove, North Sydney and
Mosman to Northside Broadcasting Co-operative Limited.

2. The licence is granted for the special purpose of
providing program services appropriate to a Category 'C' type
public broadcasting station as defined in the "Guidelines for
the Planning of Public Broadcasting in Phase I" which
accompanied a Ministerial Statement to the House of
Representatives on 5 April 1978.

FM

In September 1982 the Australian Broadcasting Tribunal granted a licence for Willoughby's first stereo FM radio station 2NBC 91.5FM. The plan for a community run radio station had been in the works since 1976. This station later became known as 2NSB Northside and in 2000 changed frequency to 99.3 FM

Television Booms

NBN

16 September 1956: TCN Channel 9 broadcast the first television programme in Australia. This was from St David's Church Hall in Surry Hills as the Artarmon Road studios had not been finished.

TELEVISION BOOM Television sets must be selling very well locally as Willoughby Council last building list contained 23 TV aerials. This is a lot when you consider that most local folk do not find it necessary to install outside aerials in this district.

Clarion, 25 September 1958

The station stood on R H Foster's St Leonards dairy. TCN Channel 9 acquired the property at Artarmon Road in 1955. It was the first television station to screen programmes 24 hours a day.

1982: Its first satellite receiving dish was built.

2017: Nine Entertainment was in the process of selling the Artarmon headquarters and moving to a new site at Denison Street North Sydney.

TCN Channel 9 television broadcasting towers, Artarmon, 1964

TECHNOLOGY ON TREND
at Willoughby

Debris is falling into backyards from the television tower being extended at the intersection of Hampden and Mowbray Rds, Artarmon, a resident has claimed…

"It would have killed her boy if it had hit him..."

North Shore Times, 18 July 2001

ABC

November 1956: ABC's Gore Hill northside production complex televised their first broadcast when James Dibble presented a news bulletin on the Russian invasion of Hungary.

Its elevated position was perfect for a transmission tower.

2003: Gore Hill site was sold when production moved to Ultimo. Most of the site was demolished in 2007.

MEMORY

Producer Jon Casimir's favourite part was the bracing smell of the waste management facility beside the car park.
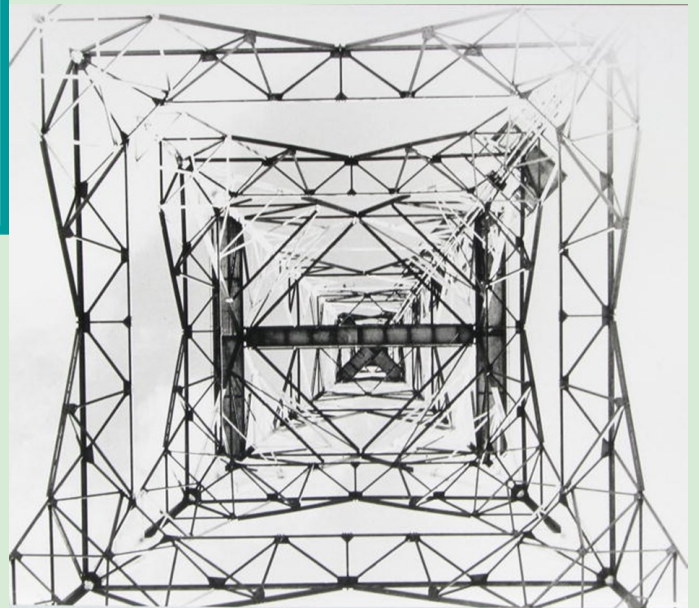
ABN Television Tower construction, 1956.

Telecommunication

Letter from Manager, Telephones, 23 November 1897

Chatswood Phone Lines

6650 LINES IN NEW EXCHANGE

Mr. H. B. Turner, M.H.R., has announced that a contract has been let for a new telephone exchange in Victoria Avenue, Chatswood.

The new exchange is on the site of the old Post Office building, and is an extension to the existing exchange.

The two-storey building is approximately 228 squares, with provision for a future second floor extension.

A large foyer off Victoria Avenue will accommodate the telephone booths and provide access to the building.

The ground floor accommodation will consist of air conditioning plant, power and battery rooms, stores and office areas.

Staff facilities will also be provided on the ground floor.

The first floor will consist of equipment areas and the Supervisor's office.

Mr. Turner said the new exchange will provide 6,650 lines, increasing the ex-change capacity to 14,150 lines.

The building was designed by the Commonwealth Department of Works, which will supervise the construction.

The work, costing 284,964 dollars, is due for completion in April next year.

- **1911** • 802 Lines
- **1917** • 1,902 lines
- **1924** • 4,251 lines
- **1967** • 6,650 lines

TECHNOLOGY ON TREND at Willoughby

Threat to end telegram service brings protests

Advocate 10·11·82

LOCAL residents and Willoughby Council are fearful the 100-year-old public telegram service may be discontinued.

A group called DOPTS, In Defence of the Public Telegram Service, says Telecom is proposing to withdraw the service completely, or restrict its hours of operation to a point which will discourage its use.

Willoughby Council said it used the service from time to time and it was felt it was an integral part of the communication system and should be retained and maintained at a high peak of efficiency.

It recommended at its meeting last week to support any action to retain the service.

Mr David Dawson.

secretary of the Union of Postal Clerks and Telegraphists, said since Telecom had taken full responsibility for operating the telegram service it had been working towards its total abolition by applying regular price increases and by downgrading and restricting telegram delivery.

He said in 1975 a telegram was usually delivered within an hour.

Today it took up to five hours.

"If a customer complains to Telecom about the delay it refunds the money without taking any action to improve the service," Mr

BY JAYNE NEWLING

Dawson said.

A Telecom spokesman said there were no plans at this stage to discontinue the service.

This is despite a further decline from 1980-81 to 1981-82 of telegram usage by 11 per cent.

He said there were about 5 million telegrams sent in 1980-81 compared to about 4.5 million in 1981-82.

He said there had been no price increase from 1979 except on September 1, 1982, which was part of the whole range of Telecom price

adjustments.

"The service is a highly labor intensive one and because of the decline in its usage the cost to Telecom and its agent, Australia Post, is increasing," he said.

"Using the STD telephone system is cheaper than sending telegrams," he said.

In answer to a question raised in Federal Parliament last month, Communications Minister, Mr Neil Brown, said the public telegram service would undoubtedly continue in this country.

"I can be sure of that," he said.

"The disturbing area, however, is that in recent

years there has been a steady decline in the use of the service.

"That has been matched by a very substantial increase in the costs of running the service.

"So much so, that this year and in recent years it has been running at a loss of about $20 million a year."

Mr Dawson has appealed to all North Shore telegram users to write to Mr Brown or the local member to inform them of the concern for the future of the telegram service.

The Chatswood Post Office receives between 40 and 60 telegrams a day.

Advocate, 10 November 1982

August 1984 - Thousands of Northside telephones were switched through for automatic international dialling – telephone subscribers in Chatswood could now dial overseas numbers without going through an operator.

TECHNOLOGY ON TREND at Willoughby

Optus cables

Anti-cable rally

by MALISSA MILLIGEAN

Council backs residents

WILLOUGHBY Council plans to re-ignite public pressure on the Federal Government to bury telecommunications cables by calling a public rally on March 8.

Council is convening the rally at the Willoughby Civic Centre in association with the prolific Cables Downunder — a lobby group which has connections with 14 Sydney councils.

Prime Minister John Howard, Local Government Association president Peter Woods, Democrats senator Lyn Allison and a bevy of local representatives, including Willoughby Mayor Eunice Raymond, among the invited line-up of ... Cr Raymond acknowledged

the aim of the rally was to bring the public's attention back to the overhead cabling issue.

"It was always going to be difficult — if not impossible — to stop rolling out overhead because of the legislation," she said. "I was resigned to lose that battle but we have to win the war and get the cables underground. It was always going to be a long term thing."

