



Australian Government
Department of Foreign Affairs and Trade



Strategy for Australia's Aid Investments in Economic Infrastructure

July 2015

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Cover images left to right:

Member of a road works team repairs a road on the main island of Tongatapu, Tonga. Photo: DFAT.

Opening of the My Thuan Bridge, Vietnam. Photo: DFAT

Children walking along road in Guimaras Province, the Philippines. Photo: Provincial Road Management Facility

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Executive Summary

Infrastructure is critical to sustainable economic growth and poverty reduction. It enables the movement of people and goods and provides access to local and global markets, as well as health, education, water, energy and communications services. It underpins private sector and human development. Without adequate infrastructure, countries are unable to fulfil their economic potential and the benefits of growth are not spread to poorer and more remote areas. Infrastructure is central to the Government's trade and foreign policy goals, as well as its domestic agenda.

In Asia, rapid economic growth has placed severe pressure on infrastructure. The inadequacies of Asia's infrastructure networks are now a constraint to further development and an obstacle to poverty reduction. In the Pacific, the remoteness of island countries presents challenges for development, many of which can be addressed by improving infrastructure.

An estimated US\$750 billion per annum of infrastructure investment is required in Asia and the Pacific over the next decade to sustain growth at current levels. Our contribution to infrastructure development is modest by comparison, amounting to less than 0.3 per cent of the annual infrastructure expenditure of developing countries in our region. We will need to be innovative and focus our resources on transformational programs if we are to make a significant contribution to infrastructure development in the region.

This Strategy is aligned with the aid policy – *Australian Aid: Promoting Prosperity, Reducing Poverty, Ensuring Stability* – which prioritises increasing investment in infrastructure as part of the strategic target of the aid program to increase aid for trade expenditure to 20 per cent of ODA by 2020. It covers transport, energy, large-scale water and sanitation, and ICT infrastructure investments and provides guidance to support the Government's development, economic diplomacy and trade priorities.

The Strategy provides guidance to program areas making investment decisions on infrastructure development and identifies priority investments that address the primary challenges of the region and align with the Government's objectives. These priorities are to:

- 1) mobilise the private sector to finance and deliver infrastructure to meet the needs of the region;
- 2) improve access to infrastructure services to facilitate private sector and human development and promote women's participation and empowerment; and
- 3) promote infrastructure to enhance trade and connectivity throughout the region.

The Strategy outlines a number of approaches to infrastructure delivery to assist program officers in making investment decisions in the infrastructure sector.

The Strategy also provides a brief outline of some of the risks inherent in infrastructure development that program managers will need to effectively mitigate, such as environmental, social, corruption, and sovereign risks specific to developing countries. Finally, this Strategy outlines some of the cross-cutting issues such as, gender equality, governance, disaster and climate resilience and risk reduction, disability inclusiveness, fragility and conflict, and safety which must be appropriately considered in the planning, design and implementation of infrastructure projects.

Purpose

The purpose of the Economic Infrastructure Development Strategy (the Strategy) is to provide guidance to the Department on priority investments in the infrastructure sector that support the Government's development, as well as diplomatic and trade priorities. The Strategy aligns with the aid policy – *Australian Aid: Promoting Prosperity, Reducing Poverty, Ensuring Stability* – which identifies infrastructure along with trade facilitation and international competitiveness as one of the six priority areas for the aid program. The aid policy prioritises infrastructure investment as part of the strategic target of the aid program to increase aid for trade expenditure to 20 per cent of ODA by 2020.

The Strategy briefly discusses the context in which infrastructure development takes place in the Indo-Pacific region and outlines priorities for the aid program in response. In addition, this Strategy outlines the approaches to infrastructure delivery most relevant to the aid program and a number of cross-cutting issues that need to be addressed by program managers.

Scope

The Strategy covers transport, energy, large-scale water and sanitation, and information and communications technology (ICT) infrastructure while excluding social infrastructure such as health and education facilities. Other DFAT sectoral strategies addressing infrastructure include: aid for trade; private sector development; agriculture, fisheries and water; health; and education.



