

Prioritising Reform

Progress on the 2016
Australian Infrastructure Plan

June 2018



Infrastructure Australia is an independent statutory body that is the key source of research and advice for governments, industry and the community on nationally significant infrastructure needs.

It leads reform on key issues including means of financing, delivering and operating infrastructure and how to better plan and utilise infrastructure networks.

Infrastructure Australia has responsibility to strategically audit Australia's nationally significant infrastructure, and develop 15 year rolling infrastructure plans that specify national and state level priorities.

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Cover: Perth CBD skyline at sunset viewed from the pedestrian bridge at Elizabeth Quay.

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Chair's foreword

When Infrastructure Australia published the *Australian Infrastructure Plan* in February 2016, we acknowledged that the national reform agenda we put forward would only be as good as the commitments and leadership that followed.

Developed through a long and consultative engagement process, the *Australian Infrastructure Plan's* 78 recommendations were comprehensive and long term, and included fundamental changes to the way we plan, deliver and use our infrastructure.

Some of our recommendations were challenging, but we were pleased to see the Plan prompt impassioned debate about our infrastructure future and our willingness as a nation to undertake much-needed reform.

While the Plan provided a clear roadmap to address today's infrastructure gaps and meet the challenges of tomorrow, it was only the beginning of a much longer journey.

Delivering the reforms recommended in the Plan would require a national consensus to inspire change and a willingness from our political leaders to stay the course over the long term.

To keep up the momentum on reform and build on the evidence base presented in the Plan, we commissioned a series of more detailed advisory papers known as the infrastructure Reform Series.

The Reform Series has to date covered topics as diverse as value capture, public transport franchising, corridor protection, urban water reform, future cities planning and the case for infrastructure reform incentives.

We also made a commitment to regularly report on the progress of the key recommendations in the Plan.

We are pleased to present this report, *Prioritising Reform*, which assesses how far the reforms recommended in the Plan have progressed over the past two years.

Our report finds some progress in the integration of land use and transport planning, heavy vehicle road charging, addressing transport pinch points, corridor protection, business case development and increased openness to using government debt to fund infrastructure projects.

Yet despite these forward steps, there are instances where reform has stalled or failed to provide its envisaged benefits.

Although we acknowledge that for some policy areas, two years is simply too short a timeframe to fairly measure progress, this report nonetheless shows that we must improve upon the current pace of reform.

Australians have never lacked vision. We have a long and proud reformist history from which to draw inspiration.

The major microeconomic reforms of the 1980s and 1990s transformed Australia into an open, dynamic, and highly productive economy.

These reforms were not easy and required cooperative leadership, but together they helped secure a record 27 years of economic growth for our country.

The reforms we recommended in the *Australian Infrastructure Plan* are ambitious and politically challenging, but they will also deliver enduring and inclusive benefits for all Australians.

If we truly embrace this national reform agenda, Australia will secure the social and economic benefits of great infrastructure for many generations to come.

Julianne Alroe
Chair, Infrastructure Australia



Overview

Since the release of the *Australian Infrastructure Plan* in February 2016, there has been continued pressure on the structure and operation of Australia's key economic infrastructure sectors. Demographic shifts, population growth, technological advances, consumer preferences, climate change and changes to the nature of work, continue to have significant impacts on infrastructure planning.

Australia's governments have shown a willingness to drive higher levels of infrastructure investment to meet the challenges of the future and harness potential opportunities, with investment across key economic sectors, especially transport, showing signs of an upward trend since early 2016.

Across our cities and regions, many of the strategically important infrastructure projects positively assessed by Infrastructure Australia for inclusion on the *Infrastructure Priority List* are now under delivery. This includes Moorebank Intermodal Terminal and NorthConnex in Sydney, Melbourne Metro Rail, and Brisbane Metro and the progressive upgrade of the Bruce Highway in Queensland. Also under delivery are the Forrestfield Airport Link and Armadale Road Upgrade in Western Australia and the progressive upgrade of Adelaide's North–South Corridor.

In addition to this uptick in infrastructure investment, there has been significant progress over the last two years in the quality of city and regional planning across Australia. Increasingly, governments are integrating transport and land use planning, and a number of strategically significant corridors have been preserved for future infrastructure investment in New South Wales and Queensland.

Stronger collaboration between jurisdictions has improved the quality of business cases developed for major infrastructure projects. The creation of dedicated infrastructure agencies has helped strengthen Australia's pipeline of future investments. In addition, there is welcome investment in programs that seek to make better use of existing assets, and a more sophisticated analysis of borrowing to build has developed, which will help deliver the infrastructure Australia needs.

However, on other key measures, there has been little or no progress against the recommendations in the Plan.

In transport, the planned inquiry into road user charging reform is yet to commence. The energy market has been dealing with an influx of new technologies, new methods of managing supply and demand, and regulatory uncertainty, and efforts to address these complex issues have been fraught. Progress on urban water reform has stalled, and there are compliance issues around water use in the Murray-Darling Basin. In telecommunications, the National Broadband Network (NBN) rollout has faced challenges as demand for high-speed data connectivity soars.

There are improvements to be made in planning for the future. The absence of a national population policy has fostered uncertainty around how to manage Australia's growing population. This has broader impacts for infrastructure decision making, as most major urban infrastructure projects assessed by Infrastructure Australia are sensitive to projections of population growth. Likewise, transport will become our second biggest carbon emitter in coming years, however with no clear guidance on emissions policy for industry the task of aligning our international commitments with new investment is made all the more difficult.



Box 1: Infrastructure Australia and the Australian Infrastructure Plan

Infrastructure Australia is the nation's independent infrastructure advisor. We have a mandate to prioritise and progress nationally significant infrastructure, and provide independent research and advice to all levels of government as well as investors and owners of infrastructure.

Under the *Infrastructure Australia Act 2008*, our governing legislation, Infrastructure Australia is responsible for strategically auditing Australia's nationally significant infrastructure, and developing 15-year rolling Infrastructure Plans that specify national and state-level reform priorities.

The current *Australian Infrastructure Plan* was released in February 2016.¹ The 2016 Plan made 78 recommendations grouped into four reform areas: more productive cities and regions, efficient markets, sustainable and equitable infrastructure, and better decision making and delivery.

The Plan sits alongside Infrastructure Australia's *Infrastructure Priority List* – the authoritative list of nationally significant infrastructure investments Australia needs over the next 15 years. The 2018 Priority List identified more than \$55 billion worth of potential nation-shaping infrastructure investments in our cities and regions.

Since releasing the Plan, Infrastructure Australia has released a series of more detailed advisory papers – the infrastructure Reform Series – to make the case for key recommendations in the Plan:

Capturing Value: Advice on making value capture work in Australia offers guidance to governments and the private sector on how value capture can be applied in the Australian context.

Improving Public Transport: Customer focused franchising provides a roadmap for all levels of government to capitalise on the opportunities of franchising to enhance service quality, increase capital investment and improve cost efficiency across public transport.