Council's recent $1000 donation to the Cables Downunder group further cements its readiness to commit financially to fighting overhead cables.

The Mayor said, however, she believed residents supported council's stand.

"I would say, from the response get, they would be very supportive.

"There's an extremely strong feeling out there about these cables and would think they think it was money well spent."

Cr Raymond said she was still getting legal advice on earlier calls for council to issue a boycott on Optus services.

The rally will be held from 10am 11am at Willoughby Civic Ce 411 Victoria Ave. Chatswood

*North Shore Times ,*19 February 1997
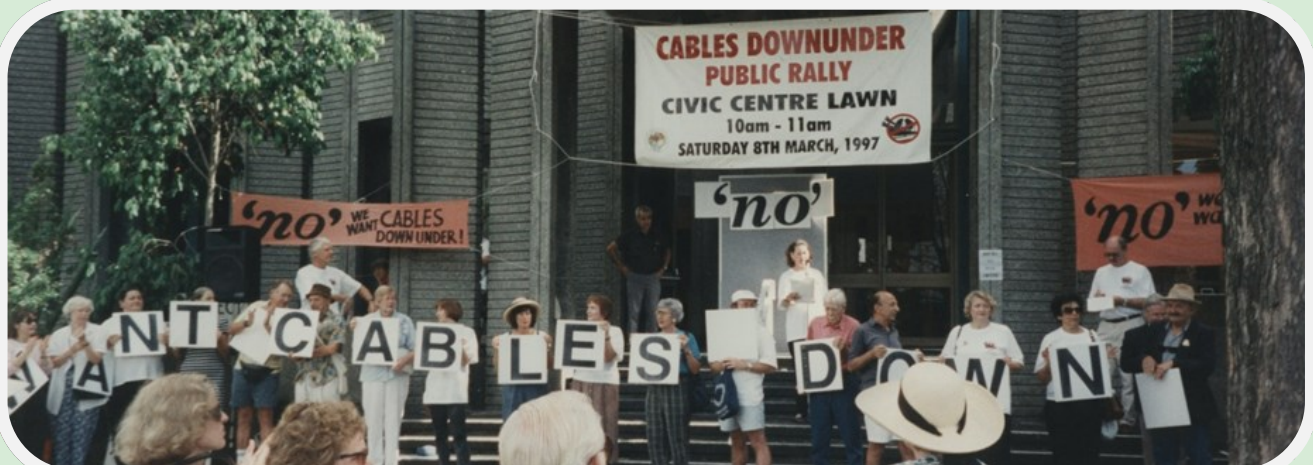
Cables Down Under Public Rally, 8 March 1997

Public Concern

NOTICE OF PUBLIC MEETING PROPOSED OPTUS MOBILE PHONE ANTENNAE AT NORTHBRIDGE GOLF COURSE

Council will hold a public meeting to discuss the proposal by Optus to erect mobile phone antennae at Northbridge Golf Course.

The public meeting is to be held at the Northbridge Public School, Sailors Bay Road, Northbridge on Thursday, 9 June 2005 commencing at 7.00pm.

The purpose of the meeting is to discuss the proposal and to discuss how concerns raised by the local community might be addressed.

A representative from Optus has been invited to attend the Public Meeting.

You are welcome to attend the public meeting to give your views and to listen to others.

You do not need to register with Council to attend the public meeting.

John Owen
GENERAL MANAGER
31 VICTOR ST CHATSWOOD
PO BOX 57, CHATSWOOD 2067
Ph: 9777 1000 Fax: 941 8309

ww.willoughby.nsw.gov.au

North Shore Times, 8 June 2005

Towers a concern

VINCENT MORELLO

MORE than 100 parents and residents attended a public meeting last Thursday to dicuss plans by Northbridge Golf Course to install an additional mobile phone tower on its land.

Northbridge Primary School is next to the golf course and parents are worried about potentially harmful radiation emissions from existing towers next to the driving range.

Club executives have permitted Optus to erect three towers and the club is considering a fourth.

Each tower fetches $20,000 per year in rent to the golf course, which executives claim will fund its much-needed $1 million water catchment project.

But some parents said children should be at least 500m from the towers because too little is known about their emissions.

Others dissented and claimed a single mobile phone emits more radiation than a tower.

Willoughby Mayor Pat Reilly hosted the meeting in the school's hall and State Liberal MP for Willoughby Gladys Berejiklian and Federal Liberal MP for North Sydney Joe Hockey were also present.

Because the emissions from mobile phone towers are within Federal Government guidelines, state and local governments are powerless to stop phone companies from installing the devices anywhere they choose.

Mr Hockey agreed to speak to Optus representatives this week with hopes of relocating the towers to another location.

North Shore Times, 15 June 2005

TECHNOLOGY ON TREND at Willoughby

No dial tone

TELSTRA will switch off its CDMA mobile network this month, making CDMA phones redundant. Willoughby Council will accept old CDMA handsets, batteries, chargers and accessories at a MobileMuster drop-off point at Willoughby Council, level 4, 31 Victor St, Chatswood, from 9am to 5pm Monday to Friday.

North Shore Times,
9 April 2008

CDMA: Code Division Multiple Access

A mobile communication standard

NORTH WILLOUGHBY

Telstra boosts its mobile coverage

NORTH Willoughby and Roseville residents can now access faster downloads, with Telstra switching on 4G LTE mobile coverage.

Telstra is upgrading 200 suburbs, regional towns and holiday hot spots with 4G coverage by the end of 2013, and North Willoughby and Roseville are part of this program.

North Shore Times, 6 December 2013

CHATSWOOD

Mobile phone tower on course

A PROPOSAL to install a 30m telecommunications tower near Chatswood Golf course will be discussed on Thursday, January 29.

An information session is scheduled from 4pm to 6pm at Chatswood Golf Club.

