Projects or Partnerships?
Analysing the Development and Operation of Shared-use Education Precincts

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Outline

1. Introduction to *Opportunity Spaces: the planning management and use of shared school facilities*, and overview of case study sites

2. Pressure points in shared-use arrangements

3. Sharing digital resources in education precincts
Opportunity Spaces: Context & Policy Drivers

- School and community facility capital investment
  (Neighborhood Renewal programs in early 2000s, Victorian Schools Plan 2009)
- New portfolio interest in early childhood (DET → DEECD)
- Rationales:
  - Economic, service and infrastructure efficiencies
  - School-focused educational partnerships
  - Coordinated, timely infrastructure in growth areas
  - Community strengthening, participation
  - New learning environments: physical & digital
  - Controversy over BER & school reform: ‘community buy-in’

- Discussions 2010/2011 DEECD-Swinburne University
- Background of controversy over school closures or mergers, BER
- Partner Organisation concern over community ‘buy-in’, desire to find out ‘what works’ in shared-schools
- Project framed around optimising community engagement in the planning, use and governance of shared school facilities.
- Dynamic policy environment: regeneration as ‘Labor brand’, move to devolution, wired to unwired digital connectivity, urgency of school supply in urban growth areas
Research methodology

- Desk-based analysis of policy & practice
- Qualitative, case study methodology: site analysis, interviews with key stakeholders (their voices in italics)
- Research challenges: site access & documentation, getting beyond ‘good news’, evaluating programs where inputs and outcomes are indirect, or distant in time
- Re-focus on partnership effectiveness, sustainability

- Review of national and international policy, practice and academic literature: clear evidence gap in qualitative analysis of educational infrastructure projects
- We developed a selection matrix for case studies: location, SEIFA index, institutional types, connectivity Sites suggested by PO – implicit sense of their success
- Data challenges and evaluation challenges. School ‘buy-in’ and access. Documentation deficits, particularly at PO level. The causal links between inputs and outcomes are uncertain or indirect, and distant in time. To what extent could capital investment be linked to increased NAPLAN scores?
- Partnership effectiveness as proxy. ‘School-community partnerships’ (re)enters educational policy discourse in the 1989 Adelaide Declaration on National Goals for Schooling in 21st Century, but while educational partnerships are now a policy norm, there are few studies of how they work in practice. Monash’s Terri Seddon and colleagues conducted research on partnerships through NCVER, which was valuable, but there was little of relevance on school-based partnerships. Seddon et al’s typology of educational partnership useful.
- The partnership literature did suggest, though, that the health and effectiveness of partnerships might serve as a proxy outcome measure of the projects. We also drew on the partnership literature in public administration and policy studies to identify an evaluation framework.
- Focus on partnership also has benefits of bringing coherence to diverse institutional forms, practices and language: shared-use, co-location, extended schools, community hubs, etc
- Our focus is on partnerships associated with school and community infrastructure, and what those partnerships co-produce. That is, what the partnership does, that individual agencies couldn’t do individually.
The three sites exemplify the diverse institutional forms of educational partnerships:

1. Derrimut – Co-location of early childhood facility & community centre, and primary school. Strong relationship between school and EC facility, but main issue was around community use of early childhood facility.

2. Broadmeadows - University style campus, flow of students and community, initial plans for community to use the school and students to use community facilities only partly successful (Funding, design, challenging school population, local youths running through the site – security management, new spatial approach)

3. Colac – Secondary college and library part of broader education precinct. Joint use facility (library). Power structures of the partnership model (community felt frozen out). This site also involved shared digital ICT resources (hardware and wi-fi network).
Derrimut is a large greenfield suburb in Melbourne’s west. It has a very diverse population (Indian, Sri Lankan, Filipino, Pacific Islander, Chinese), and a mixture of private and public housing. Poorly served by public transport and has few local services.

The project was a flagship Victorian state government public-private partnership for school provision in Melbourne’s urban growth areas. PPPs have since become the preferred model for rapid school construction.

The site was purchased from the developer by State govt for a primary school and early childhood facility. The local govt was simultaneously planning a community centre, and came on board.

Building and facility management (for 25 years) financed by a special purpose investment company that has since been on-sold. LG funds the community centre.

Educational provision also includes catholic PS: typical educational choice model for Melbourne’s new growth areas.

