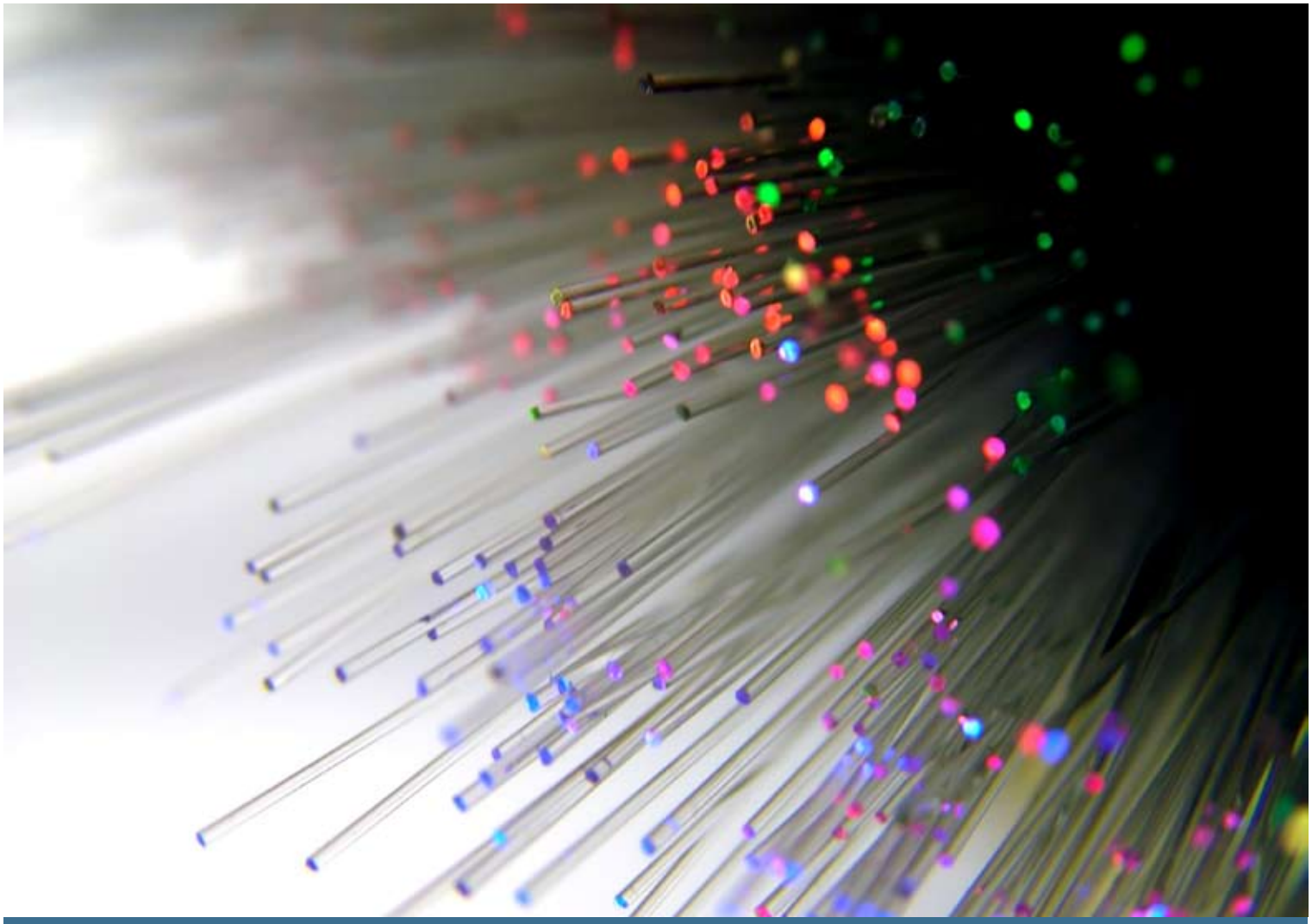

Discussion paper:

Queensland's approach to the National Broadband Network

March 2011

Queensland Government ICT
Department of Public Works

Toward Q2 Tomorrow's Queensland

Queensland Government

Introduction

The National Broadband Network (NBN) will be a critical catalyst for social and economic transformation across Queensland.

It will change traditional ways of doing business and create new knowledge-based industry sectors.

It is likely to lead to increased economic growth, a view consistent with the position outlined by the Organisation for Economic Co-operation and Development (OECD) in Seoul, Korea in 2008.[1]

It has the potential to help develop more sustainable business practices, and create a completely new generation of service delivery, both across government and the broader services sector of Queensland's economy.