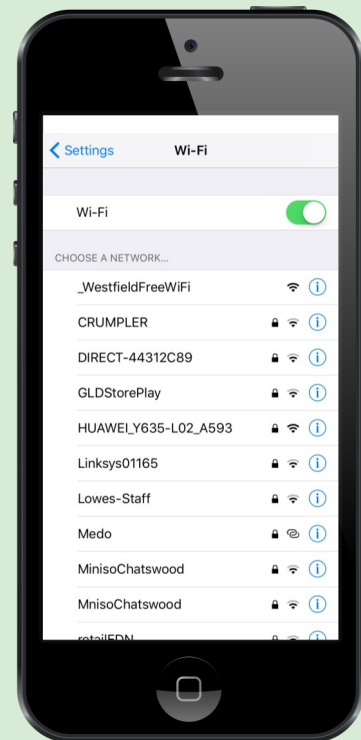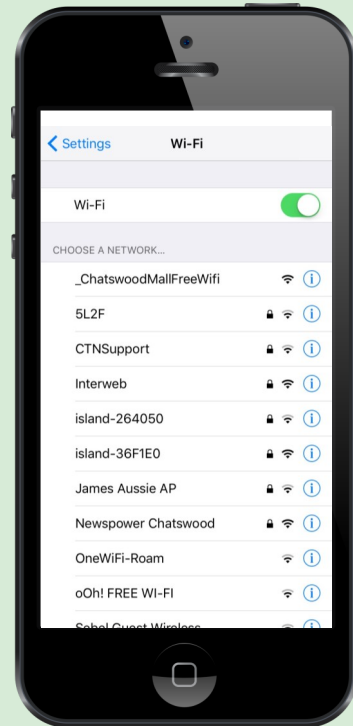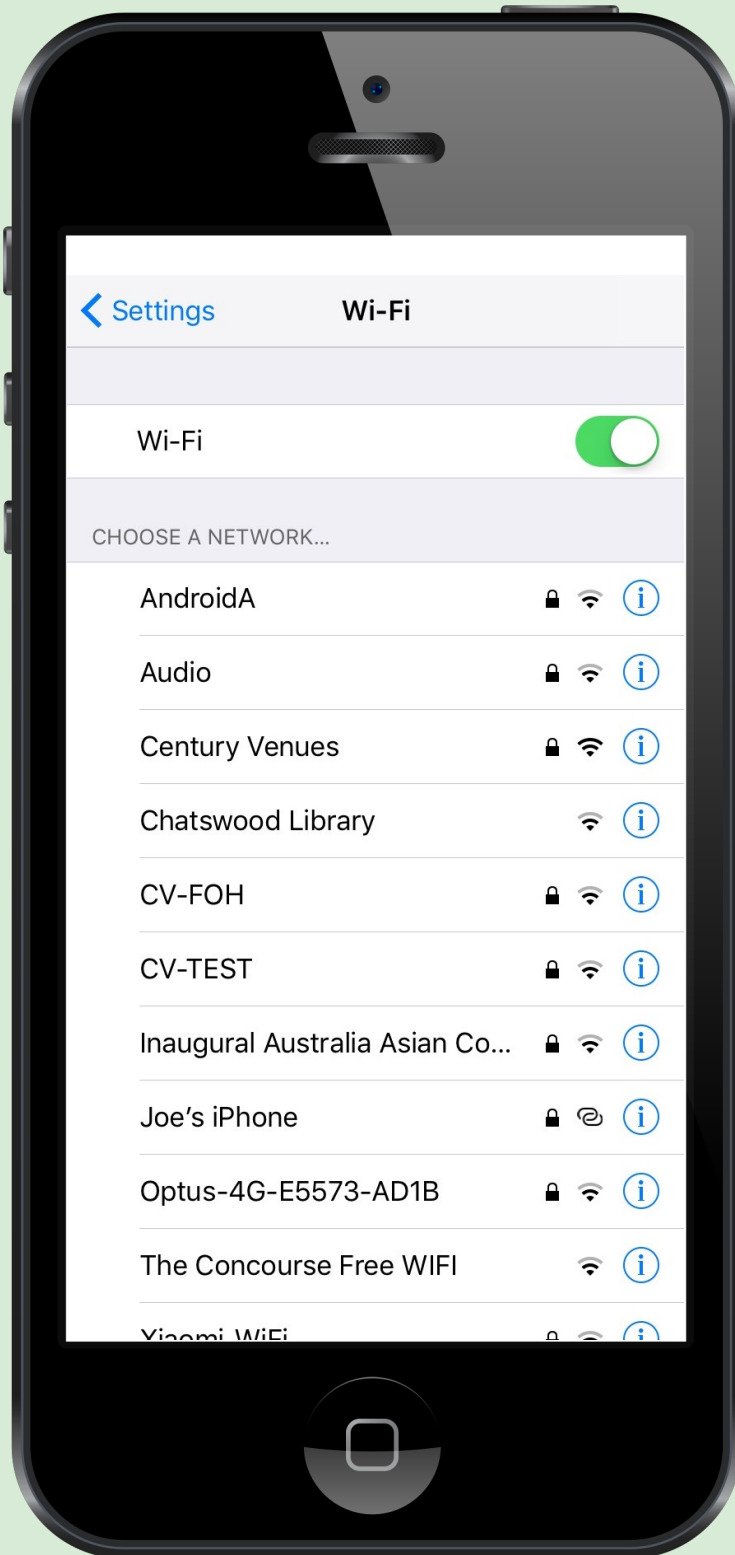The proposed Optus tower will improve call and data coverage in the area.

A development application will be lodged with Willoughby Council in February. Details, 9934 7840.

North Shore Times, 21 January 2015

TECHNOLOGY ON TREND
at Willoughby

Settings   Wi-Fi

Wi-Fi   ⬤

CHOOSE A NETWORK...

AndroidA	🔒	📶	ⓘ
Audio	🔒	📶	ⓘ
Century Venues	🔒	📶	ⓘ
Chatswood Library		📶	ⓘ
CV-FOH	🔒	📶	ⓘ
CV-TEST	🔒	📶	ⓘ
Inaugural Australia Asian Co...	🔒	📶	ⓘ
Joe's iPhone	🔒	🔗	ⓘ
Optus-4G-E5573-AD1B	🔒	📶	ⓘ
The Concourse Free WIFI		📶	ⓘ
Xiaomi WiFi	🔒	📶	ⓘ

Settings   Wi-Fi

Wi-Fi   ⬤

CHOOSE A NETWORK...

_ChatswoodMallFreeWifi		📶	ⓘ
5L2F		🔒 📶	ⓘ
CTNSupport	🔒	📶	ⓘ
Interweb	🔒	📶	ⓘ
island-264050	🔒	📶	ⓘ
island-36F1E0	🔒	📶	ⓘ
James Aussie AP	🔒	📶	ⓘ
Newspower Chatswood	🔒	📶	ⓘ
OneWiFi-Roam		📶	ⓘ
oOh! FREE WI-FI		📶	ⓘ
Sohel Guest Wireless			

Settings   Wi-Fi

Wi-Fi   ⬤

CHOOSE A NETWORK...

_WestfieldFreeWiFi		📶	ⓘ
CRUMPLER	🔒	📶	ⓘ
DIRECT-44312C89	🔒	📶	ⓘ
GLDStorePlay	🔒	📶	ⓘ
HUAWEI_Y635-L02_A593	🔒	📶	ⓘ
Linksys01165		📶	ⓘ
Lowes-Staff	🔒	📶	ⓘ
Medo	🔒	🔗	ⓘ
MinisoChatswood	🔒	📶	ⓘ
MnisoChatswood	🔒	📶	ⓘ
retailEDN			

Now in Willoughby

Industry in Willoughby has increased and diversified in the last century.

In 2016 the top three registered business industries in Willoughby were:

1 Professional, Scientific and Technical Services

2 Rental, Hiring and Real Estate Services

3 Financial and Insurance Services

This is based on how many businesses there are in Willoughby City within each industry sector using the Australian Bureau of Statistics (ABS) Business Register.

This differs from how many people were employed in industries in Willoughby. The employment by industry in 2016 was:

1 Health Care and Social Assistance

2 Professional, Scientific and Technical Services

3 Construction
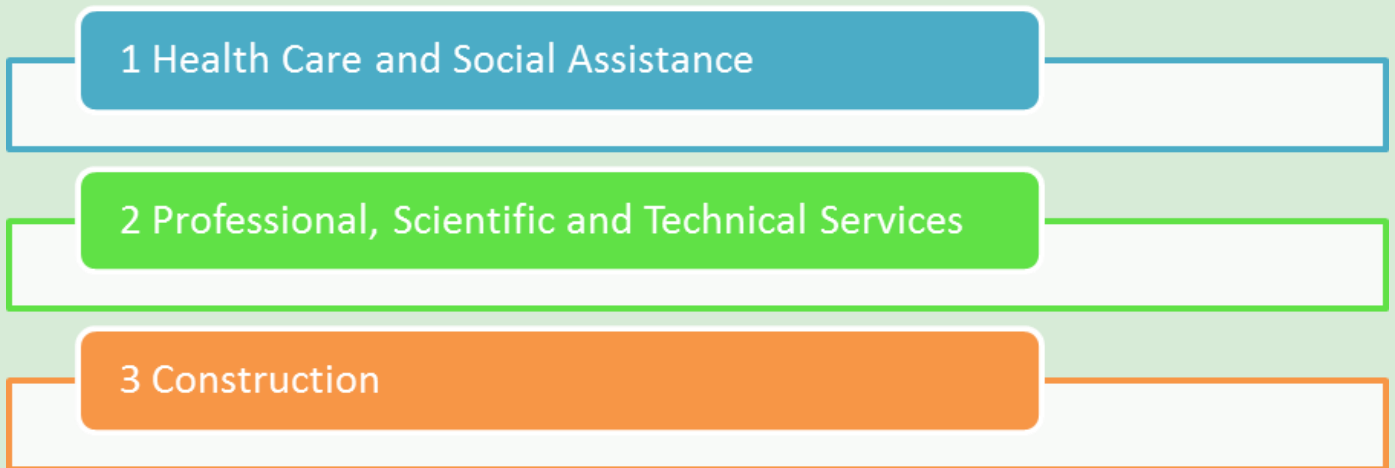
This is the estimated total number of persons employed in an industry sector (full-time and part-time) in Willoughby City regardless of where they live.
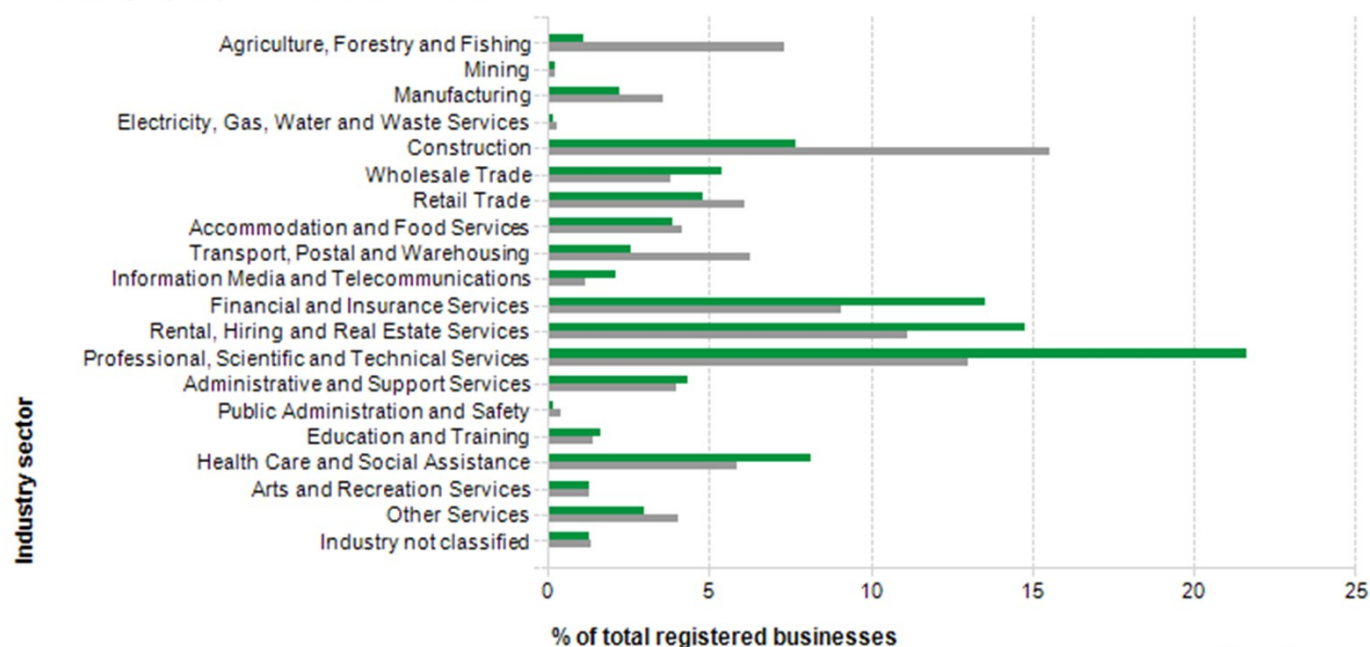
TECHNOLOGY ON TREND
at Willoughby

Registered businesses by industry 2016

Total registered businesses

■ Willoughby City　■ New South Wales

Industry sector (y-axis), % of total registered businesses (x-axis: 0, 5, 10, 15, 20, 25)

Categories (top to bottom):
- Agriculture, Forestry and Fishing
- Mining
- Manufacturing
- Electricity, Gas, Water and Waste Services
- Construction
- Wholesale Trade
- Retail Trade
- Accommodation and Food Services
- Transport, Postal and Warehousing
- Information Media and Telecommunications
- Financial and Insurance Services
- Rental, Hiring and Real Estate Services
- Professional, Scientific and Technical Services
- Administrative and Support Services
- Public Administration and Safety
- Education and Training
- Health Care and Social Assistance
- Arts and Recreation Services
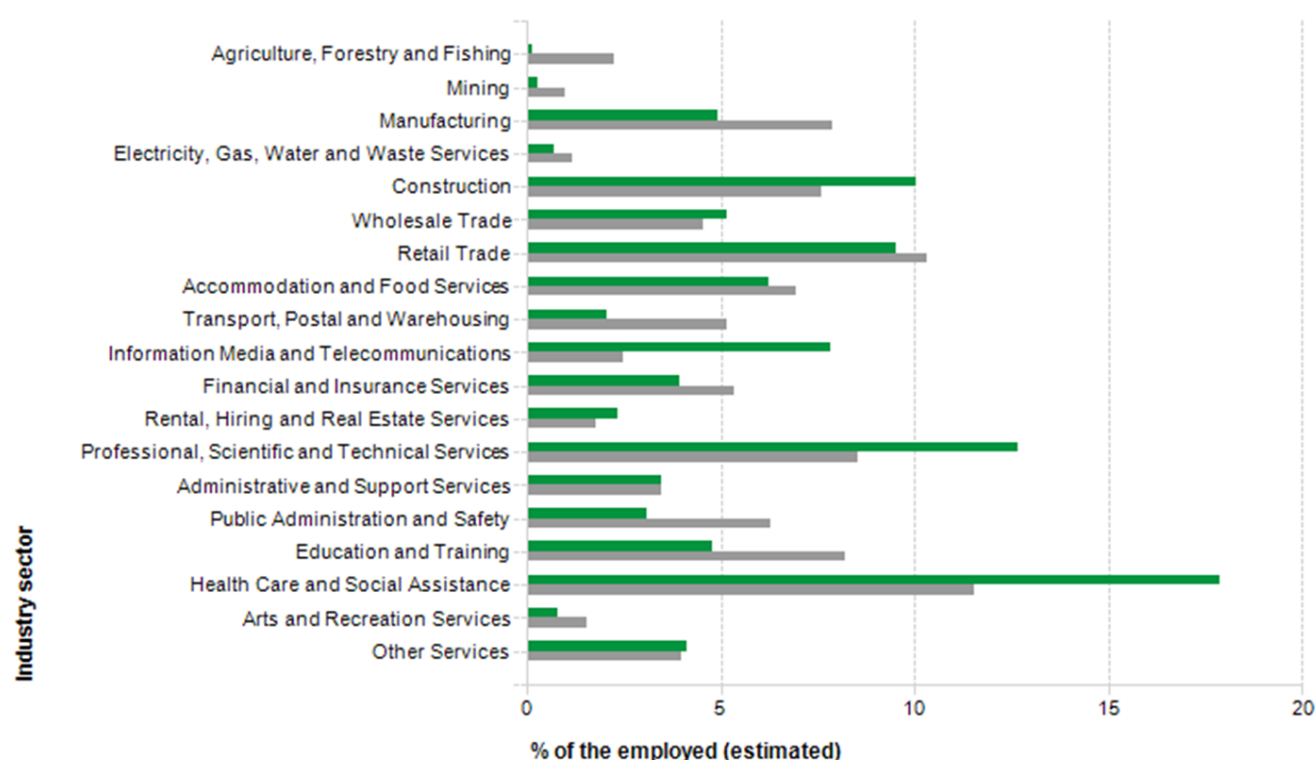- Other Services
- Industry not classified

Source: Australian Bureau of Statistics, Counts of Australian Businesses, including Entries and Exits, 2011 to 2015 Cat. No. 8165.0

.id the population experts

Employment (total) by industry 2015/16

■ Willoughby City　■ New South Wales

Industry sector (y-axis), % of the employed (estimated) (x-axis: 0, 5, 10, 15, 20)

Categories (top to bottom):
- Agriculture, Forestry and Fishing
- Mining
- Manufacturing
- Electricity, Gas, Water and Waste Services
- Construction
- Wholesale Trade
- Retail Trade
- Accommodation and Food Services
- Transport, Postal and Warehousing
- Information Media and Telecommunications
- Financial and Insurance Services
- Rental, Hiring and Real Estate Services
- Professional, Scientific and Technical Services
- Administrative and Support Services
- Public Administration and Safety
- Education and Training
- Health Care and Social Assistance
- Arts and Recreation Services
- Other Services

Source: National Institute of Economic and Industry Research (NIEIR) ©2016
Compiled and presented in economy.id by .id the population experts

.id the population experts

Textile Willoughby Speedo

Speedo Knitting Mills Pty Limited

MEMORY

According to a letter by A. Dimmock to the Willoughby District Historical Society the machine floor consisted of about 30 sewing machines used for swimwear, Jockey underwear, T-shirts and dresses. On the cutting floor fabrics were laid out in layers on long tables and the patterns were cut using electric cutting machines.