Complexities of inter-jurisdictional relationship, exacerbated by speed of the development: state govt engaged YMCA as EC provider just as LGA was ending their contract engagement for youth services. Development speed problematic.

Tensions in institutional relationships and building design: esp between accessibility ethos of the community centre and security of EC facility; busy-ness of small site.
1. The Hume case study is set in the context of Broadmeadows a manufacturing hub in severe decline.
   • Hume Central SC established in 2007 as a merger of 3 high schools which offered a “Broadmeadows education” (school official). The region’s low educational aspirations were also reflected in the lack of a public library. Council story that residents ‘wouldn’t use it’. The Town Park campus (Yrs 10-12) was our study site.
   • This merger was part of the Broadmeadows Schools Regeneration Plan which emerged locally in 2004 and was formally constituted by the State Government in late 2006 to address what had come to be considered systemic local education failure.
   • BSRP included institutional restructuring, ongoing leadership and staff professional development, curriculum and teaching reinvigoration, infrastructure investment, and community engagement.
   • The last two elements were designed to work in tandem, with the opening-up of school buildings for community use and simultaneous pursuit by State Government schools of shared facility opportunities with local government and other local facility providers.

2. Connections with Hume Global Learning Village Strategy
   • Hume Central Secondary College and the BSRP were underpinned by the Hume Global Learning Village (HGLV) strategy. Education-led regeneration in a region severely impacted by the downturn of manufacturing.
   • The HGLV sought to engage local learning facility and service providers in a joined-up approach to community learning while also directly increasing the stock of local learning infrastructure through the construction of the Broadmeadows Global Learning Centre.

3. BSRP AND HGLV feed into Broadmeadows Structure Plan
   • In 2009 the Local and State Governments began a process of planning a systematic regeneration of the Broadmeadows urban centre where both the HCSC and HGLC are located. Officially documented in 2012 structure plan. Important role of learning facilities in this process.

4. The existence of HGLV, which can be seen as both a network and a strategy, facilitated the transfer of part of the Town Park to DEECD for the school build.
Colac is a town of c. 10,000 pop 150 km south-west of Melbourne. Economic base of agriculture, food processing and manufacturing. SEIFA index similar to Broadmeadows, low retention & poor educational attainment, declining numbers, lowest book borrow of CRLC branches etc.

Like Broadmeadows one of 21 regeneration areas identified by the Victorian govt

Colac Secondary College was built following the closure of two existing high schools, one of which is the site of the new school.

The capital works project was the longest build and most locally contentious of our three sites, particularly the library. Media campaign.

Three construction phases over six years, with a focus on demonstrated results to release further funding; principal had oversight

Other elements of the site, known as the Beechy Precinct, include a new performing arts centre, refurbished recreational facilities and - at the centre of our interest - a shared school-public library.

Partners were DEECD, Department of Planning and Community Development (DPCD), Colac Otway Shire (COS), Corangamite Regional Library Corporation, and Gordon Institute of TAFE.

COS cash-strapped, partnership leveraged a $6 ml facility. School presence very unobtrusive.

New library designed around digital resources. Initially not called a library, but the Global Connector. Incomprehension, resistance.

Immediate success, but fostered by service connections: eg, MACH referrals. Unexpected benefits of co-location, eg involvement of SCS drama students in library storytime sessions.
The overarching research finding - indicated by the title of our talk, was that the three sites were conceptualised and managed as capital works projects, rather than as educational partnerships that had an infrastructural and service elements.

This finding is modulated across the sites, but, as the on-screen quote indicated, even stakeholders in the most successful partnership, Hume, recognised this problem.

The challenge of recognising and resourcing the ‘partnership work’ necessary required to sustain and optimise the capital and other investments in a shared school-community facility was a consistent theme across the interviews.

We drew on the partnership literature to identify four key indicators of partnership effectiveness. This framework aligns well with the data gathered at our field sites, and provide a useful way of structuring our findings.

While we were examining three very different projects, and the particularities of each are instructive, we found that much of our analysis divided along a PPP/non-PPP fault-line.
(1) Governance and leadership

From project thinking to partnership thinking

Extra time would be a benefit for us to be able to lock in community partnerships with groups like local government. They were on a different budget cycle, those sorts of things, so it was negotiations post contract close that resulted in those local governments getting on board (DEECD official).