The Queensland Government believes the NBN will offer significant opportunities to help us achieve our *Toward Q2: Tomorrow's Queensland* vision of a strong, green, smart, healthy and fair state.

That is why we want to see a fast and comprehensive roll out of the NBN in Queensland.

We are working with the Australian Government to make sure the NBN reaches all communities across Queensland as quickly as possible, and generates the maximum level of benefits for all Queenslanders.

To make the most of the opportunities the NBN presents, we need to develop and implement a considered strategy, and work closely with industry and the broader community.

The Queensland Government is seeking broad input to help frame priorities related to the roll out of the NBN over the next four years, and we welcome your ideas and suggestions on how Queensland can get the most benefit from the NBN.

To have your say in this important discussion see the 'how to contribute' section on page 10.

The Australian Government's National Broadband Network Policy

The Australian Government established the National Broadband Network Company (NBN Co), to build and operate a new super fast National Broadband Network.

The NBN is the biggest nation building project in Australia's history.

NBN Co will invest up to $36 billion over nine and a half years to fund the roll out and ongoing operations of the network.

The NBN will deliver affordable, high-speed broadband services to all Australians, no matter where they live or work.

The NBN will extend optical fibre access technology to 93 per cent of Australian premises, supporting speeds of 100 megabits per second (Mbps).

A further four per cent of Australian premises will be served by next generation wireless services.

The remaining three per cent of Australian premises will have access to next generation satellite services.

Both the wireless and satellite services will support speeds of 12 Mbps.

Broadband allows end users fast, 'always on' online access to digital content, applications and a range of services which can occur simultaneously.

Broadband access gives users the opportunity to take full advantage of new communication tools and next generation applications.

The NBN will be Australia's first national wholesale-only open access, high-speed broadband platform.

Retail service providers will be able to access the NBN to provide services and content to the general public and business.

NBN Co will give equal access to all retail service providers enabling them to deliver to consumers advanced digital services and applications.

Combined, these technologies will provide a super fast communications network that will serve Australia for decades to come.

1 *The Seoul Declaration for the Future of the Internet Economy*, OECD, June 2008

NBN activity to date

The Australian Government commissioned an NBN implementation study from McKinsey & Company and KPMG.

This study indicated that high-speed broadband for all Australians is achievable, and could be built on a financially viable basis with affordable prices for consumers.

The report contains 84 recommendations for the Australian Government, covering the technology, financing, ownership, policy framework, and market structure of this important infrastructure project.

Work to construct the NBN is already underway.

Under stage one of the priority roll out in Tasmania, the first services have been switched on in the communities of Midway Point, Smithton and Scottsdale.

The first building blocks of the NBN on the mainland are also being laid.

Under the NBN Regional Backbone Blackspots Program around 6000 km of new, competitive fibre optic backhaul links are being rolled out in regional Australia (see diagram 1).

Already, over 1200 km of fibre has been laid.

These backhaul links will benefit approximately 400 000 people in more than 100 regional locations.

This part of the roll out will also create around 1000 full-time jobs.