1957

Speedo opened its new factory at 239 Pacific Highway Artarmon. It housed the head office, machine floor, cutting floor and a packing and dispatch section. It was heralded as one of the most modern sportswear factories in the Southern Hemisphere.

1960

Artist Peter Travis came up with a design to position the male swimwear briefs on the hips, not the waist. The iconic Speedo design, now favourably known as Budgie Smugglers, was an immediate hit. Rumour has it that the first men to wear these Speedos at Bondi Beach were arrested for indecent exposure.

1979

In the 1970s competition from overseas manufacturers became fierce. The Artarmon factory closed in 1979 and the company was sold to overseas investors.

TECHNOLOGY ON TREND
at Willoughby

Ralstan

1946

Ralstan was founded by Ralph and Frederick Staniland who found a niche market for high quality Australian made women's dressing gowns.

1960s

Ralstan opened a small machinist factory in Prentice Lane Willoughby. They were one of the first companies in NSW to use machine embroidery on clothing garments. Ralstan bought fabric from local designers such as John Kador but the majority of garments were made from a wool-mohair fabric woven in Onkaparinga, Adelaide.

1972

The reduction in tariffs opened up the market to cheaper imported clothing and the Willoughby factory was forced to close.

Colourful leisurewear gowns by Ralston featured in the *Australian Women's Weekly*, 24 December 1975

TECHNOLOGY ON TREND
at Willoughby

The library

1875
- School of Arts Library opened on Mowbray Road.

1910
- School of Arts moved to Victoria Ave Chatswood.

1977
- Willoughby Municipal Library (Chatswood Library) opened at 407 Victoria Ave.

1983
- Willoughby Libraries joined the Shorelink Network.

1996
- A major refurbishment incorporated a new loans and reference desk.

2007
- The library had outgrown its premises. The Victoria Avenue site was closed for renovations and a temporary library set up in the Mandarin Shopping Centre.

2011
- Chatswood Library on The Concourse opened, three times larger than the former library and one of the largest public libraries in New South Wales.

2017
- As of 2017 Willoughby City Library Service includes seven libraries at Chatswood, Artarmon, Castle Cove, Naremburn, Northbridge, West Chatswood and the community-run Castlecrag Library.

Machines

Public libraries, as community and information spaces, are in a constant state of evolution. When technology changes, the way we store, find and use information changes. The ways in which we can serve our community change. Look at how the Willoughby City Library Service has embraced technology over the years.

Microfilm

Microfilm is film containing microphotographs of newspapers, catalogues or other documents.

Before the age of digitisation it was used to store information from records efficiently in a smaller space.

It enabled public access to information that was otherwise inaccessible due to preservation concerns.

Willoughby Library Services has held microfilm since the 1980s.

Microfilm Reader, 2002

Chatswood Library has many records on microfilm, that can now be read using a digital scanner and computer, rather than the microfilm reader.

TECHNOLOGY ON TREND
at Willoughby

Information desk, Willoughby Municipal Library, Chatswood, 1981. LPs (vinyl records) were available for loan or listening in the library.

The Audio Navigator

A digital audio book player designed with a simple interface for people with little technical knowledge and/or vision difficulties. This is a Navigator 3 model by Audio-Read Pty Ltd.

| Books on Tape | Books on CD | eAudio Books |

Hear-A-Book service, Willoughby Municipal Library, 1981

TECHNOLOGY ON TREND
at Willoughby

Photocopiers at Willoughby Municipal Library, 1989. This one was a coin operated copier.

2017

We are in the process of digitising many of our Local Studies records.

Copiers now also print and scan. Value is added to the user's library card at the E-Payment Kiosk.

The Catalogue

What is the Catalogue?

A catalogue is a database of all the bibliographic items found in a library. The original type of catalogue was the card catalogue, with each card containing information such as the title, author and publisher of the item as well as its location within the library.

The card catalogue has been replaced by the Online Public Access Catalogue (OPAC) in most libraries. This is available on the Willoughby Library website and on the OPACs in the library.

Interior of Willoughby Municipal Library, Chatswood, 1983. Note the card catalogue near the window.

TECHNOLOGY ON TREND
at Willoughby

Staff on phone, using card catalogue, 1983
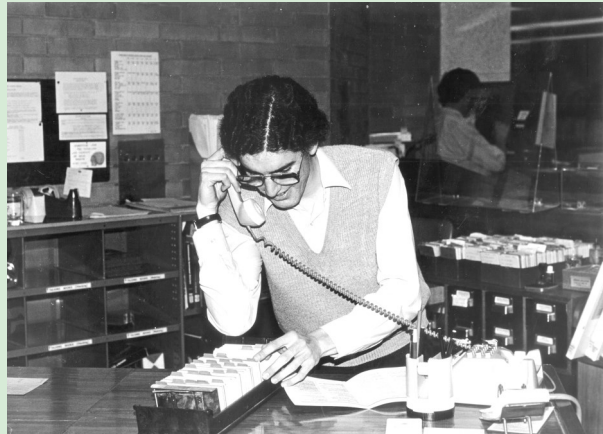
Online public access catalogue (OPAC) terminals at Willoughby Municipal Library, Chatswood, 1989

Using the computer catalogue, 2005

TECHNOLOGY ON TREND at Willoughby

WILLOUGHBY CITY LIBRARY

SUGGESTION BOX

Your say:
Library users should have the choice of using the computer or the catalogue cards. Did you conduct a survey before deciding what was best for us? It was a horrible shock to see that they had disappeared. I suppose one day there'll be no books either – just drawers of computer discs.

Our say:

WE ARE SORRY YOU WERE SO SHOCKED TO SEE THAT THE CARD CATALOGUE HAD DISAPPEARED, BUT WE WILL TRY TO EXPLAIN WHY IT WAS NECESSARY TO TAKE THAT ACTION.
AFTER OUR COMPUTER CATALOGUE WAS INTRODUCED, WE CONTINUED TO MAINTAIN THE CARD CATALOGUE, BUT THIS BECAME INCREASINGLY MORE AND MORE COSTLY.

CURRENTLY WHEN ADDING NEW BOOKS TO OUR STOCK, ALL DATA IS KEYED INTO THE COMPUTER SYSTEM. TO MAINTAIN CARDS AS WELL, WE USED TO TYPE CARDS, CHECK AND SORT THEM INTO ALPHABETICAL ORDER, AND FILE THEM INTO THE CARD CATALOGUE. WHEN BOOKS WERE WITHDRAWN FROM STOCK, THE CARDS HAD TO BE REMOVED FROM THE CATALOGUE. ONE BOOK COULD HAVE AN AVERAGE OF 4-5 CARDS, AUTHOR, TITLE, AND

SEVERAL SUBJECT CARDS. ALL OF THIS FILING AND WITHDRAWING FROM THE CATALOGUE WAS DONE FIRST THING IN THE MORNING, BEFORE THE LIBRARY OPENED TO THE PUBLIC. TO IMPROVE OUR SERVICE WE HAVE RECENTLY EXTENDED OUR HOURS BY OPENING AT 9 A.M. INSTEAD OF 10 A.M. EACH WEEKDAY. THIS HAS LIMITED THE AMOUNT OF TIME THE STAFF HAVE AVAILABLE TO DO MAINTENANCE OF STOCK AND RECORDS NORMALLY DONE WHILE THE LIBRARY WAS CLOSED.
WE HOPE THE DAY WILL NEVER COME WHEN THERE WIL BE NO BOOKS.

