Public Wi-Fi in Australia: A Brief History

Ian McShane
## Broadband infrastructure types and providers

<table>
<thead>
<tr>
<th>Service provider</th>
<th>Service type</th>
<th>Mobile (and Nomadic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial (For-Profit)</td>
<td>Fixed: - DSL - Cable - Fibre-to-the-home</td>
<td>Mobile: - Internet cafés</td>
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<td></td>
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<td>- Fee for service wireless hotspots</td>
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<td></td>
<td></td>
<td>- Subscription-based 3G/4G/WiMax services</td>
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<tr>
<td>Public Sector/Government</td>
<td>- Municipal wireless projects serving residences</td>
<td>- Municipal wireless projects serving public places</td>
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<td>- Municipal/utility FTTH projects</td>
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<td></td>
<td>- Community access sites (eg. libraries)</td>
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<tr>
<td>User/Citizen</td>
<td>- Individuals’ open wireless networks</td>
<td>- Community wireless projects serving public places</td>
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<td>- Community wireless projects serving residences</td>
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<td>- User-owned FTTH networks</td>
<td>- Federated wireless sharing (e.g. FON)</td>
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<td>- Sharing of 3G/4G/WiMax services</td>
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Key determinants of municipal investment

- telecommunications markets and regulatory policies
- traditions of public intervention
- role of municipalities in urban planning and utility provision
Rationales for municipal investment

- equity & digital inclusion
- boost market competition
- service & infrastructure efficiencies
- civic engagement & community building
- economic development & local innovation
- safety & security
- urban rivalry
Criticism of municipal investment

• quality of service
• unsustainable business models
• mismatch with user needs
• poor risk assessment (financial, regulatory)
• limited evidence of digital inclusion
• limited evaluation
Resisting Municipal Broadband is Futile, as Deployments Set to Double in 2006, Says Visiongain Report

There are over 400 cities worldwide planning to deploy municipal broadband networks and the number will double in 2006, making community broadband initiatives a very real and significant trend. That is the finding of the latest report, "Municipal Broadband Networks: Market Impact and Implications, 2006-2011", published by industry research firm visiongain.

San Francisco, CA; London, UK (PRWEB)
January 29, 2006

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Despite legal opposition and intense lobbying from incumbent telcos and cable companies, municipal broadband is coming and is here to stay. As of Q1 2006, there are over 100 city and regional wireless broadband networks operational worldwide, more than 40 of which are in the US.

Small town rural deployments were the beginning of the wave, but the tide is now embracing large urban metropolises like New York, San Francisco, Rome and Paris as cities embrace the possible benefits of competitive networks.
Local public broadband

- freely accessible within a local jurisdiction
- provided partly or wholly by a public authority
- produces downstream social and economic benefits

“Public networks should support public use, government use and enable those not connected to the internet and unable to participate in the knowledge economy to get access and become competent users.”

Middleton et al. ICT Infrastructure as Public Infrastructure, 2008
The difference

- No rate increases before 2014
- 24-hour free wireless internet at Venues
- Free Parkland Street Trial between Melbourne University and Southbank
- Greater choice of public transport - allow rapid transit on Flinders St, Swanston St, King St, Docklands and Southbank
- Free W-Fi in areas using Swanston Street between Melbourne University and Melbourne Central Station and Southern Cross Station
- Demolish Victoria Market and transform the open spaces into an all-day and evening business and cultural activity centre, creating a 'Federated Square' of the North
- Affordable and affordable services in CBD including at least 600 new affordable car spaces
- Federal and state grants and active transport
- Stimulate Melbourne's boutique retail and food services
- Additionalแสดง in North Melbourne, West Melbourne, Docklands and Southbank
- Partnership with State Government to provide
- Additional active transport, including, Suburban rewards and primary schools near city demand
- A smart transport network into city core
- Create a walkable environment along main streets and urban neighbourhoods
- Create an 'active transport friendly' city attracting to walkable Docklands
- Renewal Swanston Street from Royal Alfred Street north to North Melbourne station.
Cairns Community WiFi

For more than 2 million people who visit the Cairns region every year, showing off the holiday shots on Facebook is both free and fast...

