



IBM Smarter Cities Challenge
'Enabling a Digital and Carbon Neutral City'

COMMUNITY TRUSTees REPORT

6 September 2012

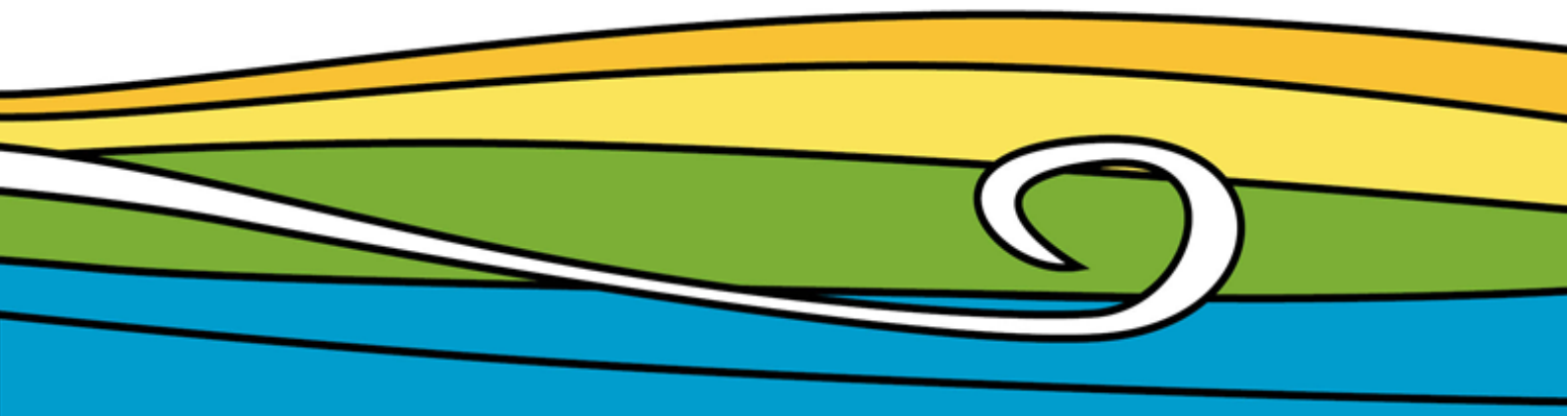


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Community Participation in the IBM Smarter Cities Challenge:

Helping develop and plan for the implementation of the IBM team's 'ways to enable a digital and carbon neutral city'

EXECUTIVE SUMMARY

The City of Greater Geraldton wanted residents to participate in developing the plans for the region proposed by the IBM Smarter Cities Challenge. This process included a large random sample survey sent to the residents of Greater Geraldton; a survey disseminated to all years 10-12 high school students; and a random sample deliberation team, the Community Trustees, who worked over several weeks to develop their response to IBM's proposals including their recommendations for Greater Geraldton's digital future.

The key issues raised from the two surveys are as follows: Internet usage is almost universal in Geraldton, though not among the older population. There is no significant socio-economic or locational divide, though some find it difficult to pay, and poorly served suburbs have to use mobile technology to connect. Older people usually say they lack the knowledge to use the internet, though for others, it appears to reflect withdrawal from social relations. Internet usage is not restricted to emails and facebook, but also to other ways of staying connected, conducting personal business and learning new information, with demand for more internet based learning. Speed and reliability are the greatest barriers to internet use. Safety and protecting person information are concerns.

Thirteen randomly sampled Greater Geraldton residents volunteered to be on the Community Trustees group, joined by three high school student volunteers. At the 1st and 2nd Community workshops, key issues raised included: cost, eg whether pensioners could afford the NBN; how Indigenous people in more remote communities not connected to the internet could benefit; who would provide the labour and skills to build the NBN and why NBN has only one provider; how NBN could help the unemployed, and improve social life; how security will be protected as well as privacy; and importantly what will be done about those with currently poor connections who are unlikely to fare much better with the NBN; the lack of awareness of the general population of NBN's benefits; the lack of skills, particularly of businesses, to maximise the potential of new business models; the potential for diversifying the current economic base; placing Geraldton at the centre of a digital north; and ensuring that the new digital future still preserves the things about the region people want to retain.

At the 3rd workshop, the Community Trustees worked on a plan to help the implementation of the IBM Smarter Cities Challenge proposals.

Overall Recommendations

1. Provide the financial support required to implement the IBM Smarter Cities Challenge plan, so enabling Geraldton to become the digital and internet capital of the North and Midwest (and potentially the Digital Hub of Western Australia).
 - ❖ Note: Geraldton can be a benchmark for regional Australia. It has 5-8 years leeway over other regional centres. It is willing to take advantage of this, getting started now. However, the clock is ticking. We want to incubate our next Mark Zuckerbergs. We want to retain our youth in the community. Currently, mining, agriculture and fishing are the main industries of Geraldton.

However the digital market is bigger and more sustainable than the mining market. We want to future proof our economy with a digital future.

2. Develop an implementation plan, agreed across agencies and levels of government, that incorporates the visions, constraints, opportunities and strategies outlined in this Community Trustees Report
3. Converge all the separate 'hubs' recommended by the IBM team into the one 'My Geraldton' hub with software that learns about personal usage preferences.
4. Provide the same physical location for the Start-Up Hub and the other Hubs (e-Education, e-Health). This will enable easy access for all user setups and can be available for community bookings as well as business. Bringing diverse groups together will enhance opportunities for learning from one another and reciprocal mentoring. Set this up by 2014/15.
5. Reutilise and refurbish existing buildings rather than building something new for the Hub. This can help support the decentralisation of business locations rather than locating them solely in Centro
6. Provide support staff for the Hub; and maximise patronage, eg monitor membership and provide smart card entry and use (similar to the Durack Cibatek Centre).
7. Enable youth to run the Youth Hub themselves as a business, eg. Running a café to make money to further fund it. The facility needs to feel welcoming and inclusive, for example, incorporating a graffiti wall, gymnasium, etc.
8. Maximise energy efficiency in the Greater Geraldton region by –
 - Changing the relationship between customers and energy providers so together they can seek ways to reduce energy use;
 - Piloting access in Greater Geraldton to low and peak rates for all energy users;
 - Providing smart meters for every household and business, putting back the incentive to use less energy;
 - Providing the opportunity for users to communicate with the provider on saving energy;
 - Encouraging/enabling usage comparisons with neighbours (how much is used at particular times of the day and what products use the most energy);
 - Providing energy supplier competition rather than the Synergy monopoly - allowing for differently owned suppliers that would encourage power companies to need the people rather than the people needing the power.
9. Achieving the proposal of “Creating a workforce for the future” will require the expansion of the airport to facilitate access to and from the region, eg. enabling an increase in Geraldton’s tourism when promoted to be a great holiday destination, especially in China (so close to Geraldton).

INTRODUCTION

After winning the IBM Smarter Cities Challenge, the City of Greater Geraldton (CGG) Creative Communities Department to plan and undertake community engagement to better inform the IBM Smarter Cities Challenge work. Together with their research partner, Curtin University Sustainability Policy (CUSP) Institute, they designed and implemented a public deliberation process to ensure that ordinary residents would play a central role in both the development of the IBM Smarter Cities Challenge plan as well as plans for its implementation.

The process began with a large random sample survey (acquired through the WA Electoral Commission), posted to around 3,000 CGG residents. Around 300 responded with completed surveys. The aim was to obtain base line information from everyday CGG residents about the NBN and more broadly a digital future, including their awareness of digital applications in everyday life, their level of current access, the access they would like, the digital applications they currently use and whether the City's digitally provided services met the community's expectations. A local external consultant developed the survey and analysed the findings. To access the views of those under 18, this survey was also completed by all year 11 and 12 students from Greater Geraldton high schools. The longer term aim is to track public changes in digital attitudes, values, awareness and access over time.

The key findings of the two surveys are as follows: The internet is highly valued in Geraldton by most of the population – providing a solid platform for the future. While it is often used for social connectivity, it is also used for new information and personal business – offering new opportunities for businesses as well as students. The key barriers are speed and reliability, with some having to rely on mobile technology because neither broadband nor fixed wireless services are available, and expectations are that connectivity will not improve for those areas even after the NBN roll-out. There is demand for new potential internet services, including more internet based learning, apparently not pursued currently because of poor connectivity. Safety is a concern as is protecting personal information, so understanding how to minimise security risks is needed. Although there is no significant socio-economic divide in internet usage, some do find it difficult on occasion to pay. Neither is there a locational divide although poorly served suburbs are reliant upon inadequate mobile technology. Older people are not connected to the internet they say, because of lack of knowledge, though for others it appears to reflect a withdrawal from social relations.

Randomly sampled residents were asked if they would like to participate in a Community Trustees group to assist IBM to develop their digital plans and ensure their relevance to the people of Greater Geraldton; and then to assist the CGG with its plans for implementation. This would involve participation in two sessions of two hours with IBM in the late afternoons, attending the public IBM Smarter Cities Challenge final presentation or watching the web cast, and a one day workshop on the IBM's Smarter Cities Challenge presentation to help develop plans for its implementation. Finally, it would involve a Community Trustee presentation of their report and recommendations to the Hon Stephen Conroy, Minister for Broadband, Communications and the Digital Economy. Thirteen randomly sampled residents were able to meet these time commitments, agreeing to participate in the Community Trustees group, and were joined by three high school student volunteers representing the younger generation. The demographics of this group was representative of the broad community. There was no inducement offered for participation other than the opportunity to help the community develop the digital future they wanted.

The Community Trustees process was akin to a random sample Citizens' Jury wherein decision and policy makers have the opportunity to hear an authentic, considered voice from the community that is representative, thoroughly informed and has the opportunity to deliberate. Deliberation involves questioning experts and each other, weighing options and then searching for common ground and a coherent voice.

OUR REPORT: THE COMMUNITY TRUSTEES

How we experience the Internet – excerpts from Trustee stories

“I don’t know anything about the internet, but I decided to nominate for this Community Trustee group because you’re never too old to learn” - Anonymous

“Our internet connections are becoming worse, even after checking with our service provider and two recent checks by Telstra, but it has not improved the problems. Telstra tells me there is still a problem at the exchange which they said will be fixed soon!!” - Kate Rickerby

“I am 17 and a half and attend Geraldton Senior College. I have lived in Drummond Cove for the last 3 years and can quite literally see the internet exchange from my house. There are no free parts in the DSLAM for ADSL. There is a waiting list of no fewer than 50 people waiting for stable internet in Drummonds, which is 10km from the city centre. Telstra Mobile internet service is absolutely appalling. My parents own an IT business from home and rely on a stable fast internet connection 24/7. Relief has only come in the last few months with NODE1 direct wireless. To add insult to injury, looking at maps of the NBN rollout, Drummond Cove is completely forgotten and if we do get connected it will be wireless, 2 years after the rest of Geraldton.” - Liam Earnshaw

“The internet is important to me, as I enjoy reading and have been able to utilize online e books through my "Kindle" and iPhone, and I also downloaded from the CGG library website, which is an effective way to source books at no charge. My mother, who is 74 and has macular degeneration, was finding it exceedingly difficult to locate books by herself and read them. She is now using her iPad with the iBooks app, and has successfully downloaded/purchased books online.” - Alex Panuccio

“I use the internet to keep me up to date with continuing education requirements specified by the dental board. Keeping in touch with dental associations and up-coming courses plus doing courses online through Adelaide University. Less importantly but much more fun, I also use it to research and book holidays, online shopping and find recipes.” - Melinda Cox.

“I find downloading long emails are very slow. The video and Youtube attachments to emails take forever to download as they stop every few seconds. Usually I don't even bother to download them as it takes so long. It would be great to be able to download this information in one go instead of all the stopping and starting.” – Ann Fraser

Our Community TRUSTee Process

Surveys were posted to around 3,000 Greater Geraldton residents, randomly sampled via the WA Electoral Commission. Surveys were also distributed to all high school year 11 and 12 students to complete. (The results are outlined in the Executive Summary with the full report of both surveys in Appendix 1). We completed the survey and later responded to an invitation to nominate for the IBM Community Trustee Group. We have sixteen members: thirteen from the resident random sample, and 3 from the high school sample. We are a very diverse group in terms of our ages, education level and experience with the internet.

Our 1st workshop was late afternoon on 21 August 2012. We were given the results of the random sample survey and briefly discussed the findings in terms of the issues we needed

to keep in mind for our future deliberations. David Bartlett and Jackie Gill gave short presentations on the NBN and we asked them questions. Then the IBM team presented their proposals thus far, and we gave them feedback. Some of the questions and issues we raised were as follows:

- Cost: “Will the NBN be expensive?”; “Will pensioners be able to afford the NBN?”
Accessibility: “How is the NBN going to help Indigenous communities and others without internet connection?”
- Construction of the NBN: “Where is the labour and skills coming from to build the NBN?”; “Why has NBN decided to use one provider, Skybridge, to provide the infrastructure?”
- Security: “How can we control abusive communications?”
- Potential negative effects on the community and social life: “How can NBN help unemployed people?”; “What are we going to do with all the people who become unemployed because of NBN?”; “How can the NBN help us to socialise better?”; “How is it going to help me reduce my time on the computer?”
- New business models: “How do new business models like those described by the presenters actually work?”

Some issues raised, such as difficulties with internet access, even 10 km out of Geraldton, which are likely to persist even after the NBN roll-out, the IBM team said were new to them; while others, such as the importance of e-Learning to stop the youth drain of school leavers to Perth, the IBM team said they had heard loud and clear from the school students.

Our 2nd workshop was late afternoon on the 27 August 2012, once again with the IBM Smarter Cities Challenge team. The Mid West Digital Working Group also joined us at this workshop. We received the initial results of the high school NBN survey and discussed them in terms of what was expected, unexpected, and the key differences between the youth and adult responses. We heard the IBM Smarter Cities Challenge team’s next version of proposals, then we divided into small groups, each one focussed on a proposal of interest to us, with an IBM member taking part in the discussion as well as one or two members of the Mid West Digital Group. At this point, the IBM Smarter Cities Challenge team had 5 key themes. The following are some of the issues of interest raised by the small groups:

- 1) An internet exchange for Geraldton
 - There is a general lack of knowledge in the community about the possible benefits of the NBN, and that it is going to be delivered by existing ISPs
 - There is currently a lack of competition amongst ISPs, which could be remedied with the NBN rollout
 - ISPs are not proactive in promoting and marketing products that will take advantage of the NBN rollout.
- 2) Free public Wi-Fi and a citizens’ website
 - There could be new and better technological options such as interactive screens, touchscreen information points, and augmented reality
 - Tourism could benefit from having more events listed, digital tours, aggregation of local info, and being able to find and book restaurants
 - Business opportunities could include a capability and service index, promotions, and better data analysis e.g. to predict future demand
 - There could be better community engagement

- Security, violence and bullying could be issues – the website should be monitored.
 - Good marketing will be needed.
- 3) Energy management and a virtual power plant
- It would be good to have differential pricing for seasons
 - Information about power usage especially during summer would be helpful.
 - The City should mandate Blu-Gen fuel cells for new developments.
 - Education will be needed for users and electricians – e.g. there could be a lack of skills in the market to work with the technology such as smart wiring.
 - Build a business core to determine cost/benefit for the average user.
- 4) Start-up hub and digital youth hub
- The start-up hub will open new job opportunities for people.
 - Schools should use the digital youth hub, e.g. they could use the space for collaborative projects between schools.
 - The youth hub should be a physical space for all young people, including at risk or disadvantaged youths. Older kids could mentor younger ones.
 - There could be a website for young people *done* by young people. Social media moderators could come from the “Youth Council”.
 - There could be integration between the youth hub and the start-up hub, to help kids.
- 5) Digitally enabled tourism, education and health
- Further online courses and study to encourage students/youth to stay in Geraldton are essential.
 - Enable the education precinct by sharing resources and expertise between high schools, University and Durack.
 - Showcase student skills/talent via the internet.
 - Improving health consultation in regional towns is important, e.g. online diagnosis to specialists in another location. Ambulance information could be accessible to paramedics and volunteers attending emergencies.
 - Midwest artists could show their art to an internet audience.
 - Make tourist information available to mobile devices in the city centre.

At our 3rd workshop, over one day on 1 September, we examined the IBM team’s final presentation and determined our visions for each of their proposals, and then the key constraints, opportunities and strategies to reach the desired future we envisaged.

Our vision, key constraints, opportunities & strategies for each IBM proposal

- 1. Public Wi-Fi** - Build a free public Wi-Fi Network covering Greater Geraldton’s CBD to stimulate the creation of new digital services to support, promote and extend local businesses.

Our Vision: *“We will have free, accessible (24/7) internet for all of Geraldton where businesses can have an online presence and information can be found on the go and on demand”*

Our Key Constraints

- Financial budget - who will fund the initial project and ongoing costs?
- How will illegal activities, anonymity, security and abuse of the service (e.g. downloading large files) be monitored given privacy laws?
- Acceptance of the plan by the business community
- People may not have the devices or they may not work
- Towers need to be in the CBD

Our Key Opportunities

- Tourists and residents able to access details and book for events, services (e.g. taxis) and accommodation on demand
- Gives people who are not connected the opportunity to go online
- Businesses can promote themselves better for example promote daily specials to encourage clients; increase central business economy
- Business can advertise to the overseas market, highlighting specific local products only available from this region

Our Key Strategies

- Keep it low cost and easily amendable; for example utilise existing towers
- Create a body to implement the Wi-Fi and educate the public
- Use stories of how local people have achieved financial gain through accessing the Wi-Fi
- Educate people on what equipment they will need to access the Wi-Fi
- Use restrictions to prevent blockages during peak usage times and to prevent misuse
- Advertise free Wi-Fi in the city, using signs, brochures and visitor centres and Australian consulates

2. **CGG Internet Exchange** - Build a Greater Geraldton Internet Exchange to bring forward the anticipated fast internet experience and kick-start the development of digital services.

Our Vision: *“Get it here now, ensuring average access for everyone. It will support our internet being cost effective and available for everyone regardless of geographical location or personal circumstances and it will future-proof population growth. Geraldton will provide internet to the Northwest with state of the art technology and infrastructure.”*

Our Key Constraints

- Obtaining government funding (for the costs involved)
- Getting a fire starter to get things moving quickly
- The exchange will need to be big and centrally located, have the capacity to sufficiently incorporate other communities north of Geraldton
- It should be built soon - before anything else can be put into place
- Getting Council approval
- Waiting on NBN (stage 1 in October 2012)
- Sourcing tradesmen to build the infrastructure and giving feedback on progress to the community. There is a skills shortage but people want work.

Our Key Opportunities

- Being the digital hub in Australia
- Adding infrastructure value to the City
- Place the hub at Durack Institute to utilise existing infrastructure and technical expertise and create jobs
- “MyGeraldton.com” to become a key point in commerce
- Education, medical and business video conferencing
- More people connected to the internet and population growth
- More jobs

Our Key Strategies

- Plan to make sure we build it so everyone has coverage, allowing for population growth, and to be able to provide internet to the North West
- Involve appropriate technical people and equipment to facilitate internet network integration for the communities in and around Geraldton
- Renovate a derelict building in town instead of building new
- Make sure there is coverage for everyone (address the digital divide)

3. **Citizens Hub** - Create a Citizens Hub, “MyGeraldton” providing a one-stop online destination for city and utility services, community activities and business interaction accessible via mobile devices or PCs anywhere.

Our Vision: “We will have a Citizens hub by 2014 that is user friendly and low cost. Services will include all relevant community information relating to local environment such as beaches, business services, government organisations, events, utilities, tourist information, interactive forums, and link to all online hubs. We prefer only one hub with smart preferencing (i.e. Google news based on how users access the website).”

Our Key Constraints

- Organisations involved need to make sure the information available on the hub is current and there is sufficient content
- Lack of use due to poor design
- The cost of creating the hub
- Needs ongoing monitoring
- Some users may lack the knowledge to upload information

Our Key Opportunities

- Networking of all organisations, community information and services
- Monitoring your utilities to cut costs
- Collecting, integrating and sharing information
- Social interaction within the city for people with common interests
- Information about emergency situations such as gas leaks and bushfires
- Informing the community about anti-social behaviour and crime hot-spots

Our Key Strategies

- Educate community to use the hub (tutorials on line as well as workshop coaching sessions)
- Engage youth to design the hub i.e. the people who are going to use it and will ensure its success, rather than paying exorbitant costs for consultant design
- Sufficient advertising to promote the hub
- Identify a suitable central location
- Offer tutorials for senior members of community as they might be concerned with modern technology.

4. **Smart Energy Hub** - Create a Smart Energy Hub where the City and its citizens are interconnected with utility providers, empowering all users to become more energy efficient, keeping Greater Geraldton affordable and sustainable.

Our Vision: “We will have an integrated network with the Citizens hub and utility providers for information on how to create a ‘Smart Home’ environment. This will enable us to reduce and create efficient energy usage to become a carbon neutral city and lower the strain on the environment.”

Our Key Constraints

- Synergy, Western Power, Water Corp and CGG might not want to work with the community for a more efficient service
- Funding for the smart energy set up in homes is costly
- Technology information and understanding of concepts of energy efficiency could be difficult for some
- Old infrastructure in buildings could be problematic

Our Key Opportunities

- Reducing and creating an efficient energy usage to become a carbon neutral city and lowering the strain on the environment

- Geraldton could be an example to the world of how to become carbon neutral: and achieve tourism benefits from being a carbon neutral city
- More competition in the provision of the utilities
- Electric car batteries can be a source of power for homes

Our Key Strategies

- Set up smart home power to be able to control our use of electricity during peak time eg. when to use the washing machine
- Reinstate grants for solar panels as a pilot in Greater Geraldton
- Ensure all new housing has solar or other renewable energy, eco-friendly appliances and grey water recycling
- Establish better communication between providers and users to make the utility more efficient and lower costs
- Improve infrastructure to be able to take the power being reintroduced.
- Encourage community members to have rainwater tanks and composting facilities.

5. **Start-up Hub** - Create a Start-up hub with fast internet, video conference rooms, “Smart Mailboxes”, hot desks, to incubate new business ventures, e-Commerce initiatives and facilitate global connections.

Our Vision: “We will have a physical and online hub for Geraldton businesses and residents to maximise NBN and access: social media, information/education, teleconferencing, forum/sharing of information, mentoring, advising and marketing/promotion. This hub will grow and showcase local businesses and ideas in the local and global environment by 2014”

Our Key Constraints

- Costs e.g. to establish, build, maintain and staff
- Duplication of services that already exist
- Lack of correct education on what the centre can offer
- Community attitudes
- Too much focus on mining resource may detract from the value of this project
- It might be seen as a low priority.

Our Key Opportunities

- Businesses can increase their knowledge and potential
- Ways can be found to support those who are not as financially well off
- Greater community wealth can be created through knowledge and information
- Existing services can be complemented

Our Key Strategies

- Engage existing services and providers of similar services
- Source funding to establish the hub and cover ongoing costs
- Utilise an existing building
- Educate the wider community to sell the project idea and offer trials/workshops for case studies and feedback
- “Business in a box” – get the basics from this service.

6. **Digital Youth Hubs** - Create Digital Youth Hubs within a safe physical space where youth can congregate, collaborate and create, and nurture Greater Geraldton’s next generation, building the right digital culture, skills and global connections.

Our Vision: “We will have a place that is supervised and safe, where young people can: socialise/hang out, be online; access education – learning, teaching, homework; access the global community/communication; and play computer games. It will be a place that is inclusive where young people have a sense of belonging and ownership.”

Our Key Constraints

- Funds to establish and staff – who will source – will the City make this a priority?
- Safety security locally and globally - physically and online
- Behaviour management of young people - antisocial, graffiti, vandalism, drugs
- Attitudes of youth and communities
- Youth will need to be engaged and see if they like it
- Qualified supervision will be required to enable homework classes
- Forums will need to be monitored, censored etc...
- A qualified youth worker will be needed

Our Key Opportunities

- Physical space enabling youth to learn to run a small business and/or connect to education programs.
- There is demonstrated community need, especially by youth
- Improved opportunities to research and homework
- International access to sister-entities

Our Key Strategies

- Engage with young people in the community on this idea
- Self-sufficient management and operation – e.g. engage young people to make up their own rules for the venue to encourage respect
- Smart card entry to monitor use and stats
- Coder Dojo competitions
- Work in with psych and other youth organisations.

7. **e-Education** - Develop a workforce of the future using advanced e-Learning technologies and facilities, opening up pathways for local students, growing Greater Geraldton's skills and labour base to sustain a vibrant and diverse economy.

Our Vision: *"The community and surrounding areas will have easy access to education and training, which is not available locally, by end 2013. This will be done by Tele-conferencing, enabling users to have direct correspondence with educators, peers and mentors worldwide. Doing this will make communication more personal and efficient allowing for more interactive learning. It will also increase the availability of ongoing professional development and specialised training."*

Our Key Constraints

- Funding
- Internet speed
- Availability of e-Education opportunities
- Knowledge of how to access and use e-Education
- Access to suitable facilities and infrastructure
- Lack of motivation by youth

Our Key Opportunities

- Ongoing training and professional development without travel
- Access to courses not available locally
- Remote communities can have better education
- Personalised correspondence with peers, mentors and educators

Our Key Strategies

- Target and prioritise e-Education to the specific needs of users
- Upgrade infrastructure at locations (schools, businesses etc.), and use existing buildings
- Educate people on how to use it
- Use teleconferencing and video

8. **e-Tourism** - Showcase Greater Geraldton's natural and cultural treasures to the world by using Smart Digital Services to promote and enhance the Geraldton Tourist Experience.

Our Vision: *"We will promote the unique tourism assets Geraldton has to offer the world – our environment, our culture, especially our indigenous culture and arts, our recreational opportunities, e.g. kite surfing, windsurfing, fishing, swimming and our diverse economy. We will attract people from around the world through an international website with tourism information for all Australia in different languages, easily linked to Geraldton. We will innovatively use social media, YouTube, Google (optimising search engines and gaining prominence), mobile phones (eg QR readers); and we'll create world-class events. We will engage all Geraldton in updating materials, photos, interesting sites and events."*

Our Key Constraints

- Funding
- Community support for increased tourism
- The wrong things such as graffiti and roadside rubbish could be promoted
- Lack of parking and signage

Our Key Opportunities

- Economic growth and employment
- Capitalising on cruise ship visits to attract businesses and residents
- Expanding tourist bureau services and combine them with e-Tourism services
- Attracting business and residents

Our Key Strategies

- Provide a big touch screens at the airport and library
- Provide one centralised website for WA tourist centres
- Develop customised tags that put Geraldton at the top of search results
- Have "what is Geraldton up to?" competitions and put entries online annually
- Get advertising on cruise ships
- Advertise Aboriginal art and culture
- Place QR readers on heritage sites
- Update information regularly

9. **Virtual Power Plant** - Implement a "Virtual Power Plant" using a network of solar panels, natural gas fuel cells, electric cars, and active energy management, Greater Geraldton can become Australia's model carbon Neutral city.

Our Vision: *"Greater Geraldton will become a virtual power plant using green devices to run each household monitored via smart meters, i.e. Blu-Gen, electric car batteries, solar panels and wind turbines to feed energy back into the Grid. By utilising new products that have economy mode options, building energy efficient houses and having more competition in the energy supplier market, we will be able to achieve our vision."*

Our Key Constraints

- Overall cost of the panels/inverter must come down
- Lack of funding incentives from the power provider
- Lack of education of residents about what is available to promote these products
- Lack of recycling of e-Waste. Who/how will we recycle all these batteries?
- Existing infrastructure is not designed to take the power into the grid
- Lack of education on technologies such as electric cars

- Government not understanding that it isn't all about profit

Our Key Opportunities

- To educate and enthuse our communities and organisations about the benefits
- To reduce the cost of everything in town
- To create a green tourism model economy

Our Key Strategies

- Ensure new developments are smart developments. Ensure new houses are solar powered, energy efficient and have water tanks. Use grey water recycling and composting/worm farms, although these may be expensive.
- Offer incentives for all energy efficient systems
- Attract a trial of electric cars to the city and have government agencies use them
- Advertise and promote our strategies to encourage businesses to relocate to reduce their carbon taxes

10. **Renewable energy initiatives** - Create a Renewable Energy Initiative by developing major power projects that use the region's unique blend of five renewable energy sources, giving Greater Geraldton the competitive edge in attracting new mining projects.

Our Vision: "Greater Geraldton will become a world leader in green energy: solar farms, wind farms, etc. utilising fast internet to control and track the sales of renewable energy to all parts of Australia. Our government buildings will have solar panels and government vehicles will be electric. Businesses will relocate here due to our reduced energy costs."

Our Key Constraints

- State and Federal Governments restrict progress
- Finding land for wind and solar farms can be difficult
- The grid can't accept further energy

Our Key Opportunities

- To put clean energy back into the grid rather than dirty energy to attract businesses to the community
- To become a research centre for the implementation of renewable energy
- To promote our carbon neutral city as a best practice tourism destination
- To attract employment opportunities other than mining
- To create a new industry of businesses that are totally green

Our Key Strategies

- Partner with mining companies to use renewables for their energy demands
- Create People Power to persuade politicians to be proactive about renewable energy. Have a dedicated team to keep promoting Geraldton as the place for renewable energy projects. Request the Local and State Governments to keep lobbying for these big projects.
- Enable energy companies to cooperate with the community to create a greener future.
- Carry out research on how these things work and disseminate in the community
- Find land for wind and solar farms. Get smaller, remote communities or stations to set up solar energy and storage facilities.

RECOMMENDATIONS

1. Provide the financial support required to implement the IBM Smarter Cities Challenge plan, so enabling Geraldton to become the digital and internet capital of the North and Midwest (and potentially the Digital Hub of Western Australia).
 - ❖ Note: Geraldton can be a benchmark for regional Australia. It has 5-8 years leeway over other regional centres. It is willing to take advantage of this, getting started now. However, the clock is ticking. We want to incubate our next Mark Zuckerbergs. We want to retain our youth in the community. Currently, mining, agriculture and fishing are the main industries of Geraldton. However the digital market is bigger and more sustainable than the mining market. We want to future proof our economy with a digital future.
2. Develop an implementation plan, agreed across agencies and levels of government, that incorporates the visions, constraints, opportunities and strategies outlined in this Community Trustees Report
3. Converge all the separate 'hubs' recommended by the IBM team into the one 'My Geraldton' hub with software that learns about personal usage preferences.
4. Provide the same physical location for the Start-Up Hub and the other Hubs (e-Education, e-Health). This will enable easy access for all user setups and can be available for community bookings as well as business. Bringing diverse groups together will enhance opportunities for learning from one another and reciprocal mentoring. Set this up by 2014/15.
5. Reutilise and refurbish derelict buildings rather than building something new for the Hub. This can help support the decentralisation of business locations rather than locating them solely in Centro
6. Provide support staff for the Hub; and maximise patronage, eg monitor membership and provide smart card entry and use (similar to the Durack Cibatek Centre).
7. Enable youth to run the Youth Hub themselves as a business, eg. Running a café to make money to further fund it. The facility needs to feel welcoming and inclusive, for example, incorporating a graffiti wall, gymnasium, etc.
8. Maximise energy efficiency in the Greater Geraldton region by –
 - Changing the relationship between customers and energy providers so together they can seek ways to reduce energy use;
 - Piloting access in Greater Geraldton to low and peak rates for all energy users;
 - Providing smart meters for every household and business, putting back the incentive to use less energy;
 - Providing the opportunity for users to communicate with the provider on saving energy;
 - Encouraging/enabling usage comparisons with neighbours (how much is used at particular times of the day and what products use the most energy);
 - Providing energy supplier competition rather than the Synergy monopoly - allowing for differently owned suppliers that would encourage power companies to need the people rather than the people needing the power.
9. Achieving the proposal of “Creating a workforce for the future” will require the expansion of the airport to facilitate access to and from the region, eg. enabling an increase in Geraldton’s tourism when promoted to be a great holiday destination, especially in China (so close to Geraldton).

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APPENDIX 1- Survey Key Findings: 'Living in a Digital World'

The City of Greater Geraldton commissioned two surveys to measure community sentiment about the digital future. One survey was mailed to a random sample of Greater Geraldton electors, resulting in slightly better than 300 responses. The second survey was distributed through the four Geraldton high schools and completed by about 800 students in Years 10-12.

Evidence from the census and a phone survey recently conducted in Geraldton suggest that 20-25% of adults do not use the Internet. Despite every effort to encourage all people to participate in the survey, only five per cent of electors who responded told use no one in their household used the Internet 'even if only occasionally'. A close look at the age distribution of respondents reveals that people over age 60 and particularly over age 75 were least likely to respond to the survey.

Internet Use

Internet use is almost universal in Geraldton. All of the high school students responding to the survey have some method of accessing the Internet. Over 85% access the Internet through their mobile phone and a laptop or desktop computer at home. As explained above, 95% of the adults surveyed also use the Internet, either personally or through someone else in their household.

Internet use isn't just about email and Facebook. The average adult reported that in their household nine out of a list of 15 Internet-based activities were done in the past four weeks. For both adults and youth, staying connected with other people was the most valued use of the Internet. But for both groups this was closely followed by learning new information. Youth, when asked what they liked best about the Internet, most often wrote in that they could find out 'ANYTHING' and anytime.

POLICY RELEVANCE: Geraldton youth and adults value using the Internet to find information.

Internet and business

Adults conduct a lot of their personal business on the Internet. About three out of four reported that they or other household members pay bills, bank and shop online. Youth also indicated that they regularly shopped on the Internet.

Half the adults who are employed report that they use the Internet as a regular part of their work. Those who do not use the Internet at work are less likely to use it at home for personal business.

POLICY RELEVANCE: Encouraging more Geraldton businesses to incorporate the Internet will also give their employees greater capacity to take advantage of what the Internet can offer.

Barriers

Adults and youth in Geraldton complained about Internet speed and reliability. High school students frequently mentioned poor speed as what they disliked most about using the Internet. A sizable minority of adults and youth also reported that they had to rely exclusively on mobile technology to connect to the Internet from their house because they could not get a broadband or fixed wireless service. People in the outer suburbs and rural areas of Greater Geraldton did not expect that the NBN would improve their connectivity.

POLICY RELEVANCE: Demand for improved connectivity is just as strong as demand for faster speeds. People need more information on how they will be able to connect during and after the NBN roll-out.

Unmet demand

People do not know what they don't know. However, in the youth and adult surveys we suggested some new uses of the Internet and found a high demand.

Geraldton schools currently do relatively little with the Internet, partly because of poor connectivity. Students were in favour of having more access to class resources on line and new forms of Internet-based learning.

There are also untapped opportunities for youth to become more aware of how the Internet can help them pursue their interests. Youth interested in music use the Internet extensively to explore music and to make their own. There is less intensive engagement of the Internet for other interests. Since young people most commonly teach themselves about the Internet or learn from friends, there is little opportunity for them to learn something completely new. But once they know what is available, they should be able to take advantage of it.

When asked what CGG services they would like online, adults could not give specific examples, however when asked about specific services, they were very supportive. These new services included traditional ones such as paying parking fines, but also novel ones such as locating and joining special interest groups.

POLICY RELEVANCE: People are likely to take up services that enhance their current interests. Promoting the availability of new services will be sufficient. Young people and adults are familiar with learning how to use Internet applications on their own or with help from friends and workmates.

Risks of the Internet

The Internet is a part of our social life and has both positive and negative features. Safety is a concern shared by youth and adults. Three out of four youth said that they had observed nasty or cruel behaviour on line and a minority mentioned inappropriate interactions being what they disliked most about using the Internet. Adults have their own concerns. The second most frequently mentioned barrier to using the Internet more was concern about protecting personal information.

POLICY RELEVANCE: Individuals and businesses need to understand security risks and how to minimize them. Any new services offered by government should be safe and be used as an opportunity to educate about safety.

The digital divide

The extensive use of the Internet suggests that there is little evidence socioeconomic differences affect the ability to access the Internet. When asked directly about their capacity to pay for Internet connection, respondents indicated that they could afford it, although some indicated that it was at times difficult to pay. Even people in rural areas and in poorly served suburbs still manage to connect, however, inadequately, through mobile technology.

The most important group missing out of the digital age is the elderly. This is usually explained as a lack of knowledge, however, the few people who wrote use about their reasons for not using the Internet told a more complex story of withdrawing from social relations. Cognition declines with age, equipment becomes out of date and not worth the investment to up-grade. When the current Internet savvy group ages, it too will reduce its use of the Internet. In the future, the home-bound elderly will benefit from the Internet but it will be through services that are run for them (such as services monitoring health status) and not by them.

POLICY RELEVANCE: Government services need to be aware there will always be a small group who will not be able to use services online. To address population aging more services need to find ways to assist older people without expecting them to use the Internet themselves.