Date:

The library has also used various paper catalogue lists for special collections over the years. In 2017 all new items are listed directly in the online catalogue.

THE COUNCIL OF THE MUNICIPALITY OF WILLOUGHBY

NOT FOR LOAN

TELEPHONE (02) 412-9100 Extension

ADMINISTRATIVE BUILDING
411 VICTORIA AVENUE
CHATSWOOD N.S.W.

POSTAL ADDRESS
BOX 57 P.O. CHATSWOOD 2067
DX 29596 CHATSWOOD
FAX (02) 411 8309

Willoughby Municipal Library
407 Victoria Av., Chatswood
N.S.W. 2067, Australia
Tel. 419.7816
Fax. 413.2038

CHINESE BOOK LIST 2nd edition

中文圖書目錄 第二版

WILLOUGHBY CITY LIBRARY
REFERENCE SECTION
This book may **not** be borrowed for home reading.

WILLOUGHBY CITY LIBRARY

E S L CASSETTES AND VIDEOS

October 1993

WILLOUGHBY MUNICIPAL LIBRARY
WILLOUGHBY MUNICIPAL LIBRARY

TALKING BOOK CATALOGUE

1988

PHONE: 419-7816

| Available to all Borrowers

Audio Book

Audio Book Catalogue 2006

Phone: 9777 7900
Email: library@willoughby.nsw.gov.au
Website: www.willoughby.nsw.gov.au

Willoughby City Library
407 Victoria Ave
CHATSWOOD

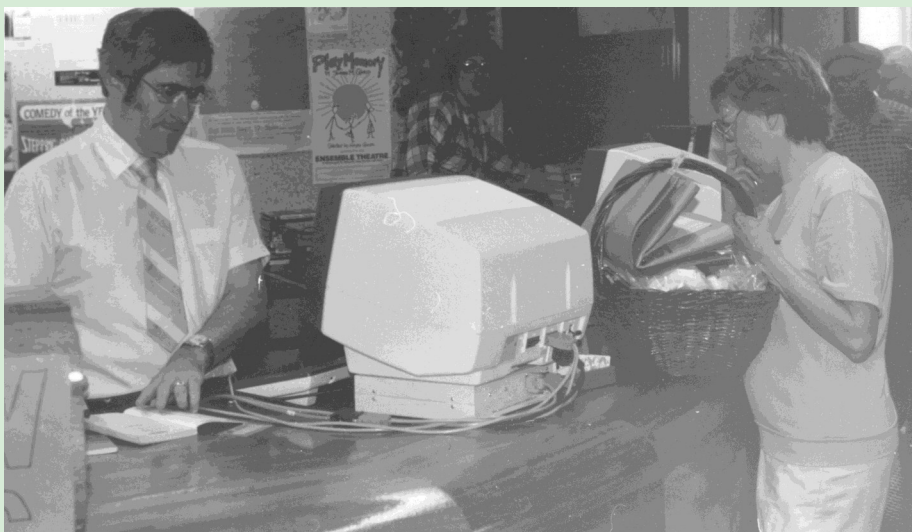# TECHNOLOGY ON TREND at Willoughby

Loans and Returns

In the very first libraries loans and returns were recorded in handwritten ledgers. The call number, author and title of the book, and the borrower's identification were recorded.

Date-of-issue card: This contained the name, author and call number. Upon borrowing, the card was removed from the book. The borrower's information and the date of the loan was recorded.

Computer based loans and returns offered a more efficient sytem.

Willoughby City Libraries now use an online Library Management System (LMS), one part of which is a loans and returns portal.

Computerised loan system, 16 Sept 1985.

Circulation desk at Willoughby City Municipal Library, Chatswood, after the Easter long weekend, 1985.

Book returns after the Easter long weekend, April, 1985.

TECHNOLOGY ON TREND
at Willoughby

INTERESTING FACT

Castlecrag Community Library,
a volunteer run library open
$6^{1/2}$ hours each week, still uses
an electric typewriter and a
paper based card system.

Online, web-based loan system at the temporary
library in the Mandarin Shopping Centre, July 2007.

TECHNOLOGY ON TREND
at Willoughby

Self Check Machines, Chatswood Library on The Concourse, 2015

Self Check Loans

RFID self check loans machines allow customers to issue and renew materials themselves, rather than queuing at the service desk.

Automated Returns

The Automated Materials Handling System (AMHS) is a system that returns books and sorts them into appropriate bins for loading onto trolleys for shelving.

The Returns Room, Chatswood Library on The Concourse, 2011

Information Storage

The term *library* is synonymous with information. The way we store information affects the *equipment* we use, how *much* information we can access and how *easily* we can access it.

Floppy Disc

A type of disk storage common from the mid-1970s to the early 2000s

The disk was composed of a thin and flexible magnetic storage medium sealed in a plastic case lined with fabric that removed dust particles. A normal 3½ inch disk could store 1.44 MB of data. This was enough for simple text documents.

Compact Disc

A digital optical disc data storage format

It was first released in 1982 as a way to store and play sound recordings. It was later adapted to other types of data storage such as the CD-ROM. The CD-ROM lost popularity with the dawn of the Internet. The library still has music CDs, Talking Book CDs and language kits containing CD-ROMs that receive regular use.

USB drive

A removable and rewritable storage device

AKA USB stick, thumb drive, pen drive, jump drive, disk key, disk on key, flash-drive, memory stick or USB memory. USB stands for Universal Serial Bus. It was introduced to the market in the early 2000s and could initially hold up to 8 MB of data! In 2017 USBs can hold over 100GB although the most affordable options are between 8GB and 16GB. These are popular for printing and scanning in the library.

TECHNOLOGY ON TREND
at Willoughby
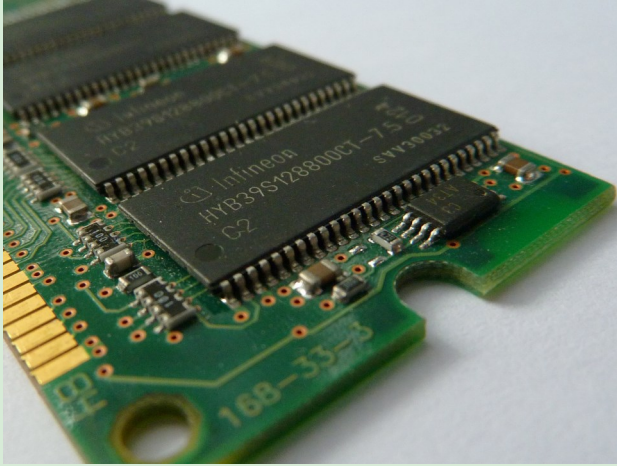
RAM

Random Access Memory

This is primarily used as main memory inside computer devices.

Paper

Many people still use information in hardcopy. Books and reports are two examples.