Related Whitewpapers
- 2013 Global Information Security Survey: initial findings
- Backup Comparison
- The Ten Commandments of BYOD
- The Lifestyle Approach to Mobile Apps

Related Coverage
- Apple recently tested Wi-Fi technology in a new spectral
- SA govt invests $150m in new Wi-Fi network for Adelaide
- Stanford, Spain, AT&T for Google in Wi-Fi soap
- Australian Telstra trials out Wi-Fi network.
- New Wi-Fi coming in work, but not all your own data.

Tourism Northern Territory rolls out free Wi-Fi service in Alice Springs
Visitors to Todd Mall can access the Internet for three hours with a maximum 200MB download

Alice Springs visitors and locals will be able to access three hours of free Wi-Fi every day following the rollout of a service by Tourism Northern Territory (TNT) in the city’s Todd Mall.

A maximum of 201 megabytes (MB) download will be available from any Wi-Fi enabled device.

According to NT Minister for Tourism and Major Events Matt Conlan, more than 50 per cent of domestic visitors use the Internet to book tours.

Tourism NT has gone on a media campaign via their website and Facebook page.

A Wi-Fi network cost $44,227 which is being met within Tourism NT’s budget. Alice Springs Town Council is funding half the operational costs over the first two years.

The NT government also provides free Wi-Fi services on public buses in Darwin and Alice Springs.

Tourism NT has gone on a social media push via Twitter, Pinterest, Facebook and Instagram.

Wi-Fi plans for tourism hotspots
Jenny Rogers | 12/Jan 2013

The Gold Coast City Council is now closer to offering free public Wi-Fi at tourism hotspots to catch up to its competitors.

Free Wi-Fi is now available only at the Southport Broadwater Parklands but the council is looking to expand this to key tourism hubs around the city.

That could include places such as Cavill and Broadbeach malls, the Kurrawa or Burleigh beach foreshores, or even local surf clubs.

It follows the call by Tourism Australia for Gold Coast hotels and resorts to roll out free Wi-Fi for guests to compete with international tourism destinations.

An expressions of interest campaign, due for completion at the end of March, is seeking interest from operators who could deliver a fast, effective and consistent community Wi-Fi service across the Gold Coast.

Council hopes the service could be delivered at no cost or low cost if advertising is allowed.

Another option being looked at is private funding.

Mayor Tom Tate is backing the push for free community Wi-Fi to bring the Gold Coast up to speed with other tourism destinations.

"Today’s tourists aren’t carrying around travel guides, they rely on smartphones and tablets to help them explore the city,” he said.

Adele and Brisbane have it, the Sunshine Coast is trialling it, and Perth plans to roll it out this year.

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Local Councils take the lead in public Wi-Fi offering

City vibrancy enhanced as well as social benefits identified

SYDNEY, Australia 30 January 2013 - Ruckus Wireless, Inc. announced that, during 2012, close to 50 councils throughout Australia gave the green light to deploy Ruckus Smart Wi-Fi™ technology to provide public Wi-Fi access in their areas. City councils such as Sydney, Lake Macquarie, Albury, Blacktown, Parramatta, Warrnambool, Devonport, Wollongong, Victor Harbour, Orange, Geraldton and Hawkesbury have understood the value proposition public Wi-Fi offers its citizens and visitors. The popularity of public Wi-Fi is expected to continue rising in the foreseeable future.
Community Telco

Who is Community Telco Australia?

Community Telco Australia is an initiative of Bendigo and Adelaide Bank which has been created to improve the prospects of communities and to minimise the capital drain they face from the purchase of essential services such as telecommunications. The primary objective behind this strategy is the long-term sustainability of those communities who choose to partner with Bendigo and Adelaide Bank.

This approach has been successful with Community Bank® branches around Australia, and has been proven to also work in our Community Telco companies.