Bridge over the Kumusi River in Oro Province, Papua New Guinea. Photo: Michael Foster

Context

Infrastructure is critical to sustainable economic growth and poverty reduction. It underpins supply chains, facilitates innovation, expands markets, enhances competitiveness and improves the efficiency and utility of social infrastructure. Effective infrastructure attracts commercial investment by streamlining production processes, reducing costs and improving access to labour and materials. Infrastructure reduces poverty by connecting poor people to vital services such as clean water,

sanitation, energy, health and education facilities, markets and employment opportunities. Infrastructure also contributes to economic growth by increasing women's economic activity. By integrating gender equality into economic infrastructure development, the contribution to economic growth is increased.

In Asia, home to more than half the world's population including most of the world's poor, strong economic growth over recent decades has placed pressure on existing infrastructure, constraining future growth and slowing progress in reducing poverty. The Pacific Island Countries, in contrast, cover around 15 per cent of the world's surface with around 0.1 per cent of the population. Small domestic markets, limited resource bases, and great distances from major markets pose enduring challenges for economic and human development throughout the region. Infrastructure development is a necessary component to meet all of these challenges.

To meet growing demand for services and facilitate further rapid growth in the Asia-Pacific region, the Asian Development Bank (ADB) estimates that around US\$750 billion a year in infrastructure investment is required over the next decade¹. Thus far the emerging markets of the region have been unable to attract the private finance necessary to meet this need.

Infrastructure plays a key role in furthering our foreign policy and trade goals. Where infrastructure helps to create economic linkages between countries, it helps to integrate countries in a way that encourages and rewards peace and cooperation. Australia's interest in the long-term stability and prosperity of our region requires broad access to economic opportunities and social services. Infrastructure is a key part of facilitating this. Infrastructure is a key priority for many of our partners in the region and many other forums such as the G20, East Asia Summit, Asia-Pacific Economic Cooperation (APEC), and Association of South-East Asian Nations (ASEAN). Where infrastructure is a key stated priority of a partner country or forum, supporting infrastructure can also increase our influence, and ability to pursue our other interests.

DFAT's contribution to regional infrastructure development is modest. In 2013-14, DFAT invested around \$425 million in economic infrastructure, which is less than 0.3 per cent of total infrastructure expenditure per annum in developing countries in the Asia Pacific region². However, while modest, our aid investments can and should be innovative and transformational, making a valuable contribution to infrastructure development in the region.

Australia's regional infrastructure expenditure in 2013-14 was around 8 per cent of the total aid budget. Of this 69 per cent was invested in transport, 12 per cent in energy, 8 per cent in large-scale water and sanitation, 9 per cent in urban development and 1 per cent in communications. Approximately 65 percent was delivered bilaterally and regionally, with the remainder delivered through global programs mostly administered by multilateral development banks (MDBs). The bilateral and regional support was provided in a range of ways including through managing contractors, MDBs, non-government organisations and by our partner governments.

Meeting the Government's target to increase aid for trade expenditure to 20 per cent of ODA by 2020 will require a modest sustained increase in annual infrastructure investment (particularly if other sectors are reduced). Aid for trade expenditure was 13.5 per cent of ODA in 2013-14 and is projected to be 14.7 per cent in 2014-15.

1 BN Bhattacharyay, ADB, 'Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010-2020', 2009.

2 Oxford Economics estimates the annual spend in Infrastructure in Asia Pacific developing countries to be around USD 150 billion in 2013: PwC, 'Capital Project and Infrastructure Spending: Outlook to 2025', 2014.

Strategy Priorities

Australia's aid program will prioritise infrastructure investments that:

- 1) **mobilise the private sector to finance and deliver infrastructure** to meet the needs of the region;
- 2) **improve access to infrastructure services** to facilitate private sector and human development and promote women's participation and empowerment; and
- 3) promote infrastructure to **enhance trade and connectivity** throughout the region.

The following provides guidance to program areas on infrastructure investment options to meet these priorities. Appropriate investment options will depend on the context and circumstances of each country and region. While 80 percent of our investments go to capital works, in general, most of our activities facilitate and support infrastructure development (which involves lower costs). This includes technical assistance, capacity building, project preparation, policy and regulatory reform and promoting innovative approaches to infrastructure development. For most DFAT investments, infrastructure outcomes are a consequence of this support rather than construction of infrastructure. When we build infrastructure it is often to strengthen our relationship with partner governments to engage in policy dialogue on key infrastructure issues, demonstrate good practice, or help smaller economies to address key infrastructure gaps. We have supported, and should continue to support, a broad range of infrastructure (from small-scale village level projects to major trade enabling infrastructure in multiple sectors). The sectors and types of infrastructure we choose should be based on local needs and the contribution made to the above priorities. Our investment choices should also leverage support, for example, from partner governments and the private sector, and contribute to addressing infrastructure needs at scale.

In Asia, due to its size and population density, the priority may be to facilitate the construction of large scale infrastructure by providing technical assistance for project preparation and regulatory reform. Less priority will be given to financing the building of infrastructure. We may build some infrastructure to strengthen policy dialogue and demonstrate good practice. We may choose to work with other implementing partners rather than working alone. In the Pacific, where populations are smaller and more dispersed and where Australia is the largest bilateral donor, we may need to provide both policy advice and offer assistance with construction of key economic infrastructure and address key institutional strengthening needs.

Investment choices will depend on issues such as partner government priorities and absorptive capacity, our past and current investments, activities of other donors, the existing state of infrastructure, geography, and structure of the economy. Analysis is required to determine which investments address critical infrastructure gaps and represent best value for money. Careful analysis is also needed to ensure our investments can support women's participation and empowerment and to avoid negative impacts from our work.

For more information on how these priorities and DFAT investments contribute to the aid program goals of economic growth and poverty reduction see Appendix A – Economic Infrastructure Development Strategy Theory of Change.

Priority 1: Mobilise the Private Sector to Finance and Deliver Infrastructure

Financing the US\$750 billion per annum required to meet the infrastructure needs of developing countries in Asia and the Pacific is a formidable challenge. Governments and donors cannot meet this need on their own. Infrastructure investment opportunities are plentiful across the region, however, emerging economies have been unable to attract the private finance necessary to meet this need.

Attracting investors to infrastructure projects is difficult due to the inherent complexity and the risks involved. The political, regulatory, judicial and institutional uncertainty that characterises many developing countries in our region can deter investors, as can corruption. For example, collecting revenue from the public for toll roads can be politically sensitive and investors can be concerned that governments will not honour commitments to raise or increase tolls. Governments in the region often do not have the capacity to prepare quality infrastructure projects leading to a shortage of adequately prepared, 'bankable' projects even where needs and potential returns are great.

The private sector can contribute to improving the development and delivery of infrastructure. Many countries in the region lack capacity to deliver infrastructure services. Private sector participation in delivery can bring innovation, new technologies, experience, and improved efficiency and management.

The aid program can focus more on investments that facilitate private sector participation in infrastructure development. Priority engagements for the Government such as ASEAN, APEC and the G20 share infrastructure financing as a key objective and provide opportunities for investment or collaboration.

A key avenue for attracting private financing and participation in the delivery of infrastructure in the region is the development of Public Private Partnerships (PPPs). PPP projects involve contractual agreements between governments and the private sector to design, build, operate, maintain and/or finance infrastructure. If designed and implemented well, PPPs have the potential to improve infrastructure delivery. PPPs, however, are highly complex and involve inherent risks which can impact on the economic viability of a project. Program areas should seek to partner with organisations with the expertise and experience to add value to PPP transactions, such as MDBs.