PICTORIAL HISTORY
WILLOUGHBY
ARTARMON • CASTLE COVE • CASTLECRAG • CHATSWOOD • MIDDLE COVE
NAREMBURN • NORTHBRIDGE • ST LEONARDS • WILLOUGHBY

BOB McKILLOP
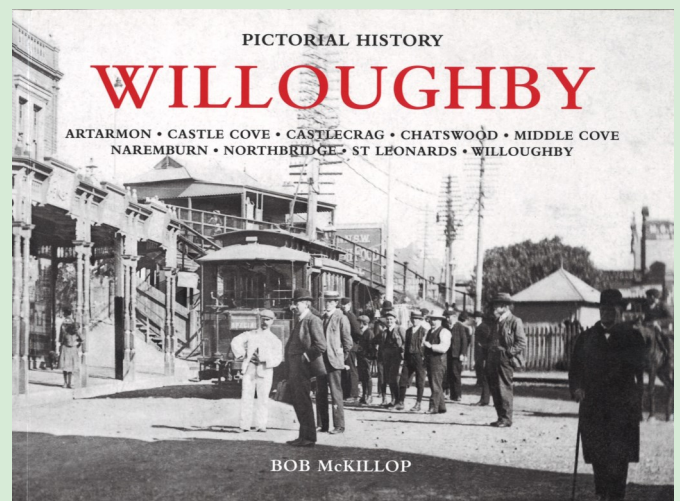
Online Storage

A LOT of information is stored on publicly accessible websites such as our library website. Other information is password protected, such as library subscriptions of eResources. However, more and more people are choosing to store their own data in secure online accounts also known as Cloud storage.

Computer +

In 1983 Willoughby Municipal Library acquired two public computers.

Ethel

Fred

WILLOUGHBY MUNICIPAL LIBRARY.

APPLE MICROCOMPUTERS.

The library has two Apple IIe Microcomputers for public use, known familiarly as 'Fred' and 'Ethel'.

'Fred' is for general use, including staff use. 'Ethel' is fitted with an 80-column card and a printer, and is restricted to use by members of the public specifically authorized to do so. (List on following page). Authorization should be arranged through David Lakos or John Flint in normal business hours. (Authorization is necessary because the machine is used for Council and Library word processing and must be kept in condition for constant use.)

'Fred' bookings are limited to ONE HOUR, ONE BOOKING AT A TIME. Use discretion for educational programs.

'Ethel' bookings are flexible.

Generally speaking, use should be limited to two people at one time to minimize noise and other disturbance. If an adult is present, this rule may be relaxed.

Software programs on floppy disks are available for use by the public (housed in looseleaf binder). Note program numbers borrowed. Make sure that disks and manuals are returned.

We have come a long way since Fred and Ethel!

TECHNOLOGY ON TREND
at Willoughby

Public access computers and photocopiers unavailable

We anticipate that the **public access computers** (internet, email and word processing) and **photocopiers** will *not* be available from 9am on Monday, 30th August until 9pm on Tuesday, 31st August 2010.

This is to allow for an upgrade of the PC Reservation system and printing facilities.

WiFi will be available during this time.

Willoughby Library apologises for any inconvenience.

Hardware and software have to be regularly maintained and updated.

Willoughby City Library poster, 2015.

Booking & logging onto computers

Internet computers:
Allow internet browsing and 2003 Microsoft Office applications.
Quick internet: Computers 1 and 2 — sessions are 30 min.
Normal Internet: Computers 5 to 15 — sessions are 60 min.

Email computers 3 and 4
These are the only computers available for access to email and are not booked computers. They also allow internet browsing and 2003 Microsoft Office applications.
They are only available for 30 min sessions and can only be used for one session a day.
Email compuuturs have a $1.50 charge for 30 min use.

Language Learning
These computers are set up for language learning such as ESL studies only. There are 5 Language learning computers in the Language learning room.

Childrens
These are set up with children's games and databases only. There are 6 children's computers found between the welcome desk and children's area. Printing is available from only one of the children's computers.

Local History
These 3 PCs are set up for Local and Genealogical studies as well as use of the microfilm/fiche reader.

Printing can be done from all but 5 of the Children's PCs. To print you need credit on your library card or a casual ticket from the Print-Copy Kiosk in Copy Room 1.

CHATSWOOD LIBRARY
ON THE CONCOURSE

2017

Computer procedures have now changed. Willoughby City Libraries no longer charge for email access. Please visit our website or ask library staff for more information on current computer procedures.

TECHNOLOGY ON TREND
at Willoughby

2006

Wireless Internet technical trial began at Chatswood Library.

Wireless

The age of WiFi meant that Internet access was no longer limited to public computers. People could sit anywhere in the library and connect to the Internet using their laptops. It triggered a proliferation of devices for both library staff and the public. Today " you can see clients' smart phones, tablets and notebooks scattered around the library.

" Dear Willoughby City Library Member,

Thanks for your patience and feedback regarding the wireless access trial we have been running over the past two weeks. We are aware that there have been various problems with the access and speed of the network, and in most cases it just wasn't working. This has caused frustration for all of us, we are just as keen as you to have the service up and running reliably as it has been at the other libraries. Fortunately after much investigation we have uncovered the problem which was causing a variety of things not to work. This has been fixed and thoroughly tested, so that now you should have seamless and uninterrupted internet access. We have extended the trial for another 2 weeks, so that you get a chance to see just how well it does work. We have also extended access to 4 hours at a time so that you can really relax and have time to test the service out.

Excerpt of a letter from Willoughby City Library to the Public, 2006

2007

Wireless Internet was implemented permanently at Chatswood Library.

Wifi was rolled out at Willoughby branch libraries between 2009-2010.

Wireless Internet was introduced in November 2007.
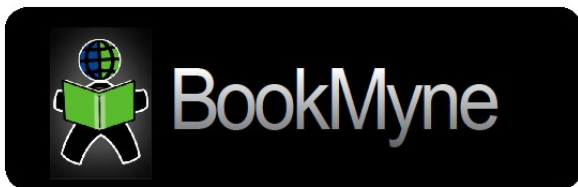
TECHNOLOGY ON TREND at Willoughby

2011

Nearly 1/3 of public library services in Australia offered wifi in all their libraries.

75% of libraries provided wifi in some or all of their service points.

At least 25% of libraries did not offer wifi. (*ALIA Internet Access in Public Libraries Survey*, 2011)

BookMyne

Willoughby City Library is now available on your iPhone!

BookMyne is a library user app from SirsiDynix that lets you:

- Use GPS to locate nearby libraries (available for all Shorelink libraries, users can also browse the globe for any registered location)
- Navigate to the library's home page
- Search the library catalogue
- Renew checked out items
- Place and cancel hold requests
- Check your account details

Try BookMyne today

Willoughby City Library poster, 2010.

2017

BookMyne is no longer available at Willoughby City Libraries.

TECHNOLOGY ON TREND at Willoughby

WILLOUGHBY CITY COUNCIL
City of Diversity

STARTUP GUIDE
Softbook eBook

If you unsure at any time regarding the use of this eBook reader phone **Willoughby City Library on 9777 7900** or return the device to **Willoughby City Library** during library opening hours.

PLEASE READ THESE IMPORTANT SAFETY INSTRUCTIONS

When using the REB1100 eBook reading device, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. **Do not use** the eBook near water (eg. near a bathtub, kitchen sink or laundry tub or near a swimming pool).

2. **Avoid using** the eBook during an electrical storm. There may be a remote risk of electric shock from lightning.

3. **Use only** the power adaptor and rechargeable battery included with your eBook. Do not dispose of the battery, return it to the library.

4. **CAUTION** – Do not remove the cover (or back). There are no user serviceable parts inside. Return to Willoughby Library for servicing.

5. **CAUTION** – To ensure reliable operation and to prevent overheating, provide adequate ventilation for your eBook and keep it away from heat sources. Provide for free air flow around the eBook and its power supply.

Using the ebook reader

1. To turn on the eBook reader press the **MENU** button once, which is located on top left of the device.

2. Press the **BOOKSHELF** button (top right of the device) to see the titles that are available on this e-book reader.

3. Remove the **stylus** (found inserted at the bottom right hand corner of the device) and touch it to the screen to select the title you wish to read. You can also touch the screen with a finger.