Really valuable to have Education along with some other government departments sitting at the table...some of them acknowledged they’d never done that before, they didn’t sit around and plan geographically...it was a time of enlightenment...we didn’t want to go back to a situation of dealing with individual principals (school official).

- Project to partnership
  - Cross-jurisdictional coordination was challenging, around details such as budgeting and facility agreements, but these practical issues were set within the distinctive and separate planning objectives and traditions of the state education authority and the city government.
  - Victorian govt schools are black-boxed in local planning. State focus on educational planning (student), while city focus is on spatial and service planning, and managing change at community level.
  - Silos within state govt: DEECD, DPCD
Formalising agreements

Our fieldwork spanned a period when many of the officials involved in project development were still in place.

Agreement-making in the non-PPP sites was fraught. Consciousness of what happened when they moved on, or the policy or commercial environment changed.

Hume – almost no documentation: reliance on tacit knowledge, informal agreements.

Transaction costs at LGA and partner level: cost-shifting.

Gap between PPP and non-PPP approaches. The commercial discipline of PPP brought a much higher level of contract and agreement specification, right down to a formula for community or out-of-school hours use. Why the difference?
(1) Governance and leadership

Role conflicts

So our principal...had to run the building program as well as the school. A massive, massive task (school official)

I think the biggest issue for me is to do the main job well...to educate the kids... (school official)

[the PPP]...freed me to be an instructional leader (school official)

...still somewhat stunned by the level of power the school principal has...a change of principal can undo a pre-existing relationship (library official)

- Role conflict
  - complexity of area regeneration/educational reform combination: different funds, project stages
  - burden on principals and senior staff / contrast with PPP
(2) Resourcing

Recognising and resourcing partnership work

...things shift, priorities shift in terms of the building program and...before our project was finished there was another project somewhere else and they got sucked out of ours and placed somewhere else...increasingly it became more difficult for them to keep the threads and finish it, tie it all up. So they vanished... and we were all too busy doing the daily thing to pick up on that (school official)

- Partnership work
  - While our sample sites had diverse characteristics, there was a fault-line between the PPP site and the non-PPP site.
(2) Resourcing

Something more or something less?

…penny pinching strategies…there’s a community basis and a philosophy and that’s really strong and great, but then you don’t have a gym and you don’t have a theatrette and you don’t have a whole lot of other things (school official)

[Dept of Ed is] saying councils build the library, councils build the sport and recreational gym centre, it’s almost like the school is just becoming classroom based (council official)

Importance of demonstrating that school mergers and shared facilities are ‘a loss rather than a gain’ (council official)

- Something more or something less?
- While acknowledging the project benefits, informants also indicated that some aspects of each site were underprovided
- raises the complex space/cost/utilisation trade-off.
- Dept builds to 80% of expected occupancy to cope with demographic peaks and troughs.
- Is this metric appropriate for shared facilities?
- There was also concern at Hume that the shared-facilities model would not encourage parents to choose the school. 1,000 students per day pass the front door
More consultation not always better

- the complexity of multi-stakeholder partnerships meant that effective consultation and communication was central to all parts of the project: planning, construction, and operations
- The consultation settings were different across the sites, and suggested the importance of clarifying and adjusting consultation processes to meet local circumstances.
- Demands for ‘more consultation’ need to be pulled apart to understand the purpose, parameters and modes of consultation, and modes of communication.
- Recalling Arnstein’s ladder of participation, there were contrasting views on where both communities and local authorities could or should be positioned in projects that were essentially driven by a state authority, and by a capital works project management logic.
(3) Communication [with communities]

Clarify purpose, processes and language

*My line was always ‘are decisions being made for this to take place? We had to get something up because we wanted the next stage of funding to happen...we couldn’t afford for things to stagnate (DEECD official)*

A. Out of almost nowhere...someone decided that instead of calling it a library, let’s call it a global connector.

Q. Do you know where that name came from?

A. No idea, someone with a bottle of wine... (community member)

- More consultation not always better
- What was communicated?
- Confusion over terminology – language that may be attractive to project sponsors, funding bodies, may be confusing or entrench opposition
- Global Connector story: community unaware they were being consulted on a library
issues of ownership and identity, and the emotional investment of local communities in school sites, featured significantly in the fieldwork

while most of the Colac community seemed to welcome the school transformation, the sense of community equity in the vacant site was strongly expressed

some state and local officials dismissed local objections to the new shared precinct as ‘irrational’, in the face of the evident benefits that partnership between the local and state government would yield. ‘Emotion as part & parcel of policy-making’ (Verhoeven and Duyvendak 2015).

Identity and ‘ownership’ questions at the Derrimut site: Public-private partnership rhetoric contributed to uncertainty whether this was a government or non-govt school; you need to be an ECEC client to use the community centre
(4) Aligning philosophy and practice

Appraising and managing risk

Highly regulated, so higher risk (PPP early years care provider)

Having shared spaces for before and after school is difficult...there’s a lot of hazards that we’ve identified...what if the Sunday church group brought in a Picnic Bar and a child with an allergy picked on up on Monday? (community centre worker)

There’s other tricky things that I prefer not to think about and I hope I won’t have to...we use the oval but we’re not responsible for the maintenance...We’ve told them to be safe and make sure there’s no glass, but technically if you don’t maintain your oval, you shouldn’t allow kids to play on it... (school official)

- Appraising and Managing Risk
- Different perceptions and tolerances of risk between partners
  - What we found is that informal rules and social learning can be powerful - example of Colac library
- However, need to design in risk, especially in the community centre/early childhood combination
- Co-location also means buffer zones, effective separation. Derrimut’s ‘single entry’ could be seen as an aspirational statement about community, but it has functional consequences.
(4) Aligning philosophy and practice

Managing the school-community interface

As time has gone by I think [school staff] probably got more used to this school in an urbanised environment. The success of a civic or green space is the incidental gathering (council official).

[A] school without a fence is pretty scary for teachers, but also for the kids and parents...it’s all open here...opening the whole school was quite difficult (school official).
The question of user identities and access rights was also significant, esp at Colac.

Elements of the local population objected to having to go to school to access the public library. Wider question of how people with poor experiences of school respond to shared school-public facilities.

More complex issue of students seeking to exercise their rights as citizens, their public rights...
Looking forward: Implications for policy and practice

- Institutional configurations: design & resourcing issues
- Partnership work and formal agreements
- The black-boxing of schools in local planning
- ‘Shared schools’ and the educational market
- Managing risk
- Evaluation for evidenced-based policy

- Design and resourcing
  - institutional alignments have design and operational implications: community centre/early childhood.
  - However, two of our sites report a lack of operational resourcing, once the doors were open. Derrimut community centre, for example, doesn’t have the resources to operate on the weekend.

- Partnership work and formal agreements
  - PPP set a documentation standard that should apply to all procurement models
  - lack of explicit recognition of the partnership

- Black-boxing of schools:
  - conflict between spatial and service planning/educational planning
  - ‘power of the principal’: devolved decision-making as a threat to prior agreements

- Are shared schools disadvantaged

- Aim of building confidence in public school system. But are schools using shared infrastructure disadvantaged in an educational market?

- Need to demonstrate that a partnership offers more

- Managing Risk
  - Different perceptions and tolerances of risk between partners
  - Informal rules and social learning can be powerful - Example of Colac library
  - However, need to design in risk, especially in the community centre/early childhood combination
  - Co-location also means buffer zones, effective separation. Derrimut’s ‘single entry’ could be seen as an aspirational statement about community, but it has functional consequences.

- Evaluation: Qualitative evidence of stakeholders and facility users important in evaluation processes; interest in narrative approach.
Education Precincts & Shared Digital Resources
• Education precincts and other ‘precincts’ (eg recreational, business, creative) generally conceptualise sharing resources across a range of specialist users and then point to broader community involvement (In relation to shared school facilities our experience is that community is often conceived as identifiable community user groups rather than the general public. In part this is about risk management, but it is worth thinking about how this conceptualisation might limit the type of resources shared and the value of sharing.

• Magill proposal reflects this to some degree – resources are shared across a range of specialist education providers and learner cohorts and some core resources (like gyms, pools and libraries) are available for use by the community (as part of what is referred to as promoting community engagement)

• Thinking specifically about sharing digital resources between and beyond the education sector, we find a long if somewhat patchy history of activity. Until recently, sharing has centred on hardware – particularly providing school computer labs for training community groups). This type of hardware sharing is undergoing somewhat of a resurgence (although mainly outside the school sector) with the rise of collaborative makerspace/hackerspace/fablabs movement that provide community access to thinks like 3D printers and robotics technologies.