Community Telco Australia is owned in equal shares by Bendigo and Adelaide Bank and telecommunications provider, AAPT. The aggregated buying power of Community Telco Australia enables local communities to access competitively priced telecommunications technology, the best available telecommunications solutions and to improve their future prospects.
Recent Public WiFi Developments (2010+)

- NT Govt. Bus interchange and buses (2013)
- City Council Mall (2011)
- NT Govt. Buses (2013)
- NT Govt. & City Council Mall WiFi (2013)
- Perth City Council - CBD network exp. (2012+)
- City of Vincent – Leederville CBD red. (prop.2012)
- City of Fremantle – CBD (prop.2012)
- City of Swan - CBD trial (2010)
- State Govt.-12 mth tram and bus Trial (2012)
- Adelaide City Council – CBD (prop.2012)
- Geelong City Council – Park & transport hub trial (2012)
- Tas. State Govt – Waterfront 18mth trial (2010)
- Cairns Regional Council - 9mth street trial (2013)
- Brisb. City Council - 22 Parks (2011+)
- QR Trains (2011+)
- Sydney Ferries (2011+)
- RailCorp - station trial (2011)
- Darling Harbour Red. (prop.2013)
- ACT Buses (prop.2012)
- Canberra CBD (prop.2012)
- Wollongong City Council – CBD Mall Red. (prop.2012)
- Goulburn Group & Goulburn Mulwaree Council - CBD (2013+)
- Darebin City Council – CBD (2012+)
- Moreland City Council - park (2012+)
THANK YOU!

Google fiber

Spring Valley and Hanover Heights
Neighborhoods
Your FIRST Fiberhood!
Imagining broadband

• “Municipal Wi-Fi networks should be seen as council business of the 21st century as much as roads, rubbish and drains were for the 20th century.”  
  Cr Greco, City of Darebin,  
  MAV Macarthur Fellowship Research Report, 2009

• “It can be said that, as a driver of economic development in the 21st century, communications infrastructure is as important as roads and railways were in the 19th century.” 

• “We’ve argued for some time [broadband] has essentially become the fourth utility after water, gas and electricity.”  
  Communications Minister Conroy, ABC Lateline, 7 April 2009
Owensboro Municipal Utilities

- Largest municipally-owned water and power utility in Kentucky
- Extensive fiber optic deployments
- Over 2,100 wireless broadband subscribers in a 4 x 5 mile area
- Bands Used
- 900MHz, 2.4GHz, 5.8GHz
In preparation for April 23rd’s Start-up City Conference,

NYCwireless is a non-profit organisation that advocates and enables the growth of free, public wireless Internet access in parks, public spaces, and affordable housing in New York City.

In preparation for April 23rd’s Start-up City Conference, ways that fast, reliable Internet service would help businesses that’s worth reposing you can read more at his blog.
Concluding observations

• rising expectations for local public wi-fi

• increasing readiness of authorities, businesses & community groups to initiate provision

• limited Australian experience and Australian-focussed research

• Three key lessons:
  – understand user needs
  – clarify rationales
  – identify robust and sustainable technical and business models
Ian McShane
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RMIT University

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Economics of public wifi

Discusses four basic objections

Discusses five economic models for public provision of wifi

Argues that demand discovery is only legitimate model

jason.potts@rmit.edu.au

School of Economics, Finance & Marketing, RMIT
Basic economist objection to ‘free’ wifi

• Capitalization in fixed resource
  – Flows through to property values
  – Transfer from rate-payers to landlords
  – No net benefit to wifi users
  – Akin to improving a public school

• Unintended consequence: drives up rents
Other basic objection

there is no market failure

• No information asymmetry
• No market power/exclusion
• Where not supplied, unprofitable.