4. Pages are 'turned' by pressing the **right hand button** either to the left (back) or right (forward). Holding the button down continually will turn pages automatically one by one.

5. The **dials** on the right hand side allow you to adjust the brightness and contrast on the screen.

6. To turn the reader off press the **MENU** button once and press the **OFF** button on the screen.

7. To check the reading time available press the **MENU** button and the battery life will be displayed in the toolbar. Instructions on recharging the battery are included on the following page.

Original eBook Reader

This device came onto the market in the early 2000s before the Kindle, smart phones and tablets. It has 8MB of built in memory.

The library borrower had to sign a Loan Agreement agreeing to liability for the cost of loss or damage up to $1,150.85. They were also issued with very comprehensive safety instructions.

The Internet:
A Love
Story

Libraries love providing access to information free to the public. The internet means that information and our library services are more accessible to the public.

1995 Library staff Internet access

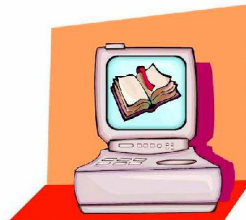**1997** Public Internet access

2005

Internet Tutorial: Yahoo

2006

This computer is reserved for

eBook
Tutorials
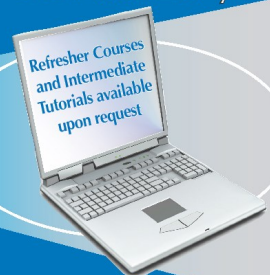
We apologise for any inconvenience.

If you would like to book an eBook Tutorial, please ask at the Information Desk.

2009

Free Internet Tutorials for Beginners
@ Chatswood Library

Refresher Courses and Intermediate Tutorials available upon request
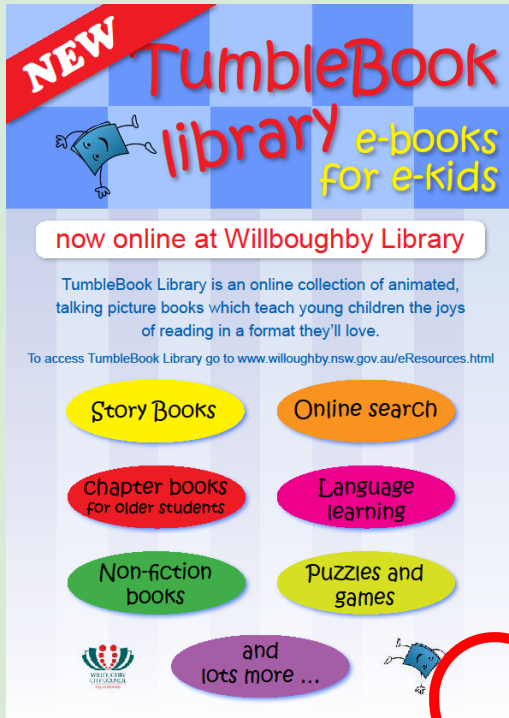
* Tutorials held in English, Mandarin and Cantonese.
* Maximum of 2 people per class.
* Classes held on Tuesday morning and Friday afternoon
Bookings essential - phone the Library on 9777 7900 or ask at the Information Desk at Chatswood Library, Level 1, Mandarin Shopping Centre, 65 Albert Ave, Chatswood.

TECHNOLOGY ON TREND
at Willoughby

2010

NEW

TumbleBook library
e-books for e-kids

now online at Willboughby Library

TumbleBook Library is an online collection of animated, talking picture books which teach young children the joys of reading in a format they'll love.

To access TumbleBook Library go to www.willoughby.nsw.gov.au/eResources.html

- Story Books
- Online search
- Chapter books for older students
- Language learning
- Non-fiction books
- Puzzles and games
- and lots more …

@ **Chatswood Library**

Free Wi-Fi

HOTSPOT for Internet

Passwords are available at the Information Desk

Wireless Internet is available at Chatswood Library

2017: Willoughby City Libraries no longer have a password for the Internet Hotspot. Customers connecting to the WiFi will be prompted to accept our terms and conditions and will then automatically be logged in.

2015

Using the Library's email computers

To use email you need credit on your library card or casual ticket.

Email use is $1.50 for a half hour.

Email computers cannot be booked ahead of time.

At the end of your session you will be prompted if you want another half hour session. To do this you will need at least another $1.50 credit.

There is a total 1 hour limit to e-mail use.

To use the email computers

1 Click on Press Here To Start .

2 Enter your library card or casual ticket number and click OK .

3 Click 30mins ($1.50) .

4 Click on Yes to confirm.

Be aware to extend your e-mail session an extra half hour or if you want to print from the e-mail computer you will need more than $1.50 credit.

See the 'Printing from the library's internet computers' instructions for more advice.

CHATSWOOD LIBRARY ON THE CONCOURSE

---

eReading at Willoughby City Library
http://www.willoughby.nsw.gov.au/library/ecollections

eREADING

February 2015

Get set-up with *BorrowBox* **eAudiobooks on your PC or laptop**

Setting yourself up

Step 1: Go to www.willoughby.nsw.gov.au/Library
Select 'eReading' button and then select *Shorelink BorrowBox Library*.

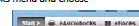Open the Shorelink BorrowBox Library

Step 2: Sign in
Click on the *Sign In* link on the top right of the page —
Enter your Library Card barcode number and Library PIN/password.
(Record details in a safe place)
You are now ready to select your eAudiobook

Sign in to with your Library card barcode number and password

Accessing *BorrowBox* **eAudiobooks**

Step 3: Choose a eAudiobook
In Digital Library, to view, click on *eAudiobooks* menu and choose from a category to browse eAudiobooks.

Choose your eAudiobooks

Step 4: Borrow your eAudiobooks
Once you have found a title, select *Borrow* or *Reserve*

Preview   Reserve   Preview   Borrow
Confirm your eAudiobook loan
(or Cancel if you change your mind)   Confirm eAudiobook Loan

Borrow your eAudiobook

Willoughby City Library Services
Phone: 02 9777 7900 email: library@willoughby.nsw.gov.au
www.willoughby.nsw.gov.au/library

TECHNOLOGY ON TREND at Willoughby

2016

2017

2017

Internet services and workshops are updated regularly. Please visit the library website or ask library staff for current practices.
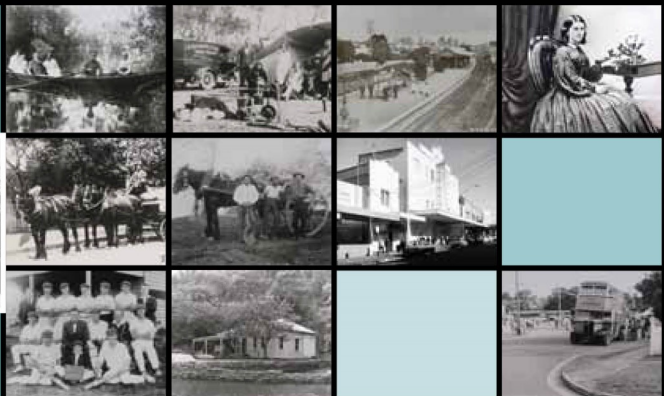
TECHNOLOGY ON TREND
at Willoughby

Picture Willoughby

WILLOUGHBY
CITY COUNCIL

Chatswood Library on The Concourse,
Lower Ground, 409 Victoria Ave, Chatswood

Picture Willoughby

Picture Willoughby comprises over 9,000 images of the local area available online via the Library website. These date from 1890 and include rare images documenting the Great Depression era relief work program. The digitisation of these images was made possible through grant funding from the State Library of NSW.

You are welcome to contribute to the Picture Willoughby archive by donating originals or scans of your own images of Willoughby district. Please ask the Local History staff, phone the library 9777 7900 or email library@willoughby.nsw.gov.au for more information.

{ *This display is brought to you by the Local Studies Team at Willoughby City Library Services, 2017.* }