The aid program can improve the pipeline of 'bankable' projects ready for investment and improve the investment climate for private investors. Activities may include:

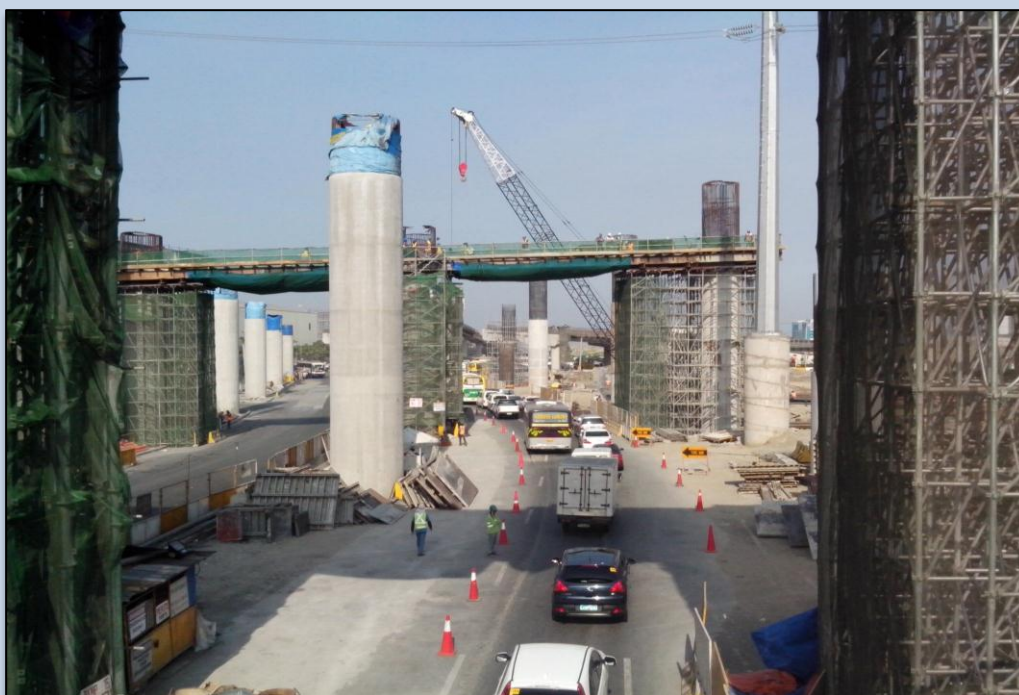
- › assisting with project preparation through financing feasibility studies, developing tender documents and supporting open and competitive procurement processes to generate a pipeline of attractive projects for investment.
- › improving the investment climate for infrastructure development by regulatory, legal and institutional reform. Examples of activities include project prioritisation and selection; contract management, and competition policy and oversight; and helping to mitigate risk.

While private sector participation in the financing and delivery of infrastructure can provide significant benefits, it is important that due diligence is applied to ensure value for money. Engaging the private sector is often complex (particularly with PPPs), can have high transaction costs, and governments that lack expertise can pay too much for the services provided. Proposals for private sector engagement should be guided by rigorous assessment of the costs and benefits over the entire project lifecycle. It is important to ensure there is transparency and competition associated with procurement and implementation. We can have a role in building capacity of partner government institutions and providing assistance with complex transactions.

Promoting PPPs in the Philippines

The Philippine PPP Centre is an example of successful collaboration between government, donors and the private sector. Australia has committed \$22 million to the centre, which has already helped develop over US\$1 billion worth of PPP road, school and health infrastructure projects. More projects (up to around US\$7 billion) are in the pipeline, representing a solid return on Australia's aid investment. Australia's, and other donors', support is complemented by Filipino Government contributions of around US\$44 million.

Australia works with the ADB, World Bank, International Finance Corporation and Canada to support project preparation and monitoring, capacity building, and institutional and regulatory reforms. These reforms, and the strong Filipino Government support, have been instrumental to the success of the program.



Construction of Ninoy Aquino International Airport Expressway, Manila, the Philippines.

Photo: Philippines Public Private Partnership Centre.

Priority 2: Improving Access to Infrastructure Services

Developing and maintaining infrastructure to promote economic development and enable access to life improving services is a key challenge for the region. It is estimated that 615 million people in the region have no access to basic electricity services³. In Asia and the Pacific, 360 million people lack access to adequate water while more than 1.7 billion people are living without basic sanitation facilities⁴. Inadequate access to transport networks in remote regions can exacerbate poverty by denying the poor social services. Reliable electricity is needed to run factories, businesses and services. Wide-reaching and dependable telecommunication networks enable the rapid and free flow of information.

³ IEA, 'World Energy Outlook', 2013.

⁴ UNESCAP, 'Statistical Yearbook for Asia and the Pacific', 2013.

Infrastructure plays a significant role in promoting gender equality and empowering women as women and girls tend to be disproportionately affected by distance to health and education services and markets. Improved access to water, sanitation, and electricity, also reduces women's burden of work and frees up their time for productive work, and enables girls as well as boys to spend more time at school and studying.

The unprecedented speed and scale of urban population growth provides another challenge to the region. It involves massive physical, economic and social change which is placing pressure on governments at all levels to plan, manage and finance urban development. Stress points include creating sustainable employment, securing food and water supplies, managing increasingly fragile environments, attracting sufficient infrastructure investment, and delivering housing, education and health services.

To date, Australia's bilateral infrastructure investments have focussed primarily on road transport. This will continue to be a priority, however, the aid policy requires us to explore opportunities in water, energy, communications and non-road transport infrastructure. Examples of areas we could support include maritime and aviation transport; energy generation and distribution (large scale as well as off grid systems in rural areas); and improving competition and regulation in the communications sector as we have in many countries in the region.



Building a road between Auki and Malu'u, Solomon Islands. Photo: DFAT

In Asia, key sectors will be urban development, and improving transport connectivity, primarily through technical assistance rather than capital investment. In the Pacific, we will continue to invest primarily in maintenance of core economic transport links (mainly roads and urban infrastructure). Our focus here will also include rehabilitation of, and resilience measures for, essential infrastructure damaged by natural disasters. Australia's assistance to modernise telecommunications in the Pacific will continue. Here the focus will be on ICT policy and regulatory reform necessary to support competitive market structures, increase equitable access to services and enable private sector-led investment in infrastructure and services such as new submarine cables to deliver faster internet connections. We will also continue support to strengthening the regulatory environment that enables expansion of access to

clean water and energy services as are essential to underpin economic and social activity. Here the focus will be on fostering increased private sector participation. This will be achieved by working with our development partners such as the ADB and may include support to privatise underperforming SOEs or promote deregulation of the sector.

Output-Based Aid

Output-based aid is an innovative approach to facilitate the delivery of infrastructure and social services to the poor. Performance-based subsidies bridge the gap between the cost of providing the service and the user's ability to pay. The delivery of the service is contracted to a public or private third party responsible for pre-financing the project. The subsidy is provided after delivery and independent verification of pre-agreed outputs.

In Indonesia, Australia worked with the Government to develop an output-based Water and Sanitation Hibah program. The program facilitated 77,000 water connections and around 5,000 sewerage connections to low-income households. Based on this success a second phase commenced in 2012 that will deliver an additional 330,000 water connections and 9,000 sewerage connections to low-income households by 2017.

The Hibah has resulted in cheaper, better quality water, time saved in accessing clean water, and improvements in the local environment. The Hibah also resulted in increased investment by local government in the sector.

To ensure that improvements in access to infrastructure services equally benefit women and men, gender issues need to be taken into account throughout all stages of infrastructure development. This can be done by ensuring early analysis includes assessing the different impacts and uses of infrastructure by men and women, to ensure investments maximise benefits, and minimise risks. It is important that women are empowered and well represented in decision making, planning, employment, and the economic and social benefits of infrastructure development. More information is provided in the section on gender equality below.

Given the significance of cities as drivers of economic growth and the number of poor people that dwell there, more investment is needed in urban areas. Options include investing in services for business and industry such as reliable electricity, water supply, treatment and drainage, urban planning, improving resilience to natural disasters and basic services for the poor. Transport systems can be upgraded to reduce congestion and make trade and travel more efficient.

Priority 3: Enhancing Trade and Connectivity

Enhancing connectivity through infrastructure, i.e. facilitating the movement of people, goods, services, knowledge and ideas within and across borders, is an important challenge for the Indo-Pacific region. Effective infrastructure investments can broaden markets and lead to greater opportunities for trade, business, investment and employment. It can also lead to better and more efficient allocation of resources, improving productivity and competