

DIGITAL CONNECTIVITY

Motion

HON MARTIN ALDRIDGE (Agricultural) [1.10 pm]: I move —

That this house —

- (a) notes the critical nature of mobile and broadband networks, particularly in regional and remote areas;
- (b) notes the impact such networks have upon regional communities, commercial activities, education and health care;
- (c) discusses strategies to improve the availability and reliability of such networks to the benefit of all Western Australians; and
- (d) calls on the state and federal governments to continue to identify and support opportunities to improve digital connectivity across our vast state.

I stand today and bring this motion before the house as a motion on notice. As I think has been the case in recent weeks and months, this is not a motion that condemns or congratulates, but one that raises a matter of significant substance that affects all Australians, but particularly those who live in locations more regional and remote from our urban cities. Digital connectivity in 2020 is as critical as the reticulation of power and water in the decades prior. I think that the state of emergency arising from the pandemic that we are currently in has given us all a renewed appreciation for connectivity, despite its imperfections at times. I am sure that we all sighed in relief, along with parents, teachers, school administrators, the Minister for Education and Training and others, when term 2 recommenced this year.

One of the many challenges in our ability to connect and remain connected arises from our networks and our connection to those networks. I think that the increased demand and the way that demand has changed during this pandemic is certainly unprecedented, but, having said that, they have performed relatively well.

Earlier this year, we had a series of summer storms. These are typical seasonal events that are not uncommon, although in the previous year or two we have perhaps not seen them to the extent we have this year. Parts of our state have experienced fire in this last season, although not to the same extent as other states such as Victoria and New South Wales. As a result of fires and, in particular, those summer storms, we have had extended power outages in some parts of my electorate for a number of days, and in some cases, longer than a week. This power loss or disruption has had significant impacts on the reliability of not only our mobile networks, but also our landline networks. A common misconception is that people think that landlines—the old copper network—operate through thick and thin, but they still require power.

During this period, our network operators were overwhelmed. I do not have the figure, but a record number of mobile sites were interrupted purely by power disruption. The ability of those network operators to mobilise temporary generation equipment was constrained, and we saw what was meant to be a redundancy in battery backup performance was varied. Over the years, the battery backup of mobile sites has diminished as network operators have not maintained the serviceability of their battery banks. Often these sites are rated for eight to 12 hours' redundancy on battery power, but we have seen some sites in my electorate go dark as soon as the power goes off, or some last for just a matter of minutes or a few hours.

Disruption to connectivity has enormous impacts on people who are operating a business or conducting business online, as it affects EFTPOS transactions, email and a range of other tasks that require connectivity. Disruptions also have a significant impact on our emergency services and their ability to issue public information during natural disasters and emergencies. There is a significant reliance on mobile networks at every stage of emergency management these days, from receiving a 000 call, to dispatching appropriate emergency services, to maintaining communications in some areas with those emergency services. Health care in regional and remote areas has become increasingly reliant on connectivity for innovative programs like emergency telehealth, inpatient services and telehealth more generally. As we learnt with the rollout of telehealth in the WA Country Health Service in the previous decade, the cost of delivering reliable connectivity to our hospitals is often higher than the technology itself, which is relatively inexpensive.

It can be very challenging for schools without power and digital connectivity to cater for the needs of their schoolchildren. The growth of and reliance on digital connectivity has continually been very strong. I think it is fair to say that our appreciation of just how critical this infrastructure is is probably not fully respected nor understood until we do not have it.

I do not want to paint too bleak a picture, and I want to say that our networks have probably never been as good as they are today with the speed and reliability and the modern technologies we have available to us. However,

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maintaining growth of these technologies to meet consumer expectations and international standards is going to be increasingly difficult, and more so in a state like Western Australia, which has a considerably centralised population in our metropolitan area and a very vast and sparsely populated hinterland.

I want to make members aware of a report that is released annually by the Australian Communications and Media Authority. It is called the “Communications Report”, funnily enough. I am going to quote from the 2018–19 report, because the 2019–20 report has not been published yet. At the front of this very extensive report, the authority publishes a range of key indicators, which I think are a good demonstration of where we are and how things are changing in both technology and consumer preference. On page 10 of this report is a table titled “Australians with a fixed-line phone, smartphone or are mobile-phone-only (millions)” that shows that the number of homes with a fixed-line phone connection has reduced by 14 per cent between 2017–18 and 2018–19. That is a 14 per cent reduction in landline connections. We have 9.46 million fixed landline connections to residential premises, according to this report.

At page 11, the report shows the volume of broadband and mobile data downloaded in terabytes and gigabytes. It is interesting that the total volume of data downloaded in the quarter to June 2019 was nearly six terabytes. Approximately 10 per cent of that was via mobile handset internet, and the large majority of it, some 5.3 million terabytes, was across the fixed broadband network.

This will be my final reference to this report. Later in the report, international trends are referred to, which I think are relevant. It states —

International data currently available from the OECD provides a broad level comparison of global fixed and mobile broadband penetration ...

In December 2018, Australia was ranked 23rd among OECD countries for fixed broadband subscriptions and seventh for mobile broadband subscriptions, per 100 inhabitants.

The report has a wealth of other information. I would recommend it to members who have an interest in this area.

In the time remaining to me today, I will go to the third and fourth limbs of my motion, which I think I will discuss collectively. I have moved that this house discuss strategies to improve the availability and reliability of such networks, and call on the state and federal governments to continue to identify and support opportunities to improve digital connectivity across our vast state. Western Australia has a good bipartisan record as being one of the leaders in the country at a state government level at a time when the federal government, regardless of the political persuasion of the time, has abrogated its responsibility to Western Australia in many respects of this motion. Western Australia has a good bipartisan record. If I go back to some decades ago, the origins of that can be seen with the establishment of telecentres in regional communities, which are now known as community resource centres. When they were established, their primary purpose was to provide access to telecommunications technologies back in the day. In the earlier days, that could have been something such as access to a facsimile machine or dial-up internet in some of our regional and remote communities.

Between 2008 and 2017, and continuing since then, there has been significant investment in expanding our mobile network in Western Australia. When we came to government in 2008—I have talked about this before—people standing in the main street of towns in my electorate with a mobile phone could not get a signal. These are not remote, dusty places in the middle of a desert anywhere; these were towns in the wheatbelt of Western Australia that are highly productive and significant contributors to our state’s economy.

There was some uncertainty. I focused on this with the change in government to make sure that the new government continued in a similar vein with investment in regional telecommunications. I recognise that the government has invested in regional telecommunications not only by continuing to partner with the federal government and its Mobile Black Spot Program, but also, importantly, with last-mile technologies through the digital farm grants program. I will talk about that later.

The data I just talked about from the Australian Communications and Media Authority demonstrates that voice is increasingly becoming less of a priority when we talk about digital connectivity. That is repeated—whether we look at the Australian government’s “2018 Regional Telecommunications Review” or the reports of the Productivity Commission or others, we see that we are increasingly using our technology to communicate in non-voice ways. People still affectionately recall the benefits of the old analogue mobile network. I am just young enough to remember the analogue network! Although the analogue network provided good coverage, it would have almost no utility in the current data-demanding environment that we live in now.