Corridor Protection: Planning and investing for the long term highlights the need for a stable and independent governance framework, and high-quality and long-term strategic planning of future infrastructure projects.

Reforming Urban Water: A national pathway for change advises governments and regulators to make fundamental changes to the governance and regulation of Australia's urban water markets.

Future Cities: Planning for our growing population advises Australian governments on improving the productivity and liveability of our largest cities.

Making Reform Happen: Using incentives to drive a new era of infrastructure reform advises governments to use incentive mechanisms to drive nationally significant infrastructure reform.



Market reform

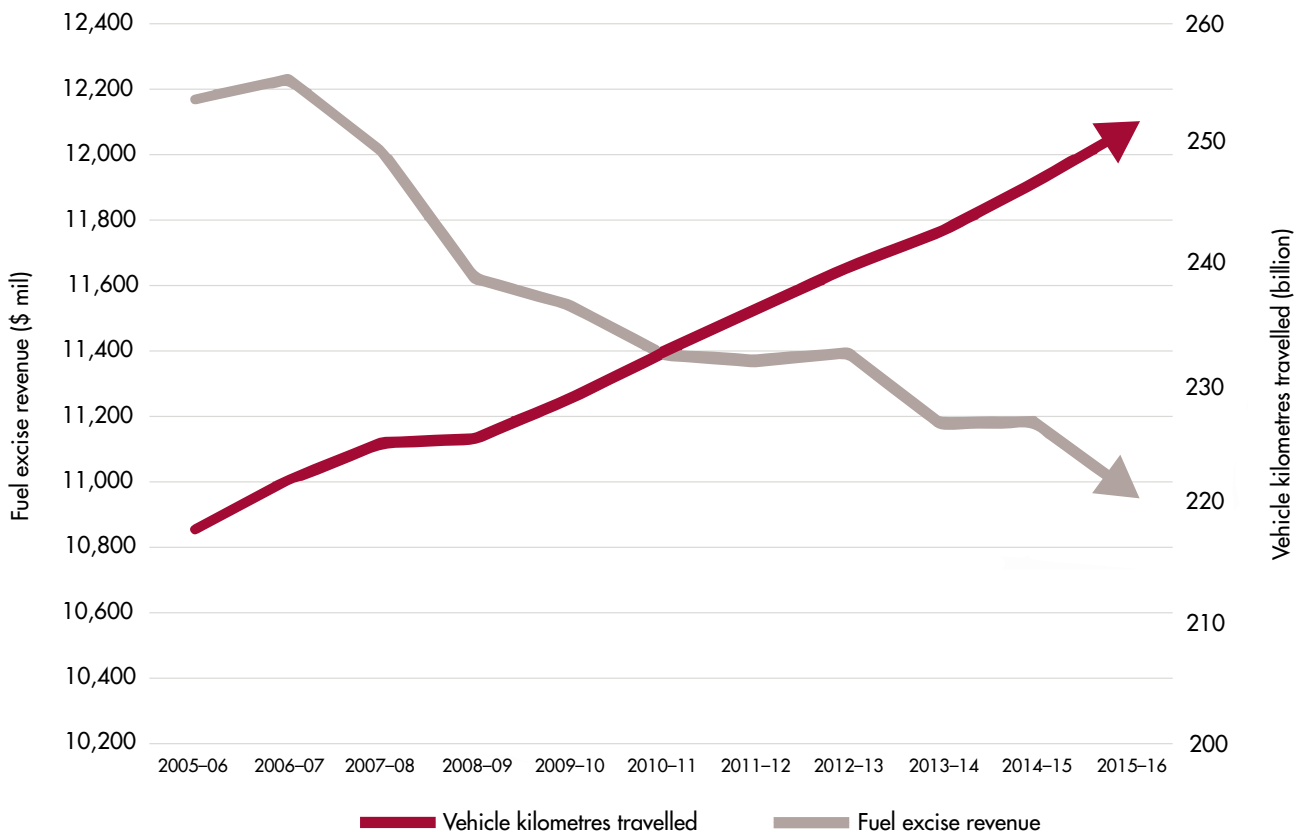
Road market reform is progressing slowly

The *Australian Infrastructure Plan* recommended that the Australian Government initiate an inquiry into the potential benefits and impacts of road market reform, with a view to transitioning to a fairer and more efficient user-pays approach. The Australian Government signalled its support for this proposal in November 2016 when it delivered its official response to the Plan, however no inquiry has been forthcoming.

Road market reform has the potential to deliver significant improvements in network performance, while also establishing a secure, fairer, and sustainable source of funding for our roads. Currently, user funding for the

construction and maintenance of our roads is sourced from a mix of fuel excise and vehicle registration charges. However, Australian taxpayers incur a significant ongoing cost burden to maintain and develop our road system, regardless of whether they own or drive a car. The weak link between usage and charging in our current system means that motorists do not receive price signals to minimise their impact on other users and the broader network. As a result, critical road networks are chronically congested for portions of the day but have excess capacity across most of the 24-hour cycle.

Figure 1: Road-related fuel excise revenue and total vehicle kilometres travelled in Australia 2005–06 to 2015–16



Source: BITRE, 2017⁶



Separately, our roads are facing a funding shortfall as technological change reduces the amount of revenue raised by fuel excise. This fall in revenue, despite rising road use (see **Figure 1**), is likely to accelerate over coming decades as we shift towards more fuel efficient vehicles and alternate fuels.

Given the significance of the reform, and the scale of the work involved, Infrastructure Australia strongly encourages governments to move forward. In addition to being a key recommendation in the Plan, road market reform has been highlighted as a national priority by the Henry Tax Review², the Harper Competition Review³, by the Productivity Commission (most recently in its recent five-year productivity review⁴), and by the Australian Competition and Consumer Commission (ACCC)⁵.

Despite the slow progress on the inquiry into road market reform, Australia's governments have made important progress on heavy vehicle road user charging. The current heavy vehicle road use system (PAYGO) is based on historical spending and apportioned using fleet averages. The aim is to switch to future spending plans and a more precise allocation to individual vehicles.

The first phase of a four-phase reform plan⁷ adopted in 2015 by the Council of Australian Governments (COAG) Transport and Infrastructure Council is now complete, and asset registers and forward-looking expenditure plans on heavy vehicle routes have been published.

In December 2017, the Australian Government announced that it would invite the heavy vehicle industry to participate in a National Heavy Vehicle Charging Pilot, which it funded through to 2020. This pilot program is a welcome step on the pathway to major reform of how Australians pay for road use.

Energy market reform has encountered headwinds

Australia's electricity sector has undergone a series of reforms over the past three decades. Public sector monopoly assets have been progressively separated into corporatised generation, retail, and network components, with some assets transferred to private ownership in some states. The *Australian Infrastructure Plan* found that reform of the electricity sector in Australia was incomplete, and needed to continue.

However, in the period since February 2016, issues within the National Electricity Market (NEM) have become increasingly apparent as energy bills for households and businesses increased on average at a considerably higher rate than inflation. Key issues that have stalled progress include the impact of emerging intermittent energy sources on system stability in some regions of the NEM, the impact of reduced domestic gas availability on prices as exports increase, and past overinvestment in network infrastructure. In addition to this, a persistent lack of settled arrangements for reducing carbon emissions is negatively impacting on investor certainty.