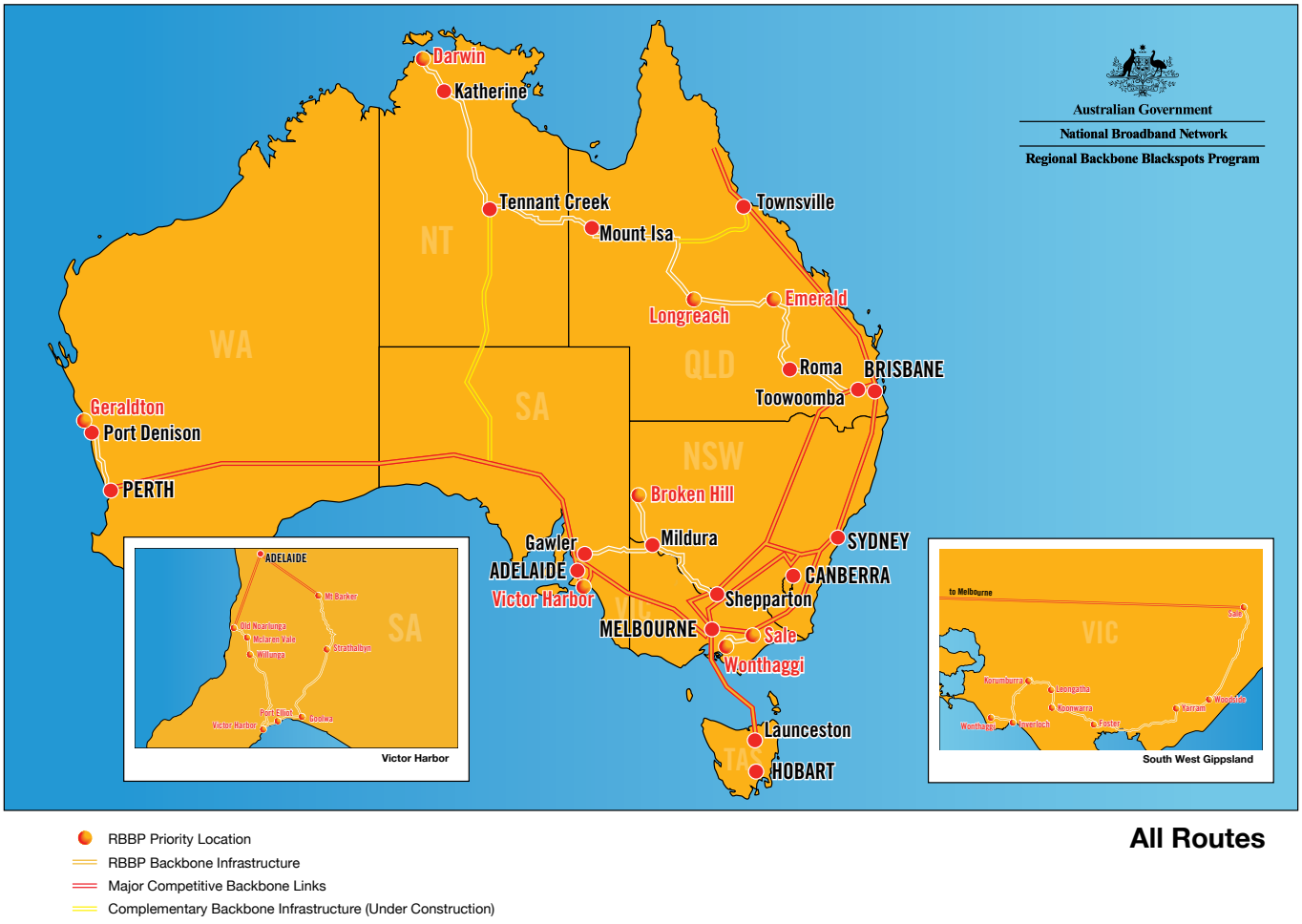

Diagram 1: Regional Backbone Blackspots Program fibre optic backhaul links
(source: Australian Government, Department of Broadband, Communications and the Digital Economy)

NBN Co has also announced the first five locations to receive high-speed broadband through fibre to the premise on mainland Australia, with construction beginning in the second half of 2010.

These first release sites are Townsville (Queensland), Armidale (NSW), Brunswick (Victoria), Kiama Downs/ Minnamurra (NSW) and Willunga (South Australia).

The Townsville first release site is located in the suburbs of Aitkenvale and Mundingburra (see diagram 2).

NBN Co has also announced 19 second release locations.

These locations comprise 14 new locations, and five sites adjacent to the existing first release sites (see diagram 3).

Construction in the second release locations is scheduled to begin in the second quarter of 2011.

Queensland secured three of the 14 second release sites.

These are Springfield Lakes near Ipswich, Toowoomba and part of the inner northern suburbs of Brisbane.

Another 3000 properties adjacent to the first release site in Townsville will also be provided with a fibre connection as part of the second release.

Diagram 2: Townsville first release site (Aitkenvale and Mundingburra) (© NBN Co. Reproduced with NBN Co's permission.)

Diagram 3: Second release sites (source: Australian Government)

The Australian Government has released network maps indicating the planned extension of optical fibre to 93 per cent of premises across Australia.

These maps also indicate where communities are to be served by next generation wireless and satellite technologies under the NBN.

Diagram 4 shows a map of the proposed coverage for Queensland.

The Australian Government has committed to provide optical fibre broadband connections to nearly 250 Queensland cities and towns.

A further 41 towns have been nominated to be connected to the NBN using next generation wireless technology.

A list of these towns can be found at **www.nbnco.com.au/wps/wcm/connect/main/site-base/main-areas/our-services/coverage-maps**

All remaining population centres in Queensland are expected to be connected to the NBN using satellite technology.

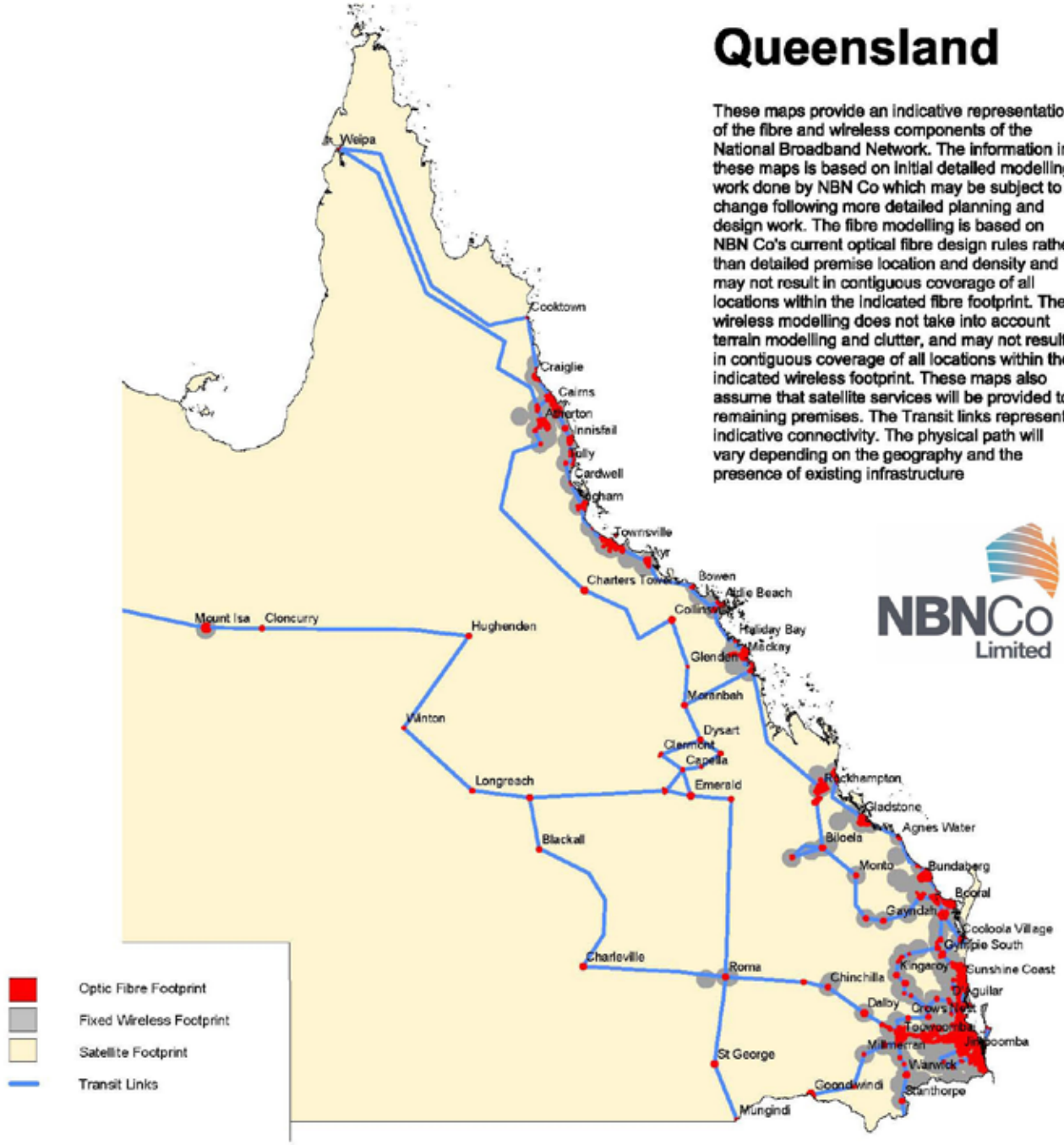

Diagram 4: Proposed NBN coverage for Queensland (© NBN Co. Reproduced with NBN Co's permission.)

Can we make Queensland a digitally progressive state?

The NBN roll out represents one of the largest infrastructure projects ever undertaken in this country. It is likely to bring substantial investment and job opportunities to Queensland.

The Queensland Government is interested in finding ways to take full advantage of this development to secure the best outcomes for the state.

A critical factor in maximising the opportunities that are presented will be how quickly Queensland's communities and industries embrace the NBN.

National and international experiences have shown the rate of take up for new technology is often reflected in how well people understand the benefits.

Achieving a broad degree of awareness about the NBN is a priority for the Queensland Government.

We are considering a focus on developing an improved understanding of the use and benefits of digital technology across the community and industry.

This should lead to increased confidence in the NBN and participation in the broader digital economy.

A four-year strategic road map

The Queensland Government is considering an initial four-year strategic road map addressing key focus areas to maximise the benefits to Queensland in the early part of the NBN roll out.

We have set a number of key objectives to be pursued in the initial stages of the roll-out program.

These are to:

- ensure as many properties across the state are connected to the NBN by optic fibre, and where this is not viable a wireless connection is preferred, minimising the number of properties served through satellite technology
- expedite the roll out of the NBN across Queensland with a focus on early deployment to key priority locations
- encourage broad use of the NBN across communities and industry through the availability of innovative applications and services that generate digital demand.

We are keen to hear if you think these objectives reflect appropriate priorities for the state.

The Queensland Government has identified some initial areas that will require attention in order to realise its key objectives.

These include:

- communications and community engagement
- skills, capabilities and industry capacity
- economic development opportunities
- regional development opportunities.

We are seeking your ideas and suggestions on what needs to be addressed in these focus areas to make sure that, as a state, we make the most of opportunities through the roll out of the NBN across Queensland.

Key focus areas for discussion

Communications and community engagement

We are considering a range of initiatives to make sure the NBN is rolled out in a collaborative way across Queensland.

This includes finding ways to give stakeholders input into the deployment and use of the NBN.

What ideas or suggestions do you have on how to make sure the deployment of the NBN is carried out in a consultative and collaborative manner, taking all stakeholder needs and expectations in to account?

The NBN roll out is a significant investment for the Australian Government.

The broad-based use of the network is considered the best way to demonstrate the benefits of this investment.

Engaging with communities and industry to build a greater understanding of the network and its usefulness is a priority in supporting this investment.

We are considering several options to develop a greater awareness and understanding about the NBN across communities and industry.

Do you have ideas or suggestions on how such an understanding of the NBN can be developed across the state?

We are also looking at how to help Queenslanders improve their digital literacy, so they are more confident in using information and communication technology and participating in the digital economy.

Do you have any ideas or suggestions on how this could be achieved?

Skills, capabilities and industry capacity

The Australian Government has predicted an average of 25 000 new jobs will be created over the life of the project, peaking at 37 000 at the height of the roll out.

This could translate to thousands of new jobs for Queensland. In order to capture these employment opportunities, Queensland needs to be ready with skilled workers.

Maintaining a ready supply of skilled labour will also improve Queensland industry's chances of securing supply contracts as part of the NBN build.

What action does Queensland need to take to be able to capture as many of these new jobs as possible?

Communities that gained access to high-speed broadband over the study period experienced net employment growth of 1% to 1.4%.

US Department of Commerce study, 2008

Of course, it isn't just people involved in the construction and development of the NBN who need digital skills and capability.

The real value of the NBN will be in how it is ultimately used and the countless future applications and services it supports. This will become the framework for the digital economy.

Live videoconferencing at 115 health facilities reduced the cost of follow-up care by 42%, with overall care cost reduced by 6%.

Anytime, Anywhere: Telehealth Alters the Medical Ecosystem, Doty, 2008

Salem-Keizer School District in Oregon re-enrols more than 50% of dropouts and at-risk students through its online Bridge Program annually. Students who cannot be in school for health, child care, work or other reasons, can continue to learn online.

Using Online Learning for At-Risk Students and Credit Recovery, Evergreen Consulting Associates, June 2008

The ability to participate confidently in the digital economy is determined by a person's digital literacy.

This includes operating digital devices (like computers, smart phones and iPods).

What do you think needs to be done to help people to develop their digital literacy?

Economic development opportunities

The market transformation the NBN will generate in the telecommunications and information and communication technology sectors is likely to mean the development of new products and services for the domestic, national and global markets.

The innovation potential created by the NBN is also likely to result in completely new industry sectors and digital markets.

Case study: California Emerging Technology Fund

The California Emerging Technology Fund commissioned a study in 2009 on the *Economic and Environmental Benefits of Broadband Internet Access*.

This study found household broadband internet access has become the most rapidly adopted consumer product or service in the history of the Unites States.

More than 200 million individuals connected a home broadband service in less than a decade. This far exceeds the previous record for the mobile phone.

The study identified the following:

- Electronic commerce generates 36% less air pollutants, 23% less hazardous waste and 9% less greenhouse gases than conventional shopping.
- For every US$1 consumers spend online, information available on the internet influences a further $3.45 spent in stores.
- From 1998 to 2002, US communities with access to broadband services experienced greater growth in overall employment, number of new business starts and greater local information and communication technology sectors than those without.
- In the US alone, consumer online habits in areas such as health care, entertainment, shopping and sharing information contributed over US$500 billion in gross domestic product in 2006.

What do you think needs to be done to make sure Queensland can become a leader in the creation of these new industry sectors and digital markets?

The substantial investment that will be made in deploying the NBN across Queensland should also bring numerous opportunities for local industry to secure goods and services supply contracts and create local supply chain opportunities.

The NBN is only part of the bigger digital economic picture.

There are significant opportunities in the innovative applications and services that are expected to be prompted by the ever-present nature of the NBN.

Many of these applications could mean an alternative, digital approach to the conventional supply of many common services offered today.

How can we make sure Queensland becomes a leader in the development of new digital applications and services, to operate over the NBN?

The innovations likely to be created through local industry pursuing such economic opportunities may have relevance in national and global markets, giving Queensland companies the opportunity to create new export markets for digital goods, services and expertise.

What should be done to make sure these potential future export opportunities are captured?

Regional development opportunities

The government held the Queensland Growth Management Summit in March 2010 to explore strategies for the future of a growing Queensland population.

Following on from this summit, we are preparing a regionalisation strategy that will cover regional strategic directions, identify regional centres for investment, and provide a framework for the relocation of government functions to regional Queensland.

The NBN will provide the technology to improve the delivery of regional services. Enhancements to teleworking and real-time teleconferencing through the NBN will enable the relocation of government offices to regional centres while maintaining effective communication with Brisbane.

In October, Premier Anna Bligh used videoconferencing to chair a Cabinet meeting from Townsville – this is just one example of how technology can help Queenslanders conduct business outside of south east Queensland.

The NBN will help make this everyday technology for all Queenslanders.

Case study: Municipal Association of Victoria Broadband Innovation Program

The Municipal Association of Victoria (MAV) Broadband Innovation Program was a $2 million program to accelerate the use of next generation information and communication technology by Victorian local government.

The MAV program focused on identifying opportunities for new and improved broadband services, and supporting next generation broadband infrastructure and network roll out, access and effective use at the local government level, particularly in relation to local government activities such as broadband-enabled shared information and communication technology services.

It provided funding to Victorian local government to use next generation information and communication technology to transform service delivery, work in new collaborative ways, and help respond to local challenges.

For regional communities, the program focused on improving the type and quality of services, helping build stronger communities with better connectivity, and improving sustainability by introducing new services to address economic, social and environmental issues.

The MAV program supported projects that improved local amenity and economic performance through increased uptake of broadband enabled services.

The program ran from March 2008 to March 2010.

The NBN will make a real difference to regional communities across Queensland.

We have begun to explore options for how to use the NBN to extend services in areas like health and education to remote and regional areas.

Can you think of other areas where high-speed broadband could help bring new or unavailable services to your community?

We intend to work with industry and academia to stimulate the deployment of innovative new digitally-based applications and services for regional areas, which could also help create new business and employment opportunities in regional communities.

Do you have an idea for a new application or service that you think could be provided to rural and regional areas using the NBN?

New employment and business opportunities that open up through the use of the NBN could encourage individuals and industry to relocate to regional centres.

What type of businesses or jobs could be created in rural or regional areas if high-speed broadband was made available?

Conclusion

The Queensland Government will use the ideas, suggestions and comments received in response to this discussion paper to help shape a state-wide master plan for the roll out and use of the NBN.

We want to make sure this master plan takes into account the expectations of all Queenslanders.

How to contribute

Consider the questions in this paper and visit **www.getinvolved.qld.gov.au/consultqld** to have your say on this important initiative.

You can also submit your comments by emailing **nbnqld@qld.gov.au** or by writing to:

Queensland NBN Approach
Telecommunications, Broadband and Digital Economy Coordination Office
Department of Public Works
GPO Box 2457
Brisbane Qld 4001

Consultation closes 21 April 2011.

Need more information?

For more information on the NBN visit:

- the NBN Co website **www.nbnco.com.au**
- the Australian Government
  - NBN website **www.nbn.gov.au**
  - Department of Broadband, Communications and the Digital Economy website **www.dbcde.gov.au/broadband/national_broadband_network**