Commencing on 1 July this year, the universal service guarantee, which is sometimes called the universal service obligation or the telecommunications universal service obligation, has been expanded to broadband. It applies to NBN Co and similar companies. This was part of the government’s response to the Productivity Commission inquiry,

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which I mentioned briefly. The final report into the telecommunications universal service obligation was tabled on 28 April 2017. I want to quote the first two points under the heading “Key points” on page 2 of this report. It states —

- In a digital age, the voice-based telecommunications universal service obligation (TUSO)—worth \$3 billion over 20 years (net present value) and consisting of basic telephone and payphone services—is anachronistic and costly. It should be wound up by 2020.
- Rapid developments in telecommunications technology are transforming people’s lives. The growing demand for ubiquitous digital connectivity provides a strong case for reform that reflects evolving policy, market and technological realities.

I could not agree more with the statements of the Productivity Commission that we are seeing significant investment going into the universal service obligation on what are increasingly becoming redundant technologies, and the data is showing it.

In the few minutes I have left, I want to talk about a few of the ways we can do better, and hopefully Western Australia can continue not only as a leader, if not the leader, in the nation in terms of investment by a state government in regional telecommunications and telecommunications more broadly, but also making sure that we keep our Australian government accountable for its responsibilities in this space. I will talk about the increasing reliability of networks. More needs to be done around their redundancy, their serviceability and the way in which we power them. It is not acceptable in 2020 to wait for parts to be air freighted from Melbourne to Western Australia to get a mobile phone tower back online. Power is a significant disruptor to the reliability of these networks. I will talk about that in a moment.

The second thing I want to raise is strategic fibre investment. The state could play a role in identifying where we have either constrained networks or market access issues, when it is not on commercially competitive terms, or, indeed, parts of Western Australia that have no access to fibre. A really exciting project being considered is called SuperNet, which was a partnership between Arc Infrastructure, Co-operative Bulk Handling Ltd and —

A member interjected.

Hon MARTIN ALDRIDGE: I thought there was one other. Maybe there are just the two of them. I was just interrupted, Madam President, because Hon Darren West is dying to make a contribution to this motion!

The third thing that I want to talk about is better regulation. This is where the federal government really needs to step up to the plate. It is the regulator of the telecommunications sector. It is about time that the federal government moved towards establishing minimum service standards for mobile network operators and reporting publicly on them.

The federal government, particularly the ACMA, needs to be more agile in the way it deals with illegal mobile repeaters and the detrimental impact that that has on mobile networks in Western Australia. It is concerning that not only are the laws not fit for purpose, but also the ACMA does not have any staff in Western Australia to deal with compliance matters.

The third and fourth limbs of this motion are about moving beyond mobile towers. Although over time there has been a community expectation that more towers are a good thing, and I would agree generally with that comment, we are rapidly reaching a point at which the cost–benefit of investing in towers is starting to favour other technologies and other investments. It is fair to say that a lot of the lower hanging fruit in terms of the cheaper sites, covering more people and more customers, are probably very close to being achieved. Some of the black spot infill sites we are now looking at are more costly and perhaps service fewer people. That is why I think governments are going to find it increasingly difficult to invest in the Mobile Black Spot Program over the next 10 years. As I said earlier today, I support the investment in last-mile technology. I am sure the Minister for Regional Development will rise to her feet to talk about the state government’s digital farm grants program. In fact, I think when I gave notice of this motion last Thursday, she was very excited that this would be her opportunity to do so. Regarding digital uptake and integration, although I will not have time to quote from it, the “2018 Regional Telecommunications Review: Getting It Right out There” cites some really good things about digital education and social inclusion arising from digital connectivity. Wi-fi networks are a benefit for public access and tourism. Thinking about the way that we reframe ourselves as a tourism destination means it is important to make sure we have networks that meet international standards and expectations.

These days, 20 minutes goes very fast in these debates. I commend the motion to the house. I hope the house uses this time constructively to continue the bipartisan approach that has been shown over many years to improve this issue for Western Australians.

HON DR STEVE THOMAS (South West) [1.30 pm]: I was expecting something of a rush of members rising to their feet. I was a little surprised to tentatively stand and be the only person doing so. However —

Hon Alannah MacTiernan: You know how slow the Libs are on their feet.

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The PRESIDENT: Order, minister!

Hon Alannah MacTiernan interjected.

Hon Dr STEVE THOMAS: I think I beat the minister up; the fly in, fly out member for South West is speaking!

The PRESIDENT: Order, member! Let us not have this distraction in the chamber. You started off so well on the motion. I suggest you commence.

Hon Dr STEVE THOMAS: Thank you, Madam President. This is an excellent motion from Hon Martin Aldridge and I congratulate him for moving it. Regional communication has been a vexed issue for a long period. It is simply a question of population and reward for effort. For my many sins, I spent some years working in the federal sphere, generally between 2011 and 2016. A lot of that time was spent on this debate about regional information technology and regional communications. It was the time after “Kevin 07” and the instigation of the national broadband network, which promised many things. That was overtaken by the Abbott government’s transition process that shifted from a difficult-to-deliver promise of fibre to the curb for every home in Australia at an immense cost to a more modest proposal that allowed for a range of technologies, in particular the use of wireless and satellite technologies. They were critical for the delivery of services in regional Western Australia because, like most services where there is a significant population concentration, it becomes much easier to deliver that service—whether it is health, education or IT. It becomes much more difficult when the population is spread out, but, in many ways, it is also much more important because regional communities rely on communication technology in particular to maintain both their standards and their connections. We can talk about telehealth or about agriculture making use of satellite technology in cropping programs. These days, the driver of the agricultural equipment is something of a bystander. There is a story in agricultural circles about a farmer who takes his lunch and his dog on his tractor when he starts his process. Of course, the dog is there to make sure that the farmer does not touch any of the controls because the tractor is run by a satellite and the lunch is for the dog. It is absolutely the case that technology is incredibly advanced in the Western Australian farming sector.

Let me run through some of the changes in technology that have occurred. With the introduction of the NBN and the promise of fibre to the home for all Australians, expectations of information technology in particular went through the roof. That is not to say that it was ever possible to deliver the program, but the promises from 2007 to 2010 were enormous. That resulted in a range of difficulties in delivering those promises. When the Abbott government took over in 2013 after the Rudd–Gillard–Rudd era, it came up with a more modest approach based on deliverability. At that point in the debate in the federal Parliament, it was already recognised that technology was moving past what had already been proposed in the years leading up to that point. When we could see what technology was being developed, we wondered whether whatever was proposed in 2007, and ultimately what was transformed in 2013, was going to keep up with what was required in 2020. In some cases, it certainly has in areas where the population makes it profitable to do so. In other areas, it is much more difficult.

When regional areas first connected to either the NBN or another provider, regional clients certainly did not receive the same level of service that was delivered to people in areas of denser population. I do not think that was a plan or a strategy by any particular group; it was simply easier to deliver fibre to a node that could give a person at least a reasonable level of service—even if they were using copper from the node to the house.

I have lived out the back of Donnybrook for many years and my example of regional telecommunications is probably pretty standard for much of regional Western Australia. Prior to the development of the NBN, I was using wireless technology and getting download speeds of somewhere towards one megabit per second at best. Most of my download speeds in the early to mid-2000s were generally measured in the kilobits per second. At the same time in regional centres, the debate was whether people could get reliable download speeds of 25 megabits per second. There was an absolute issue with what was being provided. The NBN was going to come along and provide everybody with an easy solution. Like most grand promises, particularly those made at elections, it was always going to be difficult to deliver. I am reminded of the claim that no Australian child shall live in poverty, but there have been plenty of those claims over the years from all sides of politics.

We had a look at satellite technology. Having spent many years dealing with complaints about this issue, I know that the secret to satellite delivery of broadband services has always been cost. The reality is that in regional areas, if a person is prepared to pay the significantly higher cost of some of the services, particularly satellite services, they will get very similar speeds to those that can be achieved in the metropolitan region. That is absolutely the case. However, I spent many years talking to people who had purchased at the lower end of satellite NBN service delivery in the marketplace. Remember that the NBN Co did not retail products. It was basically a wholesaler and the retailer stood in the middle. It could provide levels only up to a certain point, particularly before the second Sky Muster satellite was put into the air. When the first Sky Muster satellite was put up, everybody in a regional area, including me, had a look at satellite broadband provision. It was almost impossible to divide the number of people who would use Sky Muster I by the broadband length required to get the sort of download speed to get them

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to 25 megabits per second. There was just not sufficient capacity. Sky Muster II was always part of the strategy and, in the original planning, was going to be a backup satellite. However, Sky Muster I was effectively oversubscribed before it started, which dramatically impacted download speeds. Unless people wanted to pay a significantly higher price on satellite for the service they were getting, they were going to suffer with a very slow service speed.

We recommended to people looking at using satellite technology that they needed to make sure that they were buying at the upper end of the market, particularly when access to Sky Muster II began in 2017. It was put up in late 2016, went operational mid-2017 and made a significant difference to the available bandwidth. Until that point, unless people were buying at the top end of the market, satellite technology was an immensely problematic issue. I am pleased that Sky Muster II is operational. I suspect that if members were to speak generally to federal members of Parliament, who are responsible for communications policy, they would discover that the number of complaints has dropped significantly. Sky Muster II has made a significant difference but, again, if a person wants an equivalent level of service in a regional area, they have to pay significantly more for equivalent speeds from satellite services than they do for wireless, landline or particularly fibre-to-the-premises services. In the south west, fibre to the premises is relatively limited, but if a person is prepared to invest as much in fibre to the premises as they would in satellite technology, they can get a significant service. During this process, in about 2013, 2014 or 2015, a company in Bunbury contracted for direct cable, not from NBN but from another provider, and was able to achieve download speeds of a gigabyte per second. That is an incredible speed. It is the sort of speed that government departments operate on.

Again, people basically get what they pay for in the IT sphere. Certainly, in terms of mobile broadband and wireless broadband, we have seen a significant increase in the catchment and service capacity across Western Australia. A lot of that is because of the upgrades to existing towers and the construction of new towers. The cooperation between the state and commonwealth governments on the construction of towers has been, in my view, quite good over a number of years. The commonwealth has the Mobile Black Spot Program in place, which I think has delivered in the region of \$380 million over its five incarnations over a couple of different governments, and the state has contributed to that process. Initially, I think \$40 million was contributed under the previous Liberal–National government and there was another \$40 million or \$45 million in excess of that, so it is an \$85 million investment from the state. Across the country, the commonwealth has provided \$380 million. That has seen a significant number of additional mobile phone towers put in place. I agree with Hon Martin Aldridge that the easy ones have largely been done and it will be much more complex to work out precisely where to put them from now on.

I remember when I was involved in the federal sphere that communication between state and federal political offices was very good because we were looking at a combined set of state and federal locations and sites for tower construction. Wish lists came in from state and federal politicians across the board, and development commissions and local governments identified black spots and hotspots. Towards the end of that period, it became obvious that there was something of an agenda to make sure that major transport routes were covered before towers were built in more geographically isolated areas. The major highways started to be a real focus for the location of mobile phone towers.

Western Australia has done very well at getting additional mobile phone towers and, in fact, continues to do well. I found the most recent announcement, from April 2020, of the round 5 Mobile Black Spot Program. Western Australia was granted 63 new towers, followed by Queensland with 40, New South Wales with 25, South Australia with 17 and Victoria with 13. Western Australia continues to do remarkably well out of these combined programs. Perhaps Western Australia is still somewhat in catch-up mode, because there is not much of Victoria a person can drive around that does not have mobile phone coverage. That sort of communication is pretty universal in those, let us say, geographically smaller but more populous eastern states. Western Australia obviously still has some catching up to do. I am reminded of a trip I took from Bunbury to Albany. We went the back way through Boyup Brook and Mayanup. I travelled with four people and we each had mobile phones with a different server. Mine was with the server that was once a national carrier. The others had all gone commercial. During the drive down with these three business people, my phone was passed around in a circle to all of them, because their phones with all those other servers dropped out repeatedly. For people in regional areas that are not a major regional capital, the provision of service is quite modest, and if they are not with the former national carrier, they generally will not receive phone calls at all. I am sure the mover of the motion recognises—I imagine his mobile service is also with the former national carrier—that all genuinely regional members, not visiting MPs but genuinely regional ones, who travel in regional areas understand that only one carrier covers the majority of Western Australia with any degree of efficiency, so we are a bit stuck. We can have immense competition in metropolitan Perth, and people can fight for the best deal, but whether we are talking about landlines or mobile phone coverage, once we get into regional areas, it becomes quite limited. But it has been expanded.

Interestingly, when we went through the regional mobile communications project, as it was called at the state level, and the Mobile Black Spot Program, as I recall, at the federal level, we certainly saw an increase in service, but

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that process occurred when it was put out to tender. The government identified a black spot in communications, then it went out to tender to the various companies to see which would construct a tower and provide that service. It might not surprise members to realise that because most of the areas with poor service were regional—not entirely, a few spots in metropolitan Perth still have connectivity issues—that same company, the former national carrier, was awarded the vast majority of the contracts to construct towers. In fact, in the majority of cases, it was the only tenderer for the contract.

Hon Alannah MacTiernan: Sorry; which contract are you talking about?

Hon Dr STEVE THOMAS: The contracts to construct the mobile phone towers. For many years, Telstra was the only tenderer for the contracts. In most cases, those contracts in regional areas simply went out to the one company that had significant distribution and was in the process of expanding it. It was unusual. The majority of contracts in the south west were almost universally awarded to the same company, and it was almost universally the case that there was no alternative tenderer for those contracts. We are basically dealing with a monolith in regional areas. But I have to say that the communications that I have had with that company and the service that it has provided has been very good. I do not propose to give it a hard time or suggest that it needs to step up.

As Hon Martin Aldridge said, in many cases a lot of those easy spots have now been taken, and we will have to look carefully at technology. At this point, it is difficult to see satellite phones taking over to the extent that they first looked like they might do in the early days. I remember buying my first satellite phone. As a country vet, I would often get stuck in gullies and spots with absolutely no coverage. Like the first mobile phones, they were a bit like a brick. They remain large and relatively cumbersome, I guess, and expensive.

The interaction of satellite technology and what has become available in wireless technology is incredibly interesting. We now see regional areas, even down to single farm units, effectively using wireless technology across the board. I was astounded to see the things that go on—for example, an isolated solar energy unit powering part of a wireless service that measures trough levels in dams in remote areas, and watering of stock et cetera. The potential use of the technology is astounding. Where we go with this over time will be very interesting.

There is still much work to be done. I will conclude with these remarks. I am pleased to see that the state and the commonwealth are still working together to try to deliver better outcomes in search of regional service delivery in communications. It has been a good and cooperative project that I first remember starting under Hon John Day. I forget what ministry he was in at the time but the RMC project came under one of his portfolios.

Hon Martin Aldridge: I think it was commerce.

Hon Dr STEVE THOMAS: It might have been commerce. It was originally funded by royalties for regions. That level of cooperation needs to be continued and extended well into the future so that not just our regional towns but also right down to regional families in isolated areas and the farmhouse at the far end of the old Telstra line that has now closed down can have the same level of service that those in the metropolitan region have long enjoyed.

HON DIANE EVERS (South West) [1.51 pm]: I appreciate this motion being brought on. It is very important that we discuss this today and continue to discuss it in the future in Parliament. I wish to make a comment first up relating to the comments made by the previous speaker, Hon Dr Steve Thomas. I was a little concerned that he was not speaking for the motion for a period of time when he suggested that after the Rudd government's indication that it would introduce broadband with fibre to the home, our expectations went up too high. That was a bit concerning because plenty of other countries around the world were operating at a much faster speed than we were in Australia. It made sense that that would be introduced. We got the revised plan with fibre to the node, with copper wires still being relied upon in many areas. Those copper wires are failing, as we knew they would. We are not able to deal with the broadband width that we would have liked to have. I recognise that new services or new opportunities are coming forward. There is new technology. There is an idea that we should accept a second-rate system, but so many benefits can be had by having a new system. As the honourable member suggested, that technology is increasing every day, especially in rural areas, where so much can be transacted over the internet. So much information, science, knowledge and research can be used that way.

I think we need to look at this issue a little differently. We should look at the mobile and broadband services as a utility, like we would water or electricity. It is something that we should all have access to, not just because it is now part of our life, being part of the world and communicating as we would all like to be equitably, even in the regional areas, but it also could provide so many benefits when managing the state or the country by having that service available. As we have seen with the introduction of COVID-19 into our world system, things changed and the use of broadband technology increased phenomenally, very quickly, and there is no reason for it to fall back. Now that everybody is realising how much more of their daily life they can transact over the internet and with mobile technology, it saves so much. We do not have to drive everywhere just to see somebody or whatever. We did not have to do that in the past, but we were in the habit of thinking we needed to hand somebody a piece of paper.

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Actually, there are many other ways of doing that. We need to pick up on that. We need to recognise that this is a service that people in regional and remote areas are entitled to, just by being members of this state.

As was reported in *The Australian Financial Review* only yesterday, NBN Co Ltd is trying to make money. It says that it needs to earn a profit so it can reinvest that money into the service. Fair enough, except if it is trying to earn a profit for other reasons. First off, the service should be provided because this is a utility that we all deserve to be a part of. Whether NBN makes a profit is not part of the game; it is not part of the system. We have to look at the best and most efficient way to do this and value the positives and the benefits from that, not just look at it as if the government is dishing out money and we should be so excited because it put another tower into the latest black spot. We can do so much. We have the technology and the people here who know how to do it. It is worth investing in because it will save us so much money in the long run. As I said, the reduction in travel and transport is one way we can help address climate change. It is one way we can address how much traffic is on the road. Let us think of how many people have realised over the past few months that they can work from home. We should be encouraging that as much as possible. It is not the broadband width that puts the pressure on that and limits that possibility. There are so many good reasons we could be using it. Somebody might say that they would like to work from home but they cannot because the service is intermittent. That is one more person who could be a very active, efficient and effective part of our society and our community without having to get in their car and travel half an hour or an hour to work, taking up space on the roads so we end up having to build more roads. We have to look at this holistically; we have to look at the whole system and see what we can get by improving the sustainability and effectiveness of that broadband reach. There are benefits to be had.

The other benefits relate to security and safety. Disaster often strikes in remote and regional areas—in 97 per cent of the state. When those disasters strike, we need very fast response times. If we have a broadband service that is up to scratch, serves the needs of the people and provides that fast speed when and where we need it, our reaction time can be that much quicker. A quicker reaction time, particularly with fire suppression, will enable us to put out that fire before it escapes to other blocks of land or into communities and things like that. We have to look at the benefits of doing this beyond the idea that it costs so much. As the honourable member said, people in regional and remote areas can pay more for that service if they want it to be faster. They should not have to pay more for that service just because they live in the regions. In fact, we need to get more people living in the regions now that we can work from home. We need to spread that demand so Perth does not just operate as the feedlot of the state, with so many people living here and where everything has to come and everything has to be distributed from. People need to be able to live in areas that they choose to live, work from home and travel remotely from time to time if they need to. If we can invest in the broadband and mobile network across Western Australia and make it more reliable, more people will be able to work from home and develop their businesses in those areas. There is so much advantage and so much possibility.

I would never say that broadband technology should replace face-to-face contact. We know that does not work. It is excellent when it can be used in health and mental health issues. It is absolutely wonderful that we can do that in times of need when that is the most effective way of supporting a person. It cannot replace that; we still need that social interaction. It can bring that service to people much more quickly and much more regularly, possibly even hooking people up with the experts in the field that they need in medical situations rather than travelling for several hours to see somebody who is not an expert and who will have to phone or contact a doctor, expert or specialist in another area. When applied to health, it can keep our population healthier. People can be kept in their homes for much longer, so they may not have to go to hospital. Having that service available quickly and reliably will save us money in the future. I do not want to put a financial aspect on to health care, but right now it takes up to one-third of our budget, costing over \$10 billion a year. We can find a way to keep people healthier for longer, and have them stay in their homes longer, by providing them services sooner via the internet and remote telehealth. We know that. We have already done that. It works. It is a good step to take.

I turn to education. We are still living in a bit of a pre-COVID-19 bubble here, but around the world we are seeing how education is changing. In the United States, there is already talk about whether kids will be back in school and how many will get COVID-19 and die or pass it on to their families. We are very lucky right now. We think it is all okay and that we are keeping it out. Will we still have our borders closed in five years' time? There may be no COVID-19 in WA, but with no travel between state borders. I cannot answer that question. We have to look at education as though we are going to be living in the post-COVID-19 world with everyone else. We will be wondering whether to send our children to school. Will they go every day? Will the classrooms need to be larger? Will there be remote at-home education as well as in-class education?

The other day an idea was put to me. Originally, it was said that we had to get our year 11 and 12 students to school because they really needed that face-to-face interaction to get through their ATAR exams. A suggestion was made to me just the other day that maybe we need to send our kindergarten, year 1, year 2 and year 3 students to school, because they will miss out on social interaction the most. Our high school students are a lot smarter than we think. They are able to adapt and can work out how to use technology to help them. They can get face-to-face interaction

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through other means, because they have other ways of communicating. Schools are where smaller children are learning, and we need to address that. We need to realise that if small children do not get that social interaction, it will change our culture. When they are adults, they will be much different from the generation before them, because that social interaction is very important to them.

I get back to broadband and how we can deliver it. As I said, education will be different, and a lot of it will be online and instantaneous. It will not work if remote regional areas do not get it. There will be severe limitations and the creation of an underclass of people who do not get the same education that their peers in the city might. That can be addressed with a solid, stable internet service. It can be equitable, fair and reasonable, and remote regions would get the same service.

Local government is another area that is affected. In regional, rural and remote places, local governments cover vast areas and they need to be able to communicate quickly and easily across them. They might take on remote staff who can work in different areas and, again, reduce travel time. If people across a wide area can be accessed, they do not have to be on the road so much and that reduces travel time, fatigue and fatalities associated with excess travel, especially after long days. If we can make it easier for people to work online, that is another saving.

I just have to say a few good words about libraries. I have heard some wonderful things about libraries in the past few days. They picked up on the COVID-19 pandemic and did very well. There are different libraries. Some have taken to phoning older members and checking on them and seeing whether they are okay. I think some members in this house did that, and I think the community resource centres did as well, but libraries did, too. Libraries had the extra bonus of being able to check how their members were, seeing whether they needed a book and having it sent out to them. A lot of older people in our community need social interaction as much as children, but they may not have the ability to get around. By using fast internet speeds our libraries are much more able to address the needs of their communities, particularly in remote and rural areas. Again, transportation does not need to be organised. Libraries are creating online activities for children—book clubs and all sorts of things. That is done through the library as a community hub.

Another community hub, as I mentioned, is the community resource centre. We know how wonderful community resource centres have been and how they have gone out to their communities. I have heard of community resource centres calling on elderly residents, checking how they were and seeing what they needed. They found out that elderly people needed some physical activity because they had been stuck in their homes, so they organised little exercise classes in the community resource centres for older people, very gentle ones just to get them out and moving and socialising a bit. This was still in the pre-COVID-19 bubble. This was still at a time when they could get out a little bit do that. Now that will not be possible. Because those community resource centres have made that connection with elderly people and associated themselves with exercise and movement classes in these regional towns where there may not be other options, they will be able to deliver them online if there are good, reliable internet services to the homes of elderly residents. Again, we have to keep up on this. We have to make it the best we can.

I will get on to tourism and other ventures. The internet is vital to them in regional and remote areas. Hon Martin Aldridge was talking about the fact that when the internet goes down, service can be lost for a couple of days or even up to a week. That just closes a small business in tourism. They can no longer arrange accommodation or tours that might be happening. If people get to these places and find there is no internet, they want to go somewhere else. It is just not necessary in this day. We can do better. The technology is out there. Yes, it will take some investment, but we have to look at what that investment will save in the long run.

Turning to other commercial businesses, I would really like to see a focus on the commodities that the state produces and adding value to them using the technology we have. We have artificial intelligence that can fast-track some of those processes. There are many opportunities, and they can be brought on, but it will require a good, strong broadband service to those regional areas.

The day will come when we basically have unlimited energy because we have somehow got out from under the thumb of the gas and oil industries. When we break those ties and start focusing on renewable energy, when renewable energy is as cheap as it needs to be because there are unlimited amounts of it coming in, we will be able to do that further processing of our commodities here. That is when we will be looking at changing our iron ore into steel, because we will have the energy and technology to do that here. For those businesses to work, they will need fast download and upload speeds. That should not be at a cost to individuals. Larger companies do not have a problem with it. They can get what they like, but we need to focus on individuals, small businesses and innovative industries, because small business is the main employer and it provides the majority of our economy. Small business comes up with new ideas, puts them into effect and makes something out of them. If we want that to work, small businesses will need good, reliable internet services.

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We will need fast-speed connections to universities, because there will be very little necessity to study face to face in the majority of subjects. People can do that online. People will understand how to do that. They will be able to do that from their homes in remote and rural areas, and there will be equitable service to everyone else. We can get there.

I would just like to mention once more that we have to prepare for and get used to the post-COVID-19 world. We have to know that that is where the future is. We are in this lovely little bubble now where we can invest in these things, not at a rushed pace, not because we have to because hospitals are overflowing and people are not obeying the rules put in place, but because we know what is coming. I suggest that we prepare for that now. I really appreciate Hon Martin Aldridge bringing on this motion. I think this is a very valuable discussion to have, and I have really high hopes for the future that not only this government, but also the federal government will take heed and improve the service for the regional and remote areas of WA.

HON ALANNAH MacTIERNAN (North Metropolitan — Minister for Regional Development) [2.10 pm]:
I also want to thank Hon Martin Aldridge for bringing forward this motion, and acknowledge the contribution of other members to the debate. We all come to this issue with a common view. We all absolutely understand that if we want to take part in the twenty-first century economy, it is incredibly important that we upgrade our digital infrastructure so that we can drive our community forward.

We are also very conscious that there is a digital divide. We recognise that digital divide on two different fronts. The first is the socioeconomic front. Almost 12 per cent of Western Australian households do not have an internet connection. I am advised that 26 per cent of the state's lowest income earners do not access the internet. The second front is distance. Today we are talking about regional issues. I agree with the vast majority of the observations made by Hon Martin Aldridge. The provision of digital infrastructure is as important today as the provision of an electricity network across the state was 100 years ago. The hardest thing about digital infrastructure is that people often do not understand the digital technology that they are utilising. I think all of us in this place are very clear that our digital technology needs to be continually worked on and rethought. We cannot have a static view about the answer, because the answer constantly changes as the technology changes. However, on the other hand, we cannot allow the prospect of new technologies down the track to get us to such a point of paralysis that we are unable to move forward using the technology that is currently available.

Hon Diane Evers expressed some concern about the comment by Hon Dr Steve Thomas that a big part of the problem was that the federal Labor Party, with its promise of the NBN proper, as opposed to the NBN light, set people's expectations too high. Hon Diane Evers' observation is absolutely correct. I agree that it is bizarre to suggest that we should aim at something less than what is experienced and enjoyed in countries overseas, in particular countries with which we are often in competition. We all have friends and family who have come back from a big Christmas trip to places like Japan, Korea, Germany and London, and they all say exactly the same thing, "Oh my God! How do we operate with that? Our internet accessibility and broadband speeds are ridiculous." We are slowly improving and getting there. We all need to acknowledge that this country needs to have a world-class broadband network, not a substandard network.

I know that Hon Martin Aldridge is keen for me to talk about digital infrastructure. He has left the room. I also need to talk about international competitiveness. Farmers are overwhelmingly export-oriented. We are, therefore, conscious that we need to ensure that they are able to access enterprise-grade broadband. We have been inspired by what some farmers have done, in particular Darrin Lee in Mingenew, who with a modest investment of \$50 000 has been able, in a last-mile way, to deliver enterprise-grade broadband. We said that we would dedicate some of our resources to that technology. We started with a \$5 million round, and groups of farmers came together, under the aegis of service providers, to see whether they could, with matching state funding, use a fixed wireless repeater system, with a bit of fibre here and there, to significantly increase availability. They also wanted to increase reliability, because that is also particularly important, as Hon Martin Aldridge has said. The first round was so successful, with in some cases download speeds of over 100 megabits per second, that we have expanded that scheme, and we had a second round just this year. Farming communities across the state in Busselton, Kununurra, Wagerup, Boddington, Chapman Valley, Williams, north midlands, Mt Barker, Wickpin, great southern, Carnarvon, Geraldton, Mullewa and Dandaragan now have these projects. One of the beautiful things was that it was not the Telstras of the world that ended up getting these dollars; the three major service providers of these projects were from country areas. Their participation in the program has enabled them to build up their knowledge, capability and financial viability, and the range of services they can deliver. They are LogicIT in Geraldton, CRISP Wireless in Narrogin and CipherTel Bunbury. That is a positive story of how, with a modest investment, we can move forward. We are now looking at whether there will be a further stage.

There has also been bipartisan support for participation in the Mobile Black Spot Program, as Hon Martin Aldridge has said. I think Western Australia has been put in a position of having to pick up a lot of the slack for what is really a federal government responsibility under the federal Constitution. However, until we have some federal members who are willing to fight for this state a bit more diligently, it looks as though the state government will have to keep

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putting some funds into the provision of this federal responsibility. This state contributed, I think under the previous government, to rounds 1 and 2 of that program. I think our government might have signed off on round 2. We did not participate in round 3, because that was a whiteboard exercise in which all the decisions had been made during the run-up to an election, and most of them were in Liberal-held marginal seats, so we advised the commonwealth that we were not inclined to co-fund its election commitments. However, we have participated in rounds 4 and 5, and I think we have done quite well. Recently, a round 6 has been announced. That is a \$53 million project across the nation. We hope to get around 10 per cent of that, and I have advised that we would be prepared to co-contribute up to \$10 million to help WA services get a fair share of that federal funding. That is something I am proposing to announce shortly. That is positive news. We are also looking at what we can further do to extend skills and capability across the region.

I want to quickly mention some of our other related projects that are very much recognising the importance of digital infrastructure and digital capability. Under the eConnected Grainbelt project, for example, we are upgrading all the 187 automated weather stations that are run through the Department of Primary Industries and Regional Development. That is a big project to upgrade the stations from 3G so that they will be able to continue and, indeed, provide an even more reliable service. The platforms that support those stations are part of the infrastructure, so we are investing heavily in the digital platform that supports DPIRD's weather websites to make sure that that data, and the data available from third parties, is readily available to our farmers. We are also funding various projects with the Internet of Things that complements the digital farm projects. The digital WA Internet of Things DecisionAg grants that we invested in last year assist farmers to develop connectivity solutions to support real-time remote farm monitoring with IOT sensors and devices et cetera. A really interesting range of projects have been delivered, including to some schools.

Hon Martin Aldridge talked about alternative technologies and the diminishing returns that are perhaps coming from some of the mobile black spots. Certainly, that has been a problem. I know that Hon Dr Steve Thomas thought that, overwhelmingly, the mobile black spot funding had been given to Telstra, but I think it is interesting that in the subsequent rounds—the more recent rounds—we have seen Optus taking a stronger role and, indeed, winning quite a number of these projects. I know what members might say about Telstra, but in some areas, particularly up in the Pilbara, I find that my staff who have an account with Optus often get a better experience and better connectivity than I do with Telstra. Some of what Hon Dr Steve Thomas said may have been true earlier on, but I think we are seeing some of these other telcos developing and perhaps becoming stronger rivals.

We know that the technology is changing. We have certainly been encouraging the federal government to look at not only the very traditional tower model that we have delivered through the Mobile Black Spot Program, but also the new satellite technologies. I know that Hon Dr Steve Thomas was perhaps a little sceptical about some of the satellites, but we are seeing some very different technology emerging. Obviously, in Wyndham, here in the Kimberley, there is some experimentation with low-orbit satellites—the stratospheric satellites—and they are now increasingly looking as if they could offer some very interesting solutions to some of our connectivity problems. I am not overly familiar with these, but I also understand that there are actually new high-altitude platform systems. With the more traditional satellites, high-altitude platform systems are developing increased capabilities. It is important that we look at these new technologies, and I am certainly hoping that with the next round of federal funding, we will have the capacity to consider these new technologies and new solutions.

I think we have seen some amazing things happening across regional Western Australia. Obviously, schools, particularly primary schools, are spread right throughout the state. An increasing effort is being expended by government to ensure that all schools have access to broadband, and a very comprehensive strategy was developed to deliver that in 2019. I believe that a great number of schools—probably around 90 per cent—now have access to the internet, and, as I understand it, more work is being rolled out to schools across the state in order to lift that performance.

Hon Diane Evers talked about telehealth. There has been a massive embrace of telehealth. I have a few figures that I think would interest the member on just how successful that has been since we really started pushing forward on this. In 2019, telehealth saved WA patients from travelling 29.1 million kilometres for outpatient appointments. As it says here, that is equivalent to travelling to the moon and back 38 times. There has been substantial growth in the use of telehealth by all public health service outpatient non-admission medical services. In 2019–20, preliminary reporting shows that over 46 000 WA Country Health Service residents attended a public medical specialist appointment via telehealth. That is an increase of over 80 per cent on the previous years. Those figures are showing us that there has been a massive increase in the range and sophistication of services, much of which needs very strong bandwidth to allow for remote diagnosis and guidance.

I thank members again. I think we are all in pretty much solid agreement that this is an area that we must continue to invest in, be flexible with and responsive to.

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HON DARREN WEST (Agricultural — Parliamentary Secretary) [2.29 pm]: I would also like to support and thank Hon Martin Aldridge for bringing this important motion before the house today. It is something that we need to discuss. We have a problem with broadband and internet speeds in Australia, and we certainly have an issue in some areas in Western Australia, especially in the regions. As has been indicated by previous speakers, a lot of good work is being done. It is obviously a very important issue for us as a government. I remind the house that WA Labor has more regional members than any other party. All our members live in the regions and understand the difficulties that we can face from time to time, especially when travelling around the regions.

Hon Dr Steve Thomas interjected.

Hon DARREN WEST: The member would agree with me that we have difficulty holding a phone conversation, especially an extended one, from time to time as we drive around the regions. It is broader than that. I have just made the change from satellite. We have a new Optus tower in our area and it is great to have a more reliable, quicker, better broadband service for about the same cost we were paying for an inferior one.

Hon Dr Steve Thomas, it is just a good motion. It is great to see him and the Nationals WA agreeing! It is terrific to see that the member and the National Party agree on this because it is something we have not always had recently. It is a very good quality motion. I thank the member for bringing it forward. Hon Dr Steve Thomas touched on some important points about the federal connection with internet services in regional Australia. Nothing has opened the digital divide in regional Australia more than the policy of the coalition government. Nothing has done that. The sale of Telstra was disastrous for people who live in regional areas. We once had a customer service obligation; now we have a sheer profit-driven organisation. What do we get out of that? People in regional areas lost a lot of more out of that sale than they gained. The national broadband network project was watered down. It was to be the great service provider to everyone right across Australia. That important piece of national infrastructure was watered down because it was deemed to be too dear, and here we are, not being able to set up businesses in regional areas because we do not have access to good broadband services. There have been repeated and brutal cuts to the ABC—another provider of information to us out across the regions. All of these have left regional communities behind. They are all failed policies, in my view, of the federal coalition government.

This is somewhat embarrassing: Australians now have the sixty-eighth fastest internet speed in the world. We dropped three spots in the last rankings. We are the fourth slowest out of the Organisation for Economic Cooperation and Development countries. The global average internet speed is 73.58 megabits a second. In Australia, the average is just over half that, at 40.39 megabits a second. The failed policies of the coalition government, over many years now, have put us in a place that we really should not be. We really should not be proud of our achievements in this vital digital connectivity right across one of the most sparsely populated and largest countries in the world. India has faster average internet speeds than Australia.

Hon Dr Steve Thomas: You just answered your own question when you said “sparsely”.

Hon DARREN WEST: We are sparsely populated. Member, the national broadband network and a publicly owned Telstra would have had faster internet speeds than that. There is no question about that. They would have had much faster internet speeds than this. Many countries’ internet speeds are up to four times faster than that of Australia. We have dropped the ball here. I aim that criticism squarely at the federal Liberal–National government. We can fix this by changing the government and electing a Labor government that has committed to faster internet speeds for the people of Australia.

A member interjected.

Hon DARREN WEST: We can do it. It can be done.

Several members interjected.

The ACTING PRESIDENT (Hon Adele Farina): Order, members!

Hon DARREN WEST: Here we go, members. The interjectors are of the view that it cannot be done. Of course it can be done. Countries of much lower national wealth and much lower average income than Australia have far superior internet services than we do. We have the world’s best health system, so why can we not have the world’s best communication system? This defeatist attitude of the coalition when it comes to communication is the very reason we are in this little hole. We have a big job to do to get out of it. I think it is important to address the elephant in the room. I have done that and I will move on.

I acknowledge that state governments, with cooperation in small areas, have increased mobile phone and broadband services through mobile phone towers. As mentioned by Hon Martin Aldridge, the mover of this motion, the low-hanging fruit has been picked and the challenge now gets greater. I do not accept the defeatist attitude of the coalition that it cannot be better. Fortunately for regional Western Australians, we have a Minister for Regional Development who is serious about this. We have a Minister for Regional Development who is taking action in this space and rolling out high-speed, enterprise-grade broadband to isolated farms so that we can embrace the

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technologies of the twenty-first century. That is most refreshing. I thank the minister for such a commitment to dealing with this very important issue that we face right across regional Western Australia.

It is great that we have a scheme such as the digital farm grants scheme. It has been a game changer in areas where it has been rolled out. To put it into language that is perhaps easier for members of the coalition to understand, because they do not really want to deal with this: in some places, farmers in their farmhouses get download and upload speeds four times what is required to run Netflix. Where I live, we cannot have Netflix or any other streaming service. Even with our new provider, through a mobile phone tower, we cannot get the bandwidth to do that. I live only about 100 kilometres from the edge of the metro area. There are plenty of people right across Western Australia who are worse off than we are. Changing this is possible, and the minister is doing it. These problems can be fixed by using microwave technology and adequate backhaul capacity. It is not that expensive. The minister is showing the coalition a clean pair of heels when it comes to rolling out and dealing with this problem, as outlined by the mover of this motion.

I remember that when we first got the internet, it was dial-up. I liked to download music files at that time. It would take up to three hours to download a song on Napster—the first music-sharing site. Before I went to bed, I would set the song I wanted and when I woke up in the morning the song would have been downloaded. Over the course of a month, I might have downloaded 50 or 60 songs onto a file that I could play throughout the house. How we have moved on from there. ADSL then came in. It was not available to everyone, but it was a much faster and more compressed service. Mobile towers were rolled out—wireless services—and then we moved to the satellite service Sky Muster and Sky Muster II, which have provided basic coverage to much of Australia but are way oversubscribed because of the savings made in the rollout of the NBN. Whole towns, such as Quairading, are on satellite. That was never the intent of Labor's NBN. There is actually fibre in Quairading, but the town is on satellite. Many people do not have the capacity to get onto a fixed wireless system or a mobile phone tower system. Because the service is that oversubscribed and that slow at certain times of the day, it cannot even be used. We were short-changed by the federal government with the rollout of the NBN.

As mentioned earlier, mobile services are often patchy and unreliable. Members who drive around the regions know the spots to park—usually on top of a hill—to get a bit of mobile phone service to make that call to the person they have been trying for hours to finish a conversation with. We all know where those spots are. Over time, as mobile phone towers are more subscribed and more used, their footprint shrinks. Some places that once had mobile phone coverage no longer have it. Those footprints or circles of coverage are getting smaller, which leaves more black spots in the middle. Those black spots can be filled in with towers, but that problem will continue. The way forward is to look outside that square to come up with new and more efficient ways to do it, such as putting in better backhaul capacity and working with internet providers.

In the midwest, we have had a great experience with NodeOne Internet, a local organisation from Geraldton, which has been able to roll out very high speed enterprise-grade broadband across the northern agricultural area. That program will, hopefully, eventually cover all the agricultural areas. As the only working farmer in Parliament, I can say that farmers can start to embrace and think about the twenty-first century technology that awaits us, including real-time downloading, real-time data and automated machinery. We are already seeing that in the mining industry. It is just a matter of time. Prototypes of remotely operated or automated tractors without cabs, which do not require drivers, are ahead of us. We have the capacity to use a lot of other new technology, including our weather station network, as the minister pointed out. We can use technology in many other ways, provided we have the enterprise-grade broadband width. We will get there while we have a state Labor government because the minister is committed.

Telehealth and online learning have also been mentioned. They are great areas of the future for us. The telehealth network has certainly been a game changer in regional Western Australia. I went to the telehealth command centre probably the best part of a year ago, to celebrate the milestone of 100 000 patients or users. That has resulted in around 30 million fewer kilometres travelled and also the saving of many lives. I know telehealth is a very bipartisan initiative and I acknowledge the work of the previous government and Minister for Health for their part in rolling it out. It is vitally important for us because it is difficult to attract skilled, specialist healthcare workers to many of our regional communities. It is vital that we have high-speed broadband so we can facilitate that. I think the future of remote education is also in some kind of tele-education service because it is getting more and more challenging to retain young people in our communities. They leave for education opportunities that are not available in their communities, predominantly because they do not have access to enterprise-grade broadband in their schools or homes.

I acknowledge the motion. It has been a good debate on this motion. I know that other members would like to get up and contribute to it as well. It is bipartisan. If we look back to the time of Mal Bryce —

Several members interjected.

Hon DARREN WEST: The motion is bipartisan in its nature. The Liberal Party and the National Party are even agreeing that it is bipartisan. This issue is of concern to everyone across the political divide.

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I think back to those who came before us in this space. The late Mal Bryce, former Deputy Premier of Western Australia, had the vision to embrace technology way back in the early 1980s. He set up Technology Park and started the telecentre network, which later became the community resource centre network. In its infancy, it was a way for people to use technology that was not available in their homes. The network has grown to become a hub for many regional communities because of the access to technology. As the minister pointed out, not everybody can afford the internet and not everybody can access it, so it is important that we have places where people can go to do that in regional Western Australia. I thank the member for the motion. The McGowan government is on the job, building stronger communities and creating local jobs in country Western Australia by creating better communication systems. I also thank the minister for her efforts.

HON COLIN de GRUSSA (Agricultural) [2.43 pm]: I will start by acknowledging the mover of the motion, Hon Martin Aldridge, for this excellent motion. It really is about talking about the opportunities that exist rather than making cheap political points, as the previous speaker did.

When I think about digital connectivity, I go back to the late 1980s and early 1990s when I first invested in one of those little black boxes that squealed and clicked as it connected to the bulletin board system. It allowed people to get maybe nine kilobits on a good day when the sun was not shining, the rain was not falling and there were no clouds. They could possibly download some obscure bit of software to help with their homework or whatever it was at the time. That was the state of digital connectivity in the 1980s. Of course, there was no mobile phone system of any merit back then. We did not get that until later when the analogue system started to get bigger. The opportunity that that created was the ability to connect to something remotely, which a person would never otherwise have been able to do from a wood-panelled office on the farm to find out the little bit of information that they did not have for whatever it was they were doing.

Digital connectivity is a critical and important component of our modern lives and our livelihoods. Of course, digital connectivity is not just about business; it is also about the way we live. It is about our health and our education, as other members have mentioned. It is now an essential part of life that we cannot afford not to have in most cases. Its reliability is equally as important as its cost effectiveness and efficiency. These services create opportunities by providing connectivity. There are opportunities in the wraparound industries that service the systems and provide them in the first place. New business opportunities are created which would not otherwise exist and which most people probably do not know exist until they have that connection. The industry has a chicken and egg aspect, which is where real opportunities lie.

I will talk a little about an example of a system that I saw in 2014 in the Yaqui Valley in Mexico. The valley is 100-odd kilometres long and 40 or 50 kilometres wide. It is primarily used for irrigated agriculture, which produces a great deal of food for that part of Mexico and beyond, near the city of Obregon. The farmers had pumps and other systems involved in supplying the water for their irrigation program. They had huge issues with theft and damage to their equipment, as well as issues with their equipment's reliability because it would break down and they would not know about it for a while, so they would lose production and productivity.

What did they do? All the farmers in that region got together to form a cooperative. They built a wireless network to cover the entire valley. It monitored every single pump and bore—from memory, there were 250-odd. From a control centre in Obregon city, they were able to monitor, in real time, the water flow rates, the water levels in the bores, the oil temperatures in the pumps and the speed of the motors. They also had live camera feeds from every pump and bore so they could see whether anyone was doing damage or stealing equipment, or the equipment was breaking down. The point is that the network was built for that purpose. It provided wireless coverage where they did not have mobile coverage.

Having built the network, they realised the other opportunities that it created. Not only could it deliver the services they initially wanted to monitor and manage the irrigation system, but also it then allowed them to be remotely connected to the world through their mobile devices and wi-fi connections. They were then able to track service vehicles as they ran around servicing the various bores and farm equipment in the area. That enabled those service providers to connect to their other compatriots and offices as well, and the farmers could connect to them. Of course, there were also educational possibilities. A whole heap of things happened because those guys got together to form that cooperative and build that network.

It is easy enough to build a network. The technology is cheap and readily available off the shelf. It is not hard to build a tower. It is not hard to make a mesh network operate across an area of that size. The challenge is getting the plug to the broadband fibre connection. In the Yaqui Valley case, its system allowed that to happen quite easily. One of the issues that I constantly hear raised by people in Western Australia and Australia in general about getting access to the network when it is provided by one major telecommunication provider is that it is very expensive. There does not appear to be a great understanding of how we could reduce that cost, which would then allow new businesses to flourish and be able to provide connectivity.

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When we talk about connectivity, it is not about only mobile broadband and people using the mobile phone network, which as other members have pointed out becomes loaded up to the point at which it slows right down and then does not deliver service for everyone; the opportunity exists to create other networks on top of that to take pressure off the existing mobile network as well.

Hon Alannah MacTiernan: Do you think that's what we have been doing with our digital farmers program?

Hon COLIN de GRUSSA: To a point, yes, but I think we still have issues with access and connection to that Telstra-owned fibre. That is one of the biggest impediments. We have to make sure that access is at a reasonable price and that there is enough competition. I guess that is a challenge when there is only one provider. We have to make sure that access is available at a reasonable price so that these businesses have that opportunity to connect, then they can establish new and exciting opportunities for not only agriculture, but also communities in general. There are good examples of that happening in Western Australia. I am pleased to see it happening because it is a fantastic opportunity for the state. Digital connectivity or internet access—whatever we want to call it—technologies are key in providing opportunities for new businesses to grow. As we have seen through the COVID pandemic, the new business-at-home working model, if you like, relies heavily on that sort of technology. Again, we need to continue to work to improve those technologies in regional areas to make sure that people have the opportunity to participate in an economy that might become increasingly remote. That is a good thing because there are always new opportunities and it is a reason for people to move to the regions. If people have the opportunity to participate in the job that they want to do wherever they live, that opens up new and exciting opportunities.

There have been numerous trials and tests of these sorts of technologies over the years. In the mid-2010s, the South East Premium Wheat Growers Association in Esperance trialled a farm-wide, or across a number of farms, wireless system to provide basic internet connectivity in areas that did not have decent mobile coverage. The trial demonstrated that it was possible. As I said, the technology was inexpensive and businesses, farmers and others were happy to invest in it. At the end of the day, the challenge was the connection to fibre to provide the backhaul to connect to the internet. That remains a challenge and requires continued work between state and federal governments of every persuasion. I think we have to remember that this will benefit all Australians and, in my view, it should not be politicised. How we make sure that we remain competitive in the digital space across the world is a challenge for governments of all persuasions. I guess, mainly, I would like to see a great deal more work done on the access to fibre issues. With those remarks, I will leave it there in order for other members to make contributions to the debate on the motion.

HON MARTIN ALDRIDGE (Agricultural) [2.53 pm] — in reply: I would like to thank members who have contributed to the debate on the motion today and for their meaningful and temperate remarks—from at least most members. I think it was quite a constructive debate in which we talked about not just where we have come from, but also where we want to go. Certainly, each member who spoke in the debate contributed to each of the limbs of the motion.

As was alluded to by the minister during her contribution, the government today announced a further \$10 million of investment to co-invest in the federal government's regional connectivity program. On the face of it, that looks like a good announcement. The announcement occurred during debate on this motion, which was obviously relevant to that matter.

Earlier I said that I wanted to touch on social benefits and digital inclusion, which I was not able to get to in the time allocated to me. I mentioned the statutory review conducted by the Australian government "2018 Regional Telecommunications Review: Getting it Right Out There", which occurs every four or five years if I am not mistaken. The report's executive summary, under the heading "Social benefits and digital inclusion", states —

Participation in the digital world is no longer a luxury, it is an integral part of everyday life. Essential services including government services, health and education are increasingly moving to a digital-first model.

The benefits of digital inclusion are significant. However, the experiences heard by this committee demonstrate that digital inclusion in the regions lags far behind the major cities. The Australian Digital Inclusion Index reveals substantial differences between rural and urban areas. This index measures digital access, affordability, and digital ability to give a score out of 100.

...

To ensure regional Australia is best positioned to retain people and grow in the long term, a strong base of essential infrastructure, social networks, employment opportunities, education and health services are required. Access to good quality telecommunications underpins all these areas.

Madam Acting President, I could not have said that any better than the committee in its 2018 report. A number of speakers today talked about the liveability of regional places and the need to attract people out of our cities and into regional locations. Certainly, health and education are very important factors, but increasingly in this modern

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world so is our ability to be part of a digitally connected world. I commend the motion to the house and I thank members who contributed to the debate today.

Question put and passed.