In response to this, the relevant governments and regulators have been active in seeking to adjust system rules and regulatory settings to address what has been called an ‘energy trilemma’ – maintaining system reliability and reducing carbon emissions while containing costs to consumers and businesses.

The *Independent Review into the Future Security of the National Electricity Market: Blueprint for the future*, led by Dr Alan Finkel AO, and released in June 2017, made a broad series of recommendations to address these matters.⁸

Existing energy agencies and market bodies, including the new Energy Security Board, the Australian Energy Market Commission, the Australian Energy Market Operator, the Australian Energy Regulator, COAG and others are currently working to resolve these complex issues. Key participants at different vantage points in the energy regulation debate hold contrasting views, which tend to be amplified in the media. This increases the difficulty in settling a regulatory position that will stand the test of time.

More work on water reform is required to prevent a rise in household bills

The *Australian Infrastructure Plan* recommended that more work be done to develop stronger market characteristics in the urban water sector to meet significant challenges over coming decades. Australia’s urban water sector provides essential water, sewerage, flood mitigation and stormwater services to more than 20 million people and 9 million connected properties in our cities and towns. The quality, reliability, and cost of water infrastructure has a critical bearing on community wellbeing and economic prosperity. There are clear benefits to creating an urban water sector that is well regulated, open to private sector participation and which provides incentives for innovation.

The Plan recommended that governments update regulatory frameworks to ensure publicly owned businesses are delivering services efficiently and in the long-term interest of consumers. It noted that privatisation of urban water assets was a question for future state and territory governments, and should only be considered after regulatory reform that could unlock innovation and efficiency through greater private sector involvement in the short term.

Infrastructure Australia’s 2018 research paper *Reforming Urban Water* further outlined the case for reform. Benchmarking the progress in urban water reform across the eight state and territory jurisdictions, this paper proposed national objectives and a pathway for reform.⁹ Victoria followed by New South Wales were found to be the best positioned on current regulatory standards, aided by their scale. Progress was noted in South Australia, Tasmania and the ACT. Overall, the paper concluded that urban water reform had stalled and that progress towards full cost recovery and independent price regulation had slowed, and in some instances reversed. Modelling undertaken for the paper showed that failure to act on reform could see average household water bills more than double in real terms by 2040.

Reform continues in the Murray-Darling Basin

Improving market functionality in the Murray-Darling Basin was identified as a reform priority in the *Australian Infrastructure Plan*. The Plan recommended that the Murray-Darling Basin Authority undertake a comprehensive investigation into issues inhibiting the efficient functioning of water markets in the Murray-Darling, including information and transparency, trade processing times, and register compatibility.

The Murray-Darling Basin Authority estimates that 2100 gigalitres of water has now been returned to the Basin for environmental benefit and end of system flows, which is 77% of the Australian Government’s target. Water recovery has been managed by way of buybacks and water use efficiency improvement projects.¹⁰

Separately, compliance has been identified as an issue in a specific part of the Basin and governments are working to establish a cohesive Basin-wide response. Resolving the compliance issues will require direct action from specific jurisdictions to give confidence to all governments to continue progressing the regional water recommendations in the *Australian Infrastructure Plan*.

There are opportunities to manage sustainable diversion limits across the Basin through water supply and efficiency projects, and projects that aim to reduce physical constraints, including infrastructure investment. To date, it has been estimated that the Australian Government has invested approximately \$3.2 billion in on- and off-farm infrastructure projects under the Murray-Darling Basin Plan.¹¹ A number of projects are still under delivery or have recently been approved.

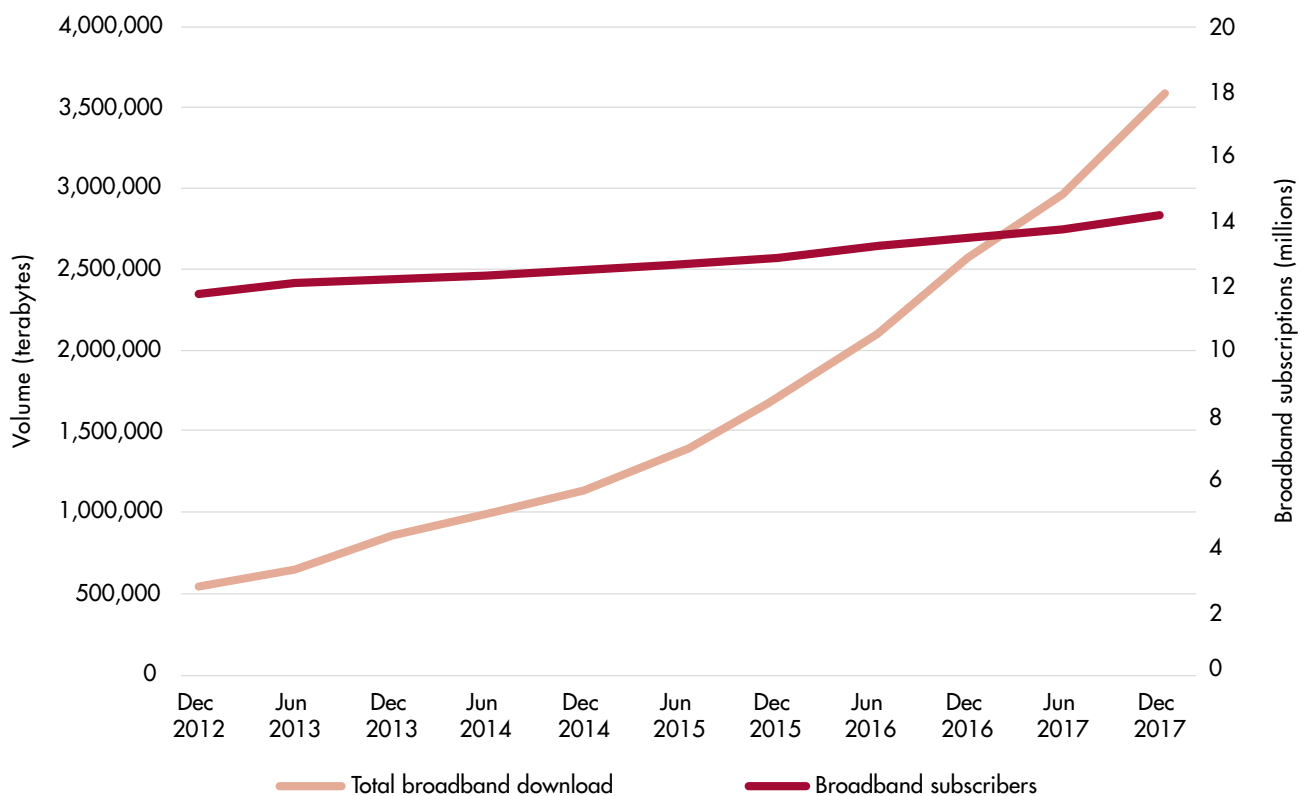
The Productivity Commission has commenced its five-yearly review of the Murray-Darling Basin Plan, which it expects to complete by the end of 2018.

