

Submission for Broadband Connect and Clever Networks:
Supporting Investment in Sustainable Broadband Infrastructure
Discussion Paper

Submitted by:

Marlene Atiyeh, Broadband Demand Aggregation Broker for the Goldfields-Esperance Region of WA, based in the City of Kalgoorlie-Boulder

PO Box 2042
Boulder WA 6342

Ph: (08) 9021 9627
email: marlene_atiyeh@kalbould.wa.gov.au

The responses given within are based upon knowledge and experience gained while acquiring demand and researching viable broadband sources for communities throughout the Shires of Wiluna, Ngaanyatjarraku, Leonora, Laverton, Menzies Yilgarn, Coolgardie, Dundas, Esperance, Ravensthorpe as well as the City of Kalgoorlie-Boulder which make up the Goldfields-Esperance regional Demand Aggregation Broker project area covering approximately one third of Western Australia.

Executive summary comments of responses:

- A sectorial approach to providing broadband access and applications, such as subsidising the rollout of broadband infrastructure to health and education undermines the rural and regional community's demand aggregation model. Provisions need to be put into place to ensure that the Broadband Connect and Clever Networks initiatives compliment rather than undermine each other. With the two programs managed separately, each with its own guidelines and administration, it will be imperative that mechanisms be put in place to guarantee that duplicate funds are not being spent to satisfy the specifications outlined by each program for a regional area.
- Predecessors to the Broadband Connect and Clever Networks projects were technology and vendor neutral. Australia has a real opportunity to implement cutting edge of telecommunication technology by higher subsidy levels for technology which allows scalability, value added services and opportunity for advancements such as complete mobility for broadband.
- The Broker program must be expanded to the type of arrangement discussed below in the section addressing "*What form of broker network will provide the best outcome?*" to profit from the invaluable experience gained in the previous program and ensure local contribution and implementation from the regional and rural areas intended to benefit from the programs.

Broadband Connect Responses

Q1 How can the design and delivery of Broadband Connect be optimised to achieve long term sustainable quality broadband solutions for regional, rural and remote Australians?

- Broker project to continue as Regional Communications Aggregation Broker (RCAB) or similar.

It is essential that the broker participate in the planning and deployment of infrastructure. This is critical to ensure the entire Connect Australia program delivers the best outcomes for regional, rural and remote Australians.

- Strategic Coordination of Programs

By continuing a broker function in the new Connect Australia program, the opportunity exists to make certain that strategic and coordinated outcomes occur in all of regional and rural Australia. This will allow for increased efficiencies of funds, more effective roll out of infrastructure and provide opportunities to form collaborative relationships between communities, business, government, and industry.

- Strategic Coordination of New Infrastructure Corridors

By adopting a strategic approach to infrastructure installation, an ad-hoc or “cherry picking” approach can be avoided. This will ensure that as many smaller communities as possible receive the same benefits as the larger communities within the region.

It is recognised that sparse population spread among small communities separated by large distances, common to regional Australia, are best served by delivering broadband over wireless technology. By positioning wireless infrastructure along natural corridors, smaller communities may be served which are not viable within their own right.

The strategic corridor approach is also vastly more cost effective for providers; encouraging them to install their own backhaul infrastructure, which meets program objectives of developing true sustainable competition within regional areas.

Q2 What means can/should be used to encourage further capital investment in infrastructure that will support competitive networks and services under Broadband Connect and beyond?

As outlined in response to Q1.

In many areas of regional Australia, industry such as mining has put substantial capital into infrastructure to accommodate their own

telecommunication needs. Coordination, as described above, can incorporate this infrastructure into a region's delivery corridor; however, these industries have a life span and to ensure their infrastructure remains part of the corridor, funds from Broadband Connect or Clever Networks must be made available to Local Government for acquisition of this infrastructure when it is no longer supported by the industry owner.

Q3 How can Broadband Connect funding be structured to provide the best incentives for investment?

Accommodate a coordinated approach to define infrastructure corridors. This encourages private investment by providers. Provide funding to Local Governments for acquisition of infrastructure that is part of their region's corridors, but no longer supported financially by private business or industry.

Q4 Is terrestrial or satellite the most appropriate means of delivering broadband in regional, rural and remote Australia?

Where ever possible terrestrial is generally a better delivery technology. A substantial amount of fibre is installed in many regional areas, but onerous circumstances prevent competitive outcomes. In many regional areas substantial Commonwealth, State and Local Government funding has subsidised or outright paid for infrastructure to be installed. Because this infrastructure has been subsidised to the incumbent provider, fee structure and control of the infrastructure (in many cases fibre) remains with the provider to the exclusion of other providers.

Case in point: In the Goldfields-Esperance region in WA, the WA government subsidised upgrades to exchanges/fibre throughout the region for health and education via a project called Network WA. This fibre provides at least 4 megabits and in most cases 10 megabits of bandwidth to many community's health and education facilities, but broadband is not available to the wider community. Contract limitations and the fibre owner's freedom to set backhaul prices eliminates a competitive market.

Q5 Can satellite be delivered a competitively as terrestrial services?

Not without subsidy for an individual service; however, as backhaul for a community wireless service, it can be commercially viable.

Q6 Should participating providers be required to commit formally to service the areas they identify in registration applications?

While in theory this would be a good idea, the fact of the matter is that a provider is not going to serve a commercially unviable area. In many regions, it is nearly impossible to review all aspects of an area before entering a market.

Providers need to liaise with the Regional Broker to identify strategic opportunities. This does not prevent an open market, but does determine

who will have benefit of the broker's knowledge and the work they are undertaking to meet the strategic principles of the funding programs.

Q7 Should annual renewal of funding agreements specify timeframes for commencement of services in areas of greatest need?

Yes, but again many factors come into play in a regional communication environment. If other programs, such as "in-kind infrastructure contributions" from industry or government are going to be part of a solution for an area or community, coordination of potentially many entities can cause delays and changes. This is another matter where the Regional Broker's assistance can be valuable.

Q8 Should a system of prioritised funding for services connected in areas of greatest need (beyond what has been provided under the HiBIS two-tiered incentive structure) be introduced?

Areas of greatest need would be identified during regional infrastructure audits/reviews and would receive priority assessment as part of the overall regional infrastructure strategy. Funds could then be allocated to allow pledged providers to put infrastructure into mutually agreed areas.

Q9 What can be done further to overcome barriers to capital investment in sustainable technologies in less commercially viable regional areas?

Funding must be made available for Local Government to acquire, access or construct infrastructure for telecommunications. In most regional areas, Local Government will be the last surviving entity. Having control of telecommunication infrastructure allows multiple scenarios such as forming a community telco to provide service, contracting with a commercial provider, subsidising a commercial provider or many other options. If the infrastructure is privately owned then once that owner/provider deems the market unviable, there is no option for continued service to the affected area.

Q10 How can the high cost of some technologies be reconciled with increasing customer expectations for higher speeds and usage allowances especially in more remote areas?

Factually, some technologies are not going to be able to achieve the same speeds for the same costs as others. Dispersing the current available funds in the recommended strategic manner will ensure that all customers receive the best possible solution.

The Commonwealth may want to reassess the "technology neutral" approach to subsidising providers and seize an opportunity to be a world leader in telecommunications by encouraging technologies of the future through larger subsidies for those technologies.

Q11 Should it be mandatory for program participants under Broadband Connect to provide additional information as listed below as a condition of registration? (bullet points not restated)

Providers may not have the advantage of enough familiarity with a region to be in a position to definitely determine future service areas, viable geographic reach, technical barriers, etc. Liasing with the Regional Broker will give them much of this insight; however, making the stated topics mandatory may discourage plausible providers from registering. Many providers are eager to offer value add services and should be encouraged to submit these without penalty or obligation. Some flexibility within the registration requirements which allows smaller community or regional carriers to access funding is warranted. Breakdowns in the previous program leading to problems with smaller regional carriers were ascertaining whether a service was indeed provided not whether the registration requirements had been met.

Q12 On what basis would you argue that certain specific technologies will have the most impact on the delivery of regional broadband services in the next three to five years?

The fact is that wireless technology will provide the most benefit to regional areas. It serves larger physical area, is scalable, can be economically delivered to sparsely populated areas, and allows for value added services such as VoIP and video-on-demand.

Q13 How would you compare the effectiveness of these technologies to others in the market place?

While limited, the service to date by the wireless providers in WA has been as good and in many cases superior to ADSL. ADSL physically may be able to address the bulk of the population; however, it still leaves service area gaps, is not deemed commercially feasible in some communities, and struggles to perform over aging copper outside of Metro areas.

Wireless reticulation of an aggregated DSL or satellite service is dependent upon the backhaul speeds of those technologies; however, the service coverage area is larger than either of those technologies allows independently.

Q 14 To what extent will broadband technologies be able to augment capacity to meet rapidly expanding consumer expectations for higher bandwidth and more advanced applications?

This will be dependent on several variables and will vary by technology; however, wireless technology currently has great opportunity to expand into a mobile environment.

Q 15 Can complementary technologies provide better solutions for delivery of services in regional Australia.

Yes, and strategic planning will allow for complementary technologies to be optimally utilised. In areas where no fibre exists and ADSL is not justifiable based on demand, a community can be adequately supplied by reticulating wireless service backhauled over satellite.

It is crucial that the solutions being approved under this project have capacity for future enhancements to services.

Q 16 What innovative approaches should Broadband Connect adopt in its program design to utilise these technologies most efficiently and effectively?

Flexibility is the most important factor. Utilise the crucial information that Regional Brokers can provide for their areas to determine the best technologies and strategic approaches for a region. Allow options and opportunity to adapt program rules to assure the best outcome for the regions.

Q 17 What capacity do existing technologies have to accommodate the introduction of new developments, such as increased speeds, usage and other applications.

ADSL has extended technology, which may allow it to double the current service distance from the exchange.

Wireless technologies are working towards becoming mobile.

Satellites are continuing to work towards minimising latency.

Q 18 through Q 22 regarding payments and funding.

A payment plan needs to be structured based on the quantity of the new infrastructure the provider has installed. In some cases an up front payment to assist to initiate new infrastructure installation would obviously hurry along the process as some of the small companies attempting to compete with the incumbent in regional areas do not have the financial capacity for the substantial capital outlays required to get towers built and fibre spliced or installed.

Funding provided based on the number of customers connected or potential premises is not effective for an area the size of the Goldfields-Esperance region. The area covered is roughly one third of Western Australia with a population of slightly over 60,000. In this region, coverage area corresponds with population served outside of the regional and rural centres.

Q 23 How can methods of payment under Broadband Connect be better structured to ensure that providers are not overcompensated for the supply of broadband services?

Coverage area would be a better assessing tool. In sparsely populated regions, upgrading an ADSL exchange has the potential of connecting a

larger volume of people and has the opportunity for upgrade costs to be commercially recouped; however, it is only effective for a small radius from the exchange. Wireless services almost exclusively require either new or financially arranged access to towers and other infrastructure; and while they certainly have the ability to provide to the more densely populated areas, are a preferred option for outskirts of communities and rural areas beyond the reaches of ADSL. Wireless and Fibre solutions should receive larger subsidies to account for the higher costs of infrastructure installation with less opportunity to commercially recoup capital costs in a timely manner.

Q 24 Should the current HiBIS threshold model for speed and usage be maintained at existing levels under Broadband Connect?

Yes, while 512/128 will most likely be the norm, the competitive market will drive this.

Q 25 Should the model be retained with minimum speed and/or usage requirements?

See Q24 response. Usages should be increased.

Q 26 Should two separate minimum speeds with two subsidy levels be introduced?

This may provide encouragement for improved speed and download levels; however, for resellers to provide the upgraded service they would probably need a subsidy to negate increased backhaul fees. Providers using their own backhaul may not incur the same costs to provide the upgraded service.

Q 27 Should threshold requirements need to be expanded to accommodate other issues such as latency?

A subsidised satellite product should have a minimum latency; however, as with speed and usage, decreases in latency will be driven by a competitive market.

Q 28 Should the Broadband Connect Stage 1 price caps be retained under Stage2?

Q 29 Should a greater range of price caps be introduced than the two currently available?

There should be price caps (subsidy levels) under Stage 2 and not withstanding the increased administrative cost, there should be a greater range addressing the range of services. As previously mentioned, ADSL has a opportunity to supply a larger percentage of the population allowing for more opportunity for a commercial payback, while most wireless operators in regional areas are attempting to cover the population that ADSL is not able to reach. Population numbers are much lower and generally more costly infrastructure is required to be installed or accessed which doesn't allow the

wireless provider as much opportunity to recoup capital expenses in a timely fashion.

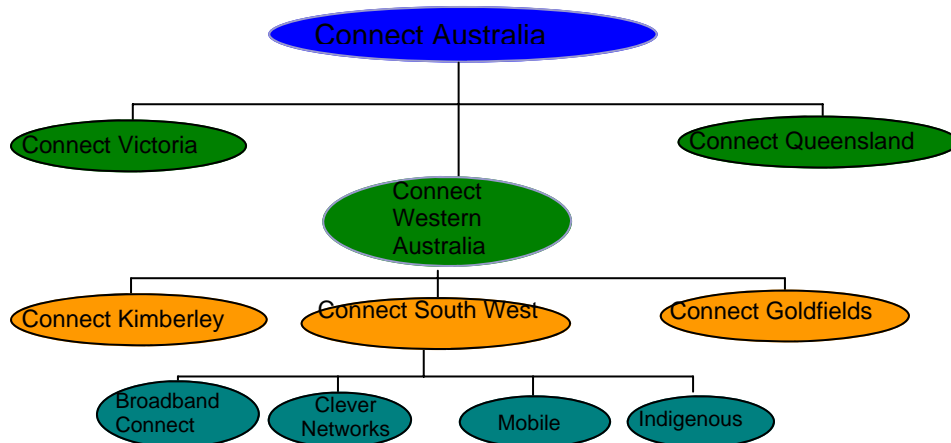
Q 30 Should the current funding cap level of 60 percent continue under Broadband Connect?

No. If this program wants to support a truly competitive environment the 60 percent cap needs to be **reduced**. The fact of the matter is that in regional Australia the incumbent is in a position to move quickly. By dropping the funding cap, the incentive remains for smaller providers to enter the market but may diminish interest from a larger incumbent to impede competition.

Clever Networks Responses

Q1 Considering the current DAB program structure – involving State, community and sectoral broker – is the current arrangement the best model for catalysing broadband developments in region rural and remote Australia or how should it evolve?

The proposed structure is shown in the following diagram.



Community brokers should evolve into Regional Brokers providing a holistic approach to demand, supply, and coordination of government funded programs for telecommunications in their regions. These people are “on the ground” and in a position to provide invaluable knowledge about the requirements, usage demographics, and optimal supply solutions for their region and its communities.

The Broker would operate at the orange level for an entity with the ability to functionally incorporate Local Government, development associations, business organisations and any other relevant regional groups.

At the green level, the regional organisations would each offer two representatives to sit on a board employing an executive officer who takes on the position of State Broker.

The State Broker would provide coordination at a State level of the Regional Broker’s strategies and assist to advocate issues identified by the Regional Brokers to State and Commonwealth Government.

Two representatives from the blue level from each state would be nominated to the National Broadband Strategy Implementation Group ensuring that relevant information, recommendations, and strategies are presented to the Commonwealth.

Sectoral National Brokers can be eliminated from the future programs, as a sectoral approach is contradictory to an optimal outcome for regional Australia.

Q2 What role can/should brokers play in promoting or facilitating the effective use of broadband applications in order to enable communities and businesses to capture the transformational benefits of broadband?

The current Community Brokers and the proposed Regional Brokers are in an excellent position to help identify the demand and supply of all aspects of telecommunication delivery and content. Liaising with Local Government, Development Commissions, Chambers of Commerce, and Industry provides the Broker with massive amounts of information about requirements. The Broker is then in a position to network the demand with the supply.

The networking and communication of available resources is an essential service that a Regional Broker should provide. It has been the experience of the Goldfields-Esperance Demand Aggregation Broker that information is accessible; the knowledge of where to search is lacking, or there is no coordinated effort. Promotion of broadband uptake is also a vital role.

Q3 What other resources and programs should the brokers be aware of in this role?

As previously stated Regional Brokers are in a key position to be across multiple areas and issues related to demand and supply of telecommunications and associated applications in their regions.

Q4 Should the broker role include an increased focus on 'effective use' outcomes and, if so, how can this be achieved?

This is an essential area for a Regional Broker and could be achieved by the Broker liaising with various organisations monitoring industry education, health and small business to coordinate. Often there are already surveys, etc. being performed to provide this information.

Q5 Should uptake and effective use of broadband by specific groups be targeted and if so, which ones?

Again, an area for Broker involvement. Target groups could be demographic, business, industry, etc. and would be regionally dependent. The Regional Broker would incorporate with regional awareness strategies.

Q6 How might the brokers play a role in facilitating/supporting community-wide connectivity and community-wide (cross-sectoral) networks.

The Broker's role should be integral in facilitating the optimum outcome for a community. They will be aware of current and potential network options to

assist a community to determine the best possible strategy to meet sectoral and community needs.

Q7 Should future demand aggregation activities be focussed in areas that have yet to receive terrestrial broadband services under HiBIS to support the delivery of the new Broadband Connect program?

Yes, dependent upon demand. The Regional Broker is best equipped to determine these locations and incorporate them into the regional strategy.

Q8 Are health, education, emergency services and local government the appropriate services for Clever Networks to target?

No, sectoral approaches decimate and segregate community and regional demand models making a coordinated effort onerous at best and impossible at worst.

Any mandated sectoral funding should be coordinated with broker input to ensure optimal use of funding and the best possible strategy is met for the sector, community and region.

In the Goldfields-Esperance Region the Demand Aggregation Broker project is working in a symbiotic relationship with the Eastern Goldfields Regional Reference Site for General Practitioner's access to broadband and Local Government's Shared Services arrangement to ensure those projects connectivity is incorporated into the regional model.

Q9 Should there be priorities within this group?

Priorities should be determined via the coordinated approach recommended above.

Q10 What other sectors, if any should also be consider?

Sectoral approach is not recommended.

Q11 Should there be a focus on particular applications/sectors which will require and drive network or industry capabilities?

No.

Q12 What strategies could be incorporated into the program design to ensure that investment under Clever Networks provides the greatest holistic community benefit?

See responses to Q1 through Q11 above.

Q13 Is there an ideal balance between infrastructure and applications streams and, if so, how can it be identified?

This is most likely regionally dependent, and would be determined by existing and required infrastructure as well as major regional industry and business.

Q14 What is the best balance between competitively determined and strategic investment funding?

These need to be one and the same as part of a regional strategy to realise the optimal outcome for regional areas.

Q15 Would potential proposals be improved if the guidelines permit proposals which encompass both infrastructure and applications aspects?

There may be some opportunity to do so, and Regional Brokers could identify those opportunities.

Q16 What key strategic investments in broadband infrastructure have the potential to provide the best outcomes?

In the Goldfields-Esperance region, which is representative of regional areas with large land mass and sparse population, investment in towers provides wireless and microwave corridors allowing the ability to accommodate future telecommunication advancements such as mobile broadband.

Q17 Are there complementary sources of funding/contributions which should be considered in developing the guidelines for the Clever Networks program?

All funding should be considered and can be optimised via a strategic approach assisted by the Regional Broker.

Q18 Should there be specified minimum broadband specifications (eg. Bandwidth, latency etc) for Clever Networks and, if so, what should they be and how should they be determined?

All indications are that the competitive market will most likely drive the current minimum of 256/64 to 512/128 so the new minimum should be adjusted up.

A subsidised satellite product should have a minimum latency as determined also by the current competitive market.

Q19 What steps/mechanisms can or should be incorporated, if any into Clever Networks to enable regional, rural and remote communities progressively to transition to high/higher bandwidth networks?

This will be incorporated into a regional progressive strategy and communicated to the Commonwealth via the proposed Broker program.

Q20 New technologies are showing considerable promise in providing broadband access to users well outside the current DSL limitations. What strategies should be adopted to encourage and support deployment of these new technologies, and to ensure newly emerged technologies are not precluded during the lifecycle of the program?

As previously stated, general indications are that telecommunication advancements will likely to move toward wireless environments. Strategies that include modifications of funding allowances to wireless (or other new technological advancement) providers for the installation of new infrastructure should be included in periodic adjustment reviews to the program.

Q21 What supporting information should be required in Clever Networks proposals in order for their sustainability beyond the life of the program to be evaluated effectively, and what factors should be considered in determining sustainability?

The Regional Broker will be in a position to determine effectiveness and sustainability of proposals and solutions for their areas. The Broker can liaise with providers, government, industry and communities to ensure that sustainability issues are reviewed and addressed.

As previously stated, Local Government needs to have access to funding for acquisition of privately held infrastructure crucial to established corridors.

Q22 For any new infrastructure created or made available, should there be specified minimum infrastructure access arrangements for parties other than infrastructure owners, such as a wholesale-rate for backhaul?

Any infrastructure wholly financed by government funding should be accessible to produce a competitive environment. Infrastructure that has been privately provided as part of a region's strategic corridor will need to be accessed per arrangements determined for provision of service to communities along that corridor.

Q23 How realistic is such a requirement, and how tangible are the likely benefits of the approach?

This would be very area dependent. In areas of more dense population, where a competitive situation is viable, government subsidised infrastructure should be accessible without small providers being subject to extraordinary charges by the infrastructure owner. Some areas will not ever been seen as commercially viable by providers and while revenues from users may justify operating costs, without subsidised infrastructure these areas will never get a reasonably priced broadband service.

Q24 How can an appropriate charging regime for such access be determined?

Government subsidised/supplied infrastructure should wholesale in the regional areas for the same prices that resellers would expect to pay in a competitive wholesale Metro market.

Q25 What other program activities should be taken into consideration in determining Clever Network program eligibility and entitlement?

As reiterated throughout the above responses, the utilisation of the Regional Broker and the recommended state and regional strategy is vital to assist with determination of Broadband Connect and Clever Networks program eligibility and entitlement to ensure program specifications and requirements are met while optimising available funding.

Q26 Having regard to the possible diversity of the activities under Clever Networks, what strategies can/should be considered?

Utilising the experience of the Regional Broker in this area could provide the most potential benefit to the program. The Broker, through working with communities, industry, health, education and business to coordinate optimal outcomes, would be aware of any issues regarding program outcomes. The Regional and State Brokers would have invaluable information to offer during periodic assessments and updates of program specifications.