• In our Opp Spaces research it was at Colac’s shared school-community library that we found the most developed shared digital-resource commitment. One of the key aims of the Precinct it is part of is to provide the community with State-of-the-art technology resources, access to computers and audio/visual equipment. In practice this included access to computer labs (although not without difficulty – as I’ll discuss later) and a failed attempt to deliver shared network-access. It is the latter, network access, and particularly wireless network access that I want to focus on. You can see here in the Magill proposal that the idea of digital sharing is at least visually represented as focussing on wireless comms and likewise through the name Colac library was given during the consultation phase (the global connector).

• I’m in part drawing on our opp spaces research and a range of studies we have been doing on public wi-fi.
So very briefly today I’ll talk a bit about public wifi as a shared network access resources

Reasons why sharing network access might be a good idea in education precincts and by education institutions

Some of the complexities around this

Finish with an idea UniSA might be interested in pursuing
Wi-Fi is a set of local area connection technology standards called 802.11. Essentially, allow devices to connect to each other wirelessly.

Wi-Fi operates in the ISM Industrial, Scientific and Medical) Band – ‘spectrum commons’ - You don’t have to licence access to the spectrum or pay for access – instead the equipment itself is licenced to use the spectrum with restrictions on power use to minimise interference (50m). In contrast telcos have to pay to get licences for cell spectrum (EG in 2013 Telstra spent $1.3 billion on additional spectrum to upgrade its 4G network).

First, business and private domestic uptake.

Then service businesses providing customer access like cafes and libraries.

Then municipal governments and community organisations started to investigate the provision of wi-fi as an alternative to cell wireless and even wired networks.

Backed by commercial hardware suppliers, US municipal governments began to pursue city-wide wi-fi plans. These plans, often seeking to cover entire cities, both indoors and outdoors, turned out to be overly ambitious. There were a number of high-profile failures to launch including in San Fran, Philadelphia and Chicago.

At this time public wifi was plagued by technical limitations, unsustainable business models and competition and court action from telcos that had just launched their own 3G data services.

In the early 2010s, the disappointments of Wave 1 had finally worn off and with better and cheaper hardware, more limited outdoor provision plans, the rapid diffusion of data hungry smart phones, more sensible business models and a shift in the competitive stakes for telcos, a second wave of investments have been launched.

In Australia we have seen investment by Govt, Commercial and Com. orgs in more extensive public networks (increasingly meshed over rather than hotspot).

We have not seen much activity by the education sector in providing public access (beyond private network access by students and staff).
Rationales for shared network access

1. Internet as fundamental life-long learning resource
2. Community and industry engagement
3. Space-activation (a more lively campus?)
4. Innovation (unforeseen opportunities)
5. Communications portal for host/s
6. Reduced transaction costs of visitor access
7. Digital inclusion
Digital inclusion is about bridging the ‘digital divide’. It’s based on the premise that all Australians should be able to make full use of digital technologies – to manage their health and wellbeing, access education and services, organise their finances, and connect with friends and family, and with the world beyond.

Digital Inclusion Index Project – 3 years of data 2014-2016 shows that the digital divide is narrowing but deepening. South Australia did not do well overall and its Digital Inclusion Index score is the second lowest in the country (Tasmania fares worse). For SA as a whole, the Affordability measure (3.7 points below the national average) and Digital Ability score (2.8 points below the national average) are currently the biggest contributors to the ‘digital divide’.

Fundamental role public wifi plays as survival infrastructure cf:

Complexities: Regulation

- Wi-fi deployed for domestic or internal commercial (non-customer) use is ONLY subject to radiocommunications regulation
- Public wi-fi provision is subject to telecommunications registration and licensing requirements (Carriers, Carriage Service Provider)
- Universities are generally exempt:
  - Immediate circle (where service is provided only to students and staff)
  - Same area (where service is provided on campus)
  - Non-commercial provision
But, there is some ambiguity around provision to the general public and definitions of ‘same area’

- Ministerial determinations exempt universities on some grounds from being Carriers (S42) and CSP (S87(1)) – related to AARNET but also solving issue of backhaul from oncampus cafes etc to the campus boundary.
**Complexities: Metadata retention**

- Typically, a Wi-Fi provider must retain information pertaining to a session including:
  - time a device authenticates and terminates the session
  - MAC address (or other identifier) of devices that connect to the network
  - the location of the Wi-Fi access point
- Universities are generally exempt (under S1R7R)
  - Immediate circle (where service is provided to students and staff)
  - Same area (where service is provided on campus)

| Purpose of these exclusions is to ensure that entities such as universities and corporations will not be required to retain telecommunications data in relation to their own internal networks (provided these services are not offered to the general public), and that providers of communications services in a single place, such as free Wi-Fi access in cafes and restaurants, are not required to retain telecommunications data in relation to those services. |

An example of this situation is a typical university campus. Usually, the single property will be comprised of a number of locations set aside for university groups. This may include a student union or a student publication, as well as a number of leased areas made up of commercial businesses, for instance, a bank or café. Assuming the entire university campus is a single title property, it would normally be considered a “same area”. The fact that certain areas are set aside for particular university functions does not change the application of a “same area” test because it goes towards the same group of users working to achieve the same primary purpose. However, the commercial leases will not fall into the “same area” as they are not utilised by the same group of people in the interests of the same primary purpose.

While the exclusion may still be applied to the university property, the areas taken up by commercial lease arrangements will not fall into the “same area”. If a particular relevant service was provided to both the “same area” and the commercially leased area, that service would not be provided only to a “same area”, meaning it would have data retention obligations.

[OCAC, 2015, Data retention: frequently asked questions for industry, Office of the Communications Access Co-ordinator, Canberra.]
An attempt was made during the infrastructure planning stage to collaborate on network provision but the distinct internet access protocols maintained by the school and library could not be reconciled. The Colac library’s network is not filtered, with staff undertaking visual surveillance to ensure users comply with access rules. Victorian public schools deploy a technological solution to content-access compliance with an internet filter blocking students from accessing a range of content deemed inappropriate. As a school official explained:

There is some evidence that the deployment of two separate digital networks has reduced the public benefit that might accrue from the shared school-community infrastructure investment. Library corporation staff note that school network filters on the IT hub computers limit the possibility of using this facility for community education:

• “...it’s essentially a school space. We have run some training sessions with the seniors computer course there, it was quite difficult for us to do that because the school has quite severe blocking of their internet, whereas we wanted to show people how to get into Yahoo or email or Hotmail or Gmail. I think that’s a strong area of difference” (CRLC official).

Additionally, the school’s ability to curtail student access to the library’s unrestricted wireless network is based on the Library’s current policy of requiring library users to obtain an access password.
The proliferation of smartphone devices that provide unfettered internet access using 3G/4G telecommunication networks (ACMA 2014 reports 12 million+ smartphones in use in Australia), combined with the ability of some students to ‘hack’ around existing school network-filtering technologies, suggests that the technology-based response of schools to appropriate internet use is becoming redundant.

An educational response (combined with existing student behaviour surveillance) might provide a more appropriate alternative to restricting network access and filtering online content. If such an approach was adopted, the public benefit of shared school-community facilities might be more fully realised in the digital as well as physical arena.

A cluster of countries, predominantly Scandinavian, promote digital literacy rather than content filtering as a strategy for keeping children safe online.

ACMA & Research, NM, 2013, Like, post, share: young Australians’ experience of social media, Australian Communications and Media Authority, Melbourne.

Jacks, T, 2015, ‘Students steal teachers’ passwords and bypass school internet filters, study shows’, The Age, 14 August.


Based on a panel survey using an online representative sample of 1200 respondents residing in all states and territories except Tasmania. The survey, which was sponsored by the auDA foundation, asked people about their online activities using wireless cellular networks and public wi-fi networks, their awareness of network security issues, and how this influenced their wireless activities.

Education precincts & shared digital resources: University public wi-fi

NAS is opening up the campus to the surrounding streetscape by creating light-filled laneways, glass-roofed arcades and the Academic Street – linking all the new precincts with the existing city campus and the CBD in a logical and continuous urban experience.
UniSA, AdelaideFree WiFi and Eduroam

“The vastly extended coverage now allows students, businesses, workers, tourists and visitors to connect just about anywhere, anytime, and that’s a great thing”

ACC Lord Mayor Stephen Yarwood, News Release June 2014
Select Bibliography


McShane, I. 2014. Project to Partnership – Sustaining Shared School Community Infrastructure Projects, Opportunity Spaces Working Papers, WP1, Centre for Urban Research, RMIT University, Melbourne, 8 October.


Opportunity Spaces – Other outputs


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Public wi-fi in Australia (https://publicwifiaustralia.wordpress.com/posts/)