The telecommunications market needs to support rapidly growing data demand

Noting the mixed quality of telecommunications services across Australia, with generally good services in cities and lower-quality services in rural and some outer urban suburbs, the *Australian Infrastructure Plan* welcomed the delivery of the NBN as a transformational opportunity to enable all Australians to benefit from an increasingly digitised world.

Since the release of the Plan, change in the telecommunications sector has continued at a rapid pace, accompanied by significant growth in demand across fixed and wireless broadband, and in mobile handset downloads. **Figure 2** shows that between December 2016 and December 2017, fixed and wireless broadband downloads per subscriber rose by 39%. This trend is showing no current sign of abating. Data use is also growing rapidly per household and this growth is gaining speed. This applies to mobile handset aggregate downloads, which are growing just as quickly but from a much smaller base (**Figure 3**).

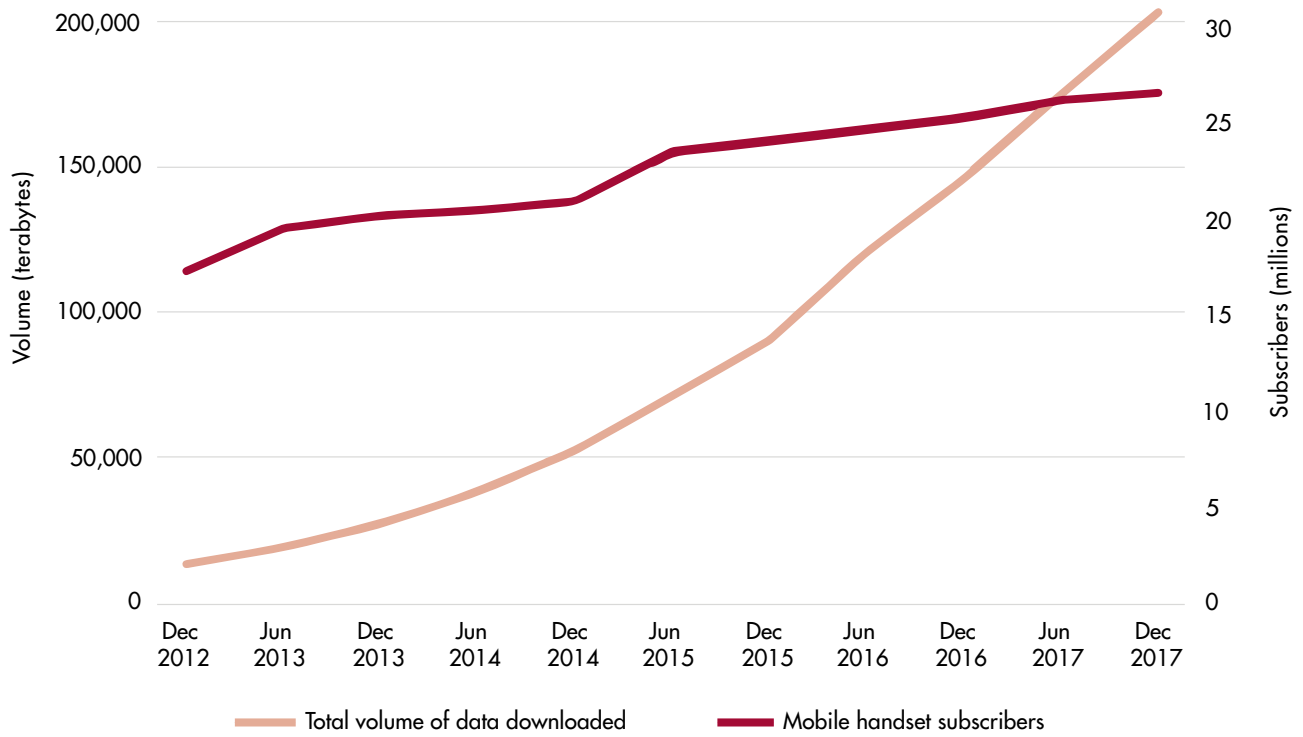
Figure 2: Total volume of quarterly downloads and number of broadband subscriptions, June and December quarters, 2012–2017



Source: ABS¹²



Figure 3: Total volume of quarterly downloads and number of mobile handset subscribers, 2012–2017



Source: ABS¹³

In addition, there is uncertainty around how consumers will respond to the impact of 5G mobile technology, which will be in the market in the 2020s and may impact on existing technologies. In the current dynamic environment, determining what users' ultimate preferences are in terms of service, capability and price can be challenging and this has implications for the delivery of the NBN.

In December 2017, NBN Co announced wholesale price cuts aimed at moving more of the retail customer base to higher service speeds. Initial indications are that retailers have passed on at least some of the benefit to customers, who have in turn increased take-up at higher speed tiers (50Mbps or higher).¹⁴ The proportion of wholesale speed plans of 50Mbps or above has increased from 16% to 25% over the year from February 2017. NBN Co has also claimed sharply reduced average bandwidth congestion over the same period (excluding satellite connections) – a significant area of user concern.

The ACCC is actively monitoring retailer claims regarding internet speeds against actual performance. The ACCC's first report, in March 2018, found that internet speeds during evening congestion periods for four major providers averaged between 80% and just over 90% of advertised speeds.¹⁵ The ACCC is also considering feedback on whether the NBN is meeting wholesale service standards, including whether regulatory intervention may be required.

The Plan recommended that the NBN rollout be completed prior to its sale in the medium term, to avoid disruption to the project and to avoid reduced risk appetite in the rollout phase. Preconditions for sale already exist in the NBN Co legislation, and the ACCC has proposed that NBN Co should be disaggregated on geographical or technology lines prior to sale.¹⁶

The Plan highlighted the need for measures to support the delivery of non-commercial NBN services in regional and remote areas. Providing for universal broadband in a country as large as Australia is a significant community service obligation (CSO) that will involve a cross-subsidy from users. The non-commercial element of high-speed broadband services has been costed at \$9.8 billion (net present value to 2040 at 6.46% discount rate).¹⁷ CSOs should be effective, transparent and subject to competition where possible. The Australian Government is progressing legislation to recover the cost of this CSO via a broad-based levy on service carriers, and has flagged a future move away from the Telecommunications Universal Service Obligation in favour of a more modern approach that acknowledges the convergence of voice and data telecommunications (see **Box 2**).

Box 2: Telecommunications Universal Service Obligation recast

In December 2017, the Australian Government announced that a new telecommunications universal service guarantee would take effect once the NBN is fully rolled-out in 2020 and consumer safeguards are in place.

The *Australian Infrastructure Plan* recommended such a course, recognising the shift from fixed-line to mobile data use in regional and remote Australia. In June 2017, the Productivity Commission also recommended that the Telecommunications Universal Service Obligation (TUSO) be wound up in its current form.