Consequence:

public provision is **PURE CROWDING OUT**

Destroys private wealth.
Harms consumers.
Third basic objection

• Unfair competition to existing providers

• Risk to ratepayers if things go wrong (unlike entrance of another private provider, harming only shareholders)
Fourth basic objection

• **Public good** doesn’t necessarily mean public provision

• It can just mean **public pays**

• E.g. Vouchers...
What sort of good is wifi?

- Public good
- Private good
- Hybrid (semi-public) good
- Infrastructure
- Bundled commodity
- Club good
- Commons (CPR)
Classifications of goods

- **Excludable**
  - **Rivalrous**
    - Private goods
  - **Non-rivalrous**
    - Club goods

- **Non-excludable**
  - **Rivalrous**
    - Common pool resources
  - **Non-rivalrous**
    - Public goods

- **wifi**
What sort of economic problem is wifi?

- externality (positive & negative)
- natural monopoly (or contestable)
- market failure
- Insurance
- rent transfer (allocation problem)
- collective action problem
- bundled infrastructure
- Uncertainty/discovery
Wifi & public finance

Wifi can be:

• taxed
• subsidized
• cross-subsidized
• embedded
• licensed
• regulated
• mandated
economic models of public wifi

1. Natural monopoly
2. Quasi-Public Good
3. Bundled / Standards
4. Club good
5. Demand uncertainty/discovery
1 natural monopoly

• Standard infrastructure/network good argument
• lowest cost is single provider, hence licence operators and issue only one licence.
  • Assumess downward sloping AC curve
  • Assumes wifi is a utility
  • also assumes that best business model is known, and no technological change/uncertainty.

• Case for wifi is minimum cost of production
  (wasteful competition with too low AC)
2 quasi public good

• commercial viability means that only profitable part of market served, thus govt serves rest of market at a loss.
  — alt model is to subsidize providers and force full-service carry (like telcos)

• A reverse PPP. (private sector pays govt to take the worst parts of the market).
  — worst here means overflow. This means greater efficiency in core channels without having to overinvest in peak load capacity.

• Can be a problem caused by regulations that prohibit joint contracting of supply
  — i.e. firms competing on some traffic, and cooperating on others
  — Common in logistics, airlines, etc

• Problem is that this model is expressly designed to drive out price competition.
  — Result is tendency toward cozy duopolies (e.g. airlines in 1970s).
3a. bundled

- **bundled**: wifi is treated as an additionality to existing public goods/infrastructure.
- This doesn't make much sense economically, but it does politically.
- Strongest argument is **vertical integration**: if you already have these assets (trains, power lines) then you can add value to them by adding wifi.
  - this may be valuable for a privatization move. but otherwise is mostly political opportunism. (However, does provide a context for (4) re experimentation)
  - Problem: crowding out private enterprise
3b. standards

- **Standards**: wifi involves multiple devices, multiple spatial scales, etc.
  - interoperability is a problem, and a public standard can be a solution.
  - although standards can self-organize from private associations (e.g. www).
4 club good

- Wifi naturally excludable: so club good

- Wifi can also be provided by civil society, when a group of people organize and cooperate to provide the wifi

- On the stability and emergence of cooperation, about the governance of the 'commons', and about the optimal size of the club.

- & whether regulatory policy and other supports (see 1 & 2 above) crowd out such civil society action, or under what circumstances it facilitates it.
5 uncertainty of demand

• the market failure is in figuring out entrepreneurial opportunities, market demand, business models, etc. that these are niche and contingent and different in different places,

• in a competitive market, firms do not have the rents (supernormal profits) to explore and discover where these opportunities lie.
  – Why, because when they find them they cannot protect them from being copied or from imitative market entry.
  – There is a role for public sector as experimental test bed in discovering these opportunities.

• This idea has been advanced by Dani Rodrik as a reinvention of industry policy.
  – Bakhshi, Freeman & Potts 2012 'state of uncertainty'.

• This is about govt acting as market maker, discovering where opportunities lie, not so much as public sector businesses that are then privatised, but as the creation of market information about entrepreneurial opportunities as a public good.
Blue sky thinking

• Vouchers
  – (subsidize demand not supply)