Changes in consumer preference, technology, and convergence of voice and data services are shifting the context in which all Australians can access telecommunications services. Instead of a TUSO, the Productivity Commission proposed a baseline standard for providers of broadband and voice services, to meet basic customer needs.

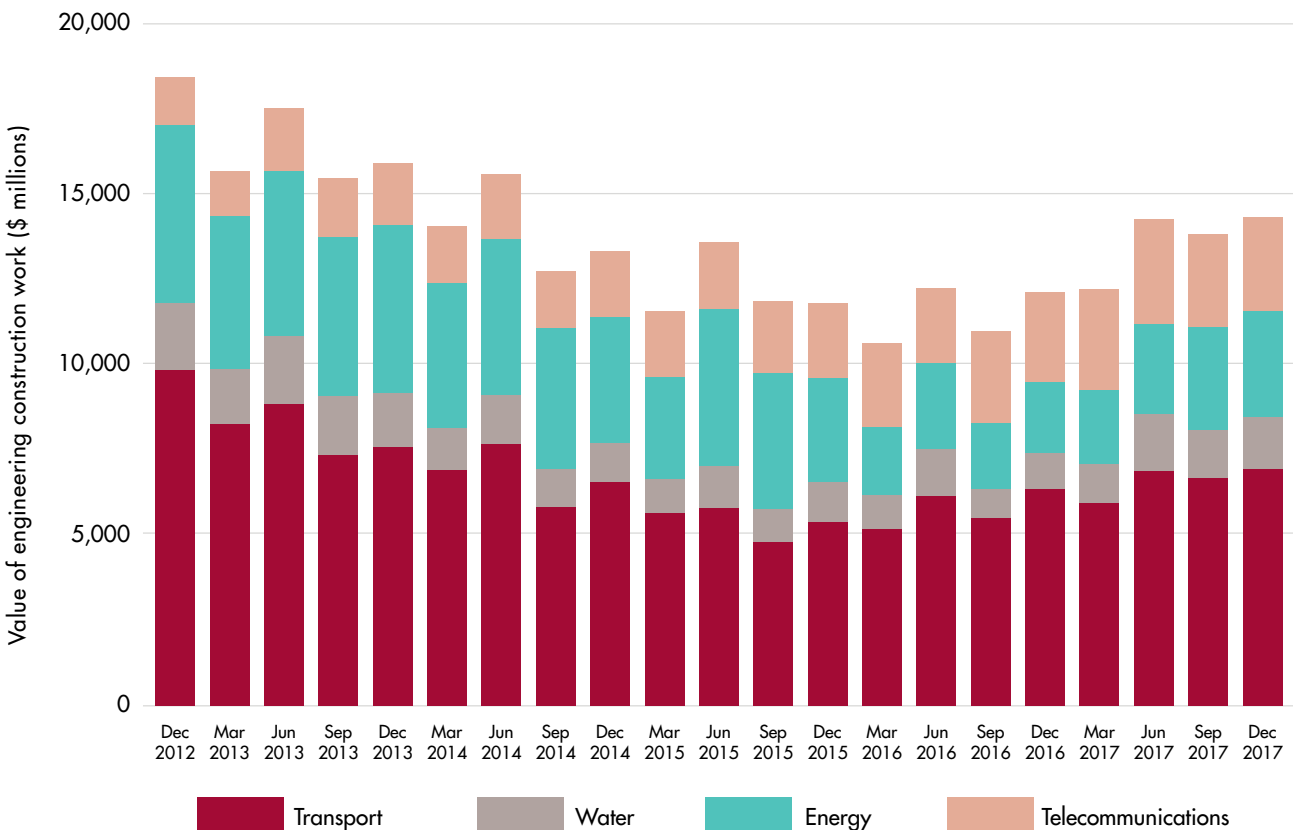
Funding reform

Economic infrastructure investment is starting to trend up

The *Australian Infrastructure Plan* recommended a material increase in both public and private infrastructure funding to meet the needs of Australia’s growing population and drive productivity growth. Quarterly Australian Bureau of Statistics (ABS) reporting of engineering construction work done in the transport, energy, water and telecommunications sectors shows an increasing trend in real terms since early 2016 (Figure 4). This covers in aggregate federal, state, local government, and private infrastructure investment in these sectors.

All four infrastructure sectors have recorded real increases since the March quarter, 2016 (coincidentally when the Plan was released), with the most solid rise being in transport – the largest sector of investment. Overall, the trend in the other sectors, while positive, is less pronounced. It is likely that the NBN rollout will lift telecommunications investment in coming quarters.

Figure 4: Value of engineering construction work done per quarter in key infrastructure sectors, 2012–2017, June 2017 prices



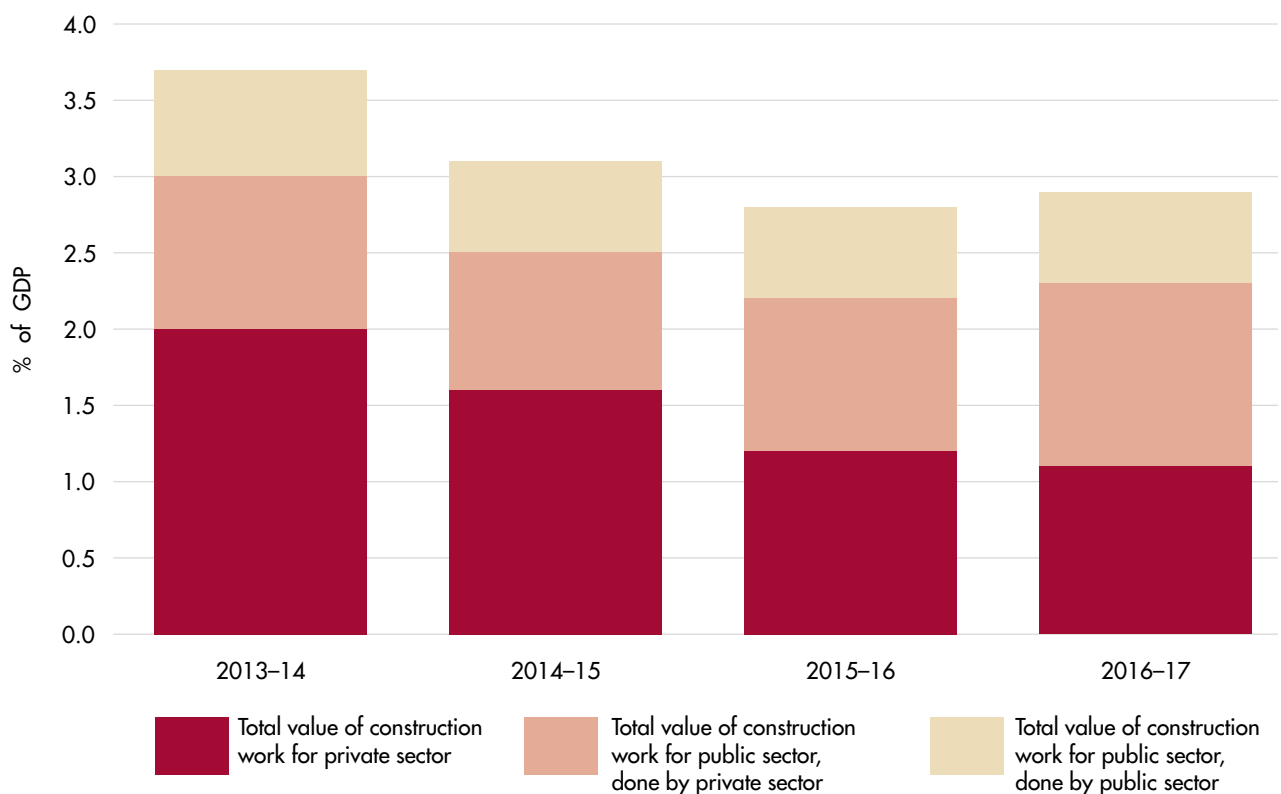
Source: ABS, *Infrastructure Australia*¹⁸



Another way to look at investment in these four sectors is as a proportion of the economy, and the relative public and private sector contributions. **Figure 5** charts the early upward trend (2015–16 to 2016–17) in engineering construction investment in the transport, energy, water and telecommunications sectors.

Private sector work for the public sector in key economic infrastructure sectors has been the main contributor, as direct construction by the public sector falls as a proportion of the economy. Demand from the public sector has lifted overall investment as a proportion of the economy in 2016–17, and helped lift private sector activity.

Figure 5: Proportion of engineering construction work done per year relative to GDP in key infrastructure sectors, for public and private sectors, 2013–14 to 2016–17



Source: BITRE, 2017¹⁹

Jurisdictional performance across the four utility sectors since 2016 shows the majority of construction is taking place in New South Wales, Queensland and Victoria, which are together driving the upward trend. Work done in these same sectors in Western Australia has fallen significantly over the last three years.

There is room for further improvement in project selection

A central theme of the *Australian Infrastructure Plan* is that rigorous project selection is fundamental to boosting economic activity and supporting productivity growth. Acknowledging that the inconsistent delivery of long-term infrastructure planning has impacted the quality and reliability of Australia's project pipeline, the Plan highlighted how investment in poorly conceived projects can undermine a country's economic prospects. In particular, it argued that instances of public commitments to a project before detailed analysis had been completed and published can undercut public confidence in government decision making and be costly for taxpayers.

The *Infrastructure Priority List*, which sits alongside the Plan, has been successful in guiding investment towards projects with demonstrated economic benefits. Based on a rigorous assessment process that promotes a staged approach to identifying problems, considering options, and determining the best value for money, the Priority List is regularly updated as the Infrastructure Australia Board receives and assesses new business cases. Recently, \$25 billion worth of projects moved off the Priority List and into the delivery phase, showing that governments are prioritising the delivery of historically significant infrastructure.

Australian governments are increasingly favouring a more methodical process for selecting major infrastructure projects, and are in most cases seeking a positive evaluation from the independent Infrastructure Australia Board before making funding announcements.

However, early stage announcements by governments and oppositions remain a concern, as they tend to foreclose on alternative, possibly better value, options.

Notwithstanding general improvements in the standard of project selection, a significant element of public infrastructure investment is still not subject to a published post-completion review process. This includes transport, regional and water programs and projects.

The failure to undertake systematic post-completion reviews and collect and benchmark valuable data means we are missing out on an important opportunity to learn from past experiences. In particular, there is scope for a more comprehensive process for measuring a project's outcomes against initial expectations, across the operational period of a project's lifecycle.

More funding to target congestion

The *Australian Infrastructure Plan* identified increasing levels of congestion in Australian cities as a key future infrastructure challenge. Infrastructure Australia's Reform Series paper *Future Cities* modelled three 30-year growth scenarios for Melbourne and Sydney and found that congestion would significantly increase under all scenarios. Echoing the Plan's call for greater investment in projects and technologies that make better use of existing infrastructure, the *Future Cities* report recommended that Australian governments develop strategies to 'sweat' existing assets to help address congestion and manage future population growth.²⁰

The Australian Government's allocation of \$1 billion in the 2018–19 Budget for a program targeting urban congestion is a welcome move. The fund is intended to support projects to remediate 'pinch points', improve traffic safety, and increase network efficiency for commuter and freight movements in urban areas. Well-selected projects meeting these criteria are likely to have high benefits for modest costs, and should be high investment priorities.

The Plan recommended that first- and last-mile issues in the national freight chain be addressed by dedicated funds. Some states and territories already have programs that might include addressing pinch points and freight congestion points, and these more targeted funds should allow a stronger focus on smaller initiatives that solve larger problems.

Asset recycling wound up but there is a strong case to reintroduce incentive payments

Using infrastructure reform incentives to drive much-needed reform was a key recommendation in the *Australian Infrastructure Plan*. The Australian Government's Asset Recycling Initiative (ARI) was wound up in the 2016–17 Budget consistent with its original time-limited structure, however there is a case for such incentives to remain in place. The ARI saw over \$3 billion in additional funds allocated to participating jurisdictions (mainly New South Wales and Victoria) for investment in new infrastructure. A less tight time-limited mechanism could permit a more methodical approach to establishing regulatory oversight and/or favourable market conditions prior to asset sales.



Infrastructure Australia's most recent Reform Series paper, *Making Reform Happen*, further outlines the case for an incentive-based approach to driving national infrastructure reform.²¹ An incentive-based approach recognises that although there are significant national benefits to be gained from infrastructure reform, it is state and territory governments that wear the implementation costs – as well as any short-term political pain. Incentive payments can help redress this imbalance between costs and impacts, and effectively drive outcomes that may not have come about otherwise.

Using incentives to drive reform can deliver a short-term boost to the economy through increased infrastructure investment, as well as delivering productivity and revenue gains in the longer term. *Making Reform Happen* models the potential benefits of using incentive payments to deliver five key reforms across water, energy, transport and land use planning, finding that together the reforms could deliver a \$66 billion increase in GDP, and a \$19 billion annual increase in federal, state and territory tax revenue, by 2047.²²

A more sophisticated analysis of borrowing to build has developed

Provided new infrastructure assets are well chosen, funding projects through increased public borrowing represents a further option for Australian governments. The *Australian Infrastructure Plan* recommended that the Australian Government evaluate the viability of reporting debt under a more transparent structure to distinguish infrastructure spending from recurrent spending. Increased use of public debt to support investment can provide a smarter approach to delivering infrastructure, provided investments are well-considered,

well-executed and have demonstrated economic benefits. It is also a more equitable approach as the costs and benefits of new infrastructure are distributed across current and future taxpayers.

The 2017–18 Federal Budget, delivered in May 2017, implemented a new reporting approach that gives greater prominence to the net operating balance over the underlying cash balance. Investment in capital projects (including infrastructure) is excluded from the net operating balance.²³ Borrowing to build this infrastructure was referred to as acquiring “good debt”, representing a shift towards a more sophisticated government sector analysis of how debt can work differently across time. Under this approach, debt raised for infrastructure investment in projects with proven, long-term economic benefits is treated separately from debt raised for recurrent expenditure, which provides current benefits.

In the 2018–19 Federal Budget, the Australian Government further developed its economic arguments around the benefits of infrastructure investment. A chapter statement on Public Investment and Productivity outlined in some detail the economic impact arising from well-chosen infrastructure investments.²⁴

Governance reform

Stronger collaboration has improved the quality of business cases

The standard of business cases developed for major infrastructure projects has improved markedly over the past two years, supported in part by stronger collaboration between federal and state jurisdictions. Reflecting the *Australian Infrastructure Plan*'s emphasis on creating a rigorous evidence base to improve infrastructure decision-making, Infrastructure Australia has worked closely with the states and territories to raise the quality of business cases, including by hosting workshops around the country to improve proposal development. Designed to bring project proponents, government officials and their advisers together to improve the quality of cost-benefit analysis and business cases, the workshops provide a forum to discuss the process and Infrastructure Australia's guidelines.

The creation of dedicated infrastructure agencies in each state and territory has facilitated stronger collaboration with Infrastructure Australia, which has in turn strengthened the pipeline of future projects. Increasingly, Infrastructure Australia has had the opportunity to provide feedback at the draft or strategic business case stage, which improves overall project development. Well-developed business cases, supported by early project development studies – such as strategic options analysis, feasibility studies and cost-benefit analysis – help ensure the right infrastructure solution is selected. The importance of this work has been built into Infrastructure Australia's Assessment Framework methodology for the *Infrastructure Priority List*.

Progress towards improving metropolitan governance and strategic planning

Improving metropolitan governance was a key reform theme in the *Australian Infrastructure Plan*. The Plan found that there is a strong case for Australia's fastest growing cities to establish institutions or processes that enable improved metropolitan-scale coordination, planning and delivery. There has been some progress on this measure, particularly in our four largest cities – Sydney, Melbourne, Brisbane and Perth.

Brisbane and the South East Queensland region have well-established metropolitan-scale governance arrangements (including Brisbane City Council, which covers almost half the Brisbane metropolitan area), while Sydney has made recent progress by establishing the Greater Sydney Commission in 2016 to lead and coordinate metropolitan planning, and in reducing the number of metropolitan councils. Since 2016, Melbourne and Perth have not taken specific action towards establishing metropolitan-scale governance institutions. However, improved metropolitan planning and coordination at the state level is progressing in these cities.

A number of recommendations in the *Australian Infrastructure Plan* also focused on the need for states and territories to better integrate transport and land use planning. In the past two years, state and local governments have been active in updating and better integrating metropolitan plans. The Greater Sydney Commission released the final *Greater Sydney Region Plan* in early 2018, setting out a 2056 vision for a metropolis of three cities that 'will rebalance growth and deliver its benefits more equally and equitably



to residents across Greater Sydney.²⁵ *Plan Melbourne 2017–2050* sets a long-term plan to ensure Melbourne ‘grows more sustainable, productive and liveable’.²⁶ *ShapingSEQ* (2017) sets out a 25-year long-term land use plan for the South East Queensland region,²⁷ and in Western Australia the 2017 *Perth and Peel@3.5million* strategy sets out a vision for 2050 based on sub-regional land use planning and infrastructure frameworks.²⁸

Greater collaboration in regional and remote infrastructure planning

While all regional and remote jurisdictions have long-term infrastructure plans in place, the extent to which these plans address the criteria recommended in the *Australian Infrastructure Plan* varies.

Most of these long-term plans identify weaknesses in existing infrastructure networks and outline strategies to address these challenges – for example, through better integrated land use and transport planning processes.

Some of these plans have been developed in collaboration with other levels of government, mostly through alignment with the relevant state planning policies and strategies.

Development of a National Freight and Supply Chain Strategy

Acknowledging that the national land freight task is projected to grow by 86% between 2011 and 2031, the *Australian Infrastructure Plan* highlighted the need for a National Freight and Supply Chain Strategy to define nationally significant freight corridors and precincts. The Plan recommended that the strategy map nationally significant supply chains and their access to supporting infrastructure, and recommend a series of reforms and investments to enable the more efficient movement of freight.

In response to this recommendation, the Australian Government commissioned an independent expert panel to conduct the Inquiry into National Freight and Supply Chain Priorities. In May 2018, the Australian Government released the inquiry’s final report with 54 priority actions, including that further scenario planning should be undertaken to help refine medium- and long-term actions and identify critical decision points. The report also recommended that business cases for infrastructure funding submissions include a comprehensive analysis of alternative options in accordance with Infrastructure Australia’s Assessment Framework. These priority actions will inform the development of a National Freight and Supply Chain Strategy through the COAG Transport and Infrastructure Council.

Increasing action to protect corridors

The *Australian Infrastructure Plan* recommended that Australian governments preserve strategically important infrastructure corridors to avoid cost overruns, delays, and unnecessary acquisition of homes and businesses during the project delivery phase. Infrastructure Australia’s 2017 Reform Series paper *Corridor Protection* found that protection and early acquisition of seven key corridors identified as national priorities on the *Infrastructure Priority List* could save Australian taxpayers close to \$11 billion in land purchase and construction costs (2016 dollars, 7% discount rate).²⁹

In March 2018, the New South Wales Government announced that it would move to identify and then act to protect four strategic transport corridors in western Sydney – three of which had been highlighted for early action by Infrastructure Australia in 2017.³⁰ These are the Outer Sydney Orbital, Western Sydney Freight Line and the North–South passenger rail line through the future Western Sydney Airport. While these projects are not

required in the near term, early action to preserve these three corridors from inconsistent development is estimated to save future generations over \$6 billion.

In April 2018, the Queensland Government announced that it would protect the corridor for the Townsville Eastern Access Corridor to meet future need. The commitment included acquiring land and gazetting the proposed corridor.³¹

Some unpreserved corridors remain listed as near-term initiatives in the 2018 *Infrastructure Priority List*.

Population projections are critical to long-term infrastructure plans

Acknowledging that planning for population growth is too great a task to leave to chance, the *Australian Infrastructure Plan* recommended the development of a national population policy. Such an approach would articulate a spatial vision for the growth of Australia, and identify the role the Australian Government would play in supporting states and territories in managing and capitalising on population growth.

The Australian Government did not support the Plan's call for a national population policy, indicating that its five-yearly *Intergenerational Report* already examines demographic trends across the population. While the *Intergenerational Report* provides a national view of demographic trends, a spatial forecast is still required, especially to support long-term infrastructure investment.

Most major urban infrastructure projects assessed by Infrastructure Australia are sensitive to projections of population growth. Incorrect projections of population growth impact on the costs, benefits and optimal timing of major projects.



Future-proofing

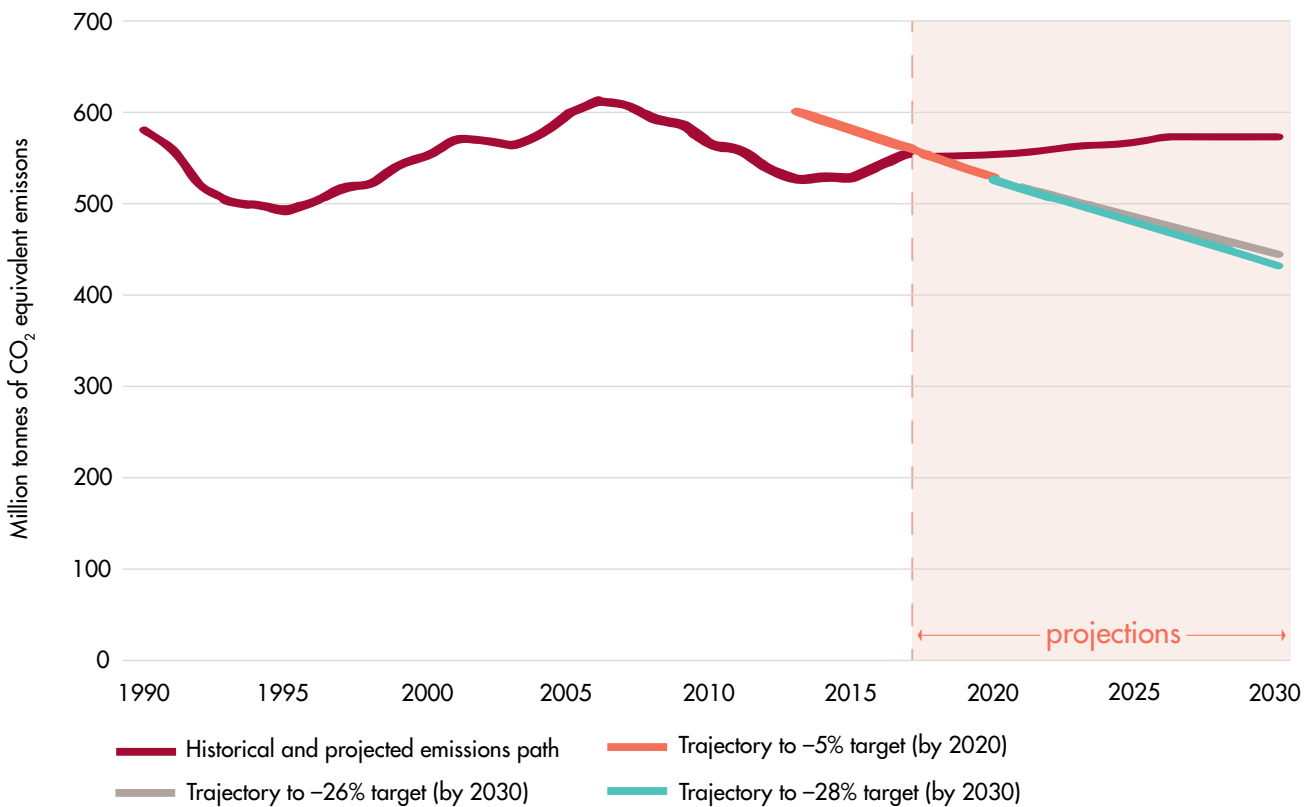
Transport will become our second biggest carbon emitter

In order to deliver on the Australian Government’s international commitments to deliver carbon equivalent emissions reductions, the *Australian Infrastructure Plan* recommended the energy and transport sectors deliver emissions reductions to meet those commitments.

The most recent carbon emissions data published by the Department of Environment and Energy, *Australian Emissions Projections 2017*, shows the scale of the overall task required to meet Australia’s 26–28% reduction target (against 2005 levels by 2030).

Figure 6 shows the historical and projected emissions trend for Australia, and the size of the reduction required over the next 13 years.

Figure 6: Australia’s emissions path to 2030, and Australia’s international commitments



Source: Department of Environment and Energy³²

The path to the 26–28% target diverges sharply from the current projection, indicating that Australia requires additional policy interventions sooner rather than later to meet this target.

Individually, the energy and transport sectors stand out as highly significant contributors to Australia’s carbon emissions profile. **Table 1** shows electricity is the main source of Australia’s emissions, and it will remain so to 2030 – but it is expected to fall in absolute terms, despite

population growth. Between 2017 and 2030, electricity is projected to fall from 34.3% of total emissions to 30.4%.

Transport will displace direct combustion as the second largest source of emissions between 2020 and 2030 through absolute growth. Between 2017 and 2030, transport is projected to rise from 17.3% of total emissions to 19.6%. The forecast rises in emissions from freight and aviation are broadly in line with this growth, with a stagnant emissions output from the small vehicle fleet.

Table 1: Emissions by sector, Australia, actual and projected, selected years

Sector	Emissions (Mt CO ₂ equivalent)				
	2000	2005	2017	2020 projection	2030 projection
Electricity	175	197	190	175	173
Direct combustion	75	82	97	105	103
Transport	74	82	96	101	112
Fugitives	40	39	49	51	53
Industrial processes and product use	27	32	34	34	32
Agriculture	78	76	72	75	82
Waste	16	14	11	10	10
Land use, land use change and forestry	66	76	5	-1	4
Total	551	598	554	550	569

Note: Totals may not sum, due to rounding

Source: Department of Environment and Energy³³

How emissions are regulated matters to future decision making around energy and transport infrastructure, as competing major investment options have very different emissions profiles – ranging from near zero to significant.

In recent years, the major focus on further emissions reductions has centred on plans for the electricity sector, and less so on transport. The emissions reduction task for transport will be dependent on a range of local and international factors. These include overall freight and city network efficiency, vehicle standards, Australian fuel standards and aviation efficiency.

Next steps

Infrastructure Australia is required to produce an updated *Australian Infrastructure Plan* every five years, with the next Plan due in 2021. Until then, we will continue to evaluate the progress of reforms recommended in the 2016 Plan.

A key input to the next Plan will be an updated evidence base in the form of the *Australian Infrastructure Audit*. Due to be delivered in 2019, the Audit will assesses the state of Australia's key infrastructure sectors and the ability of each to meet our future needs.

In the meantime, Infrastructure Australia will continue to advocate for infrastructure reform, and work with governments, business and the community to encourage delivery of those reforms. We will engage in the reform process through research, engagement and advocacy, while maintaining an ongoing public dialogue about the infrastructure people want, the outcomes it should deliver and the best ways to plan and pay for it.

Infrastructure Australia recommends that the Australian Government consider introducing a new incentive-based approach to funding infrastructure that links federal infrastructure funding to the delivery of nationally significant reform outcomes by the states and territories.

The National Competition Policy and Asset Recycling Initiative demonstrated Australia's success in using incentive payments to bring about nationally significant reform outcomes. The potential benefits of a renewed incentive-based funding approach to reform are discussed in full in Infrastructure Australia's recent Reform Series paper *Making Reform Happen*.



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Prioritising Reform
Progress on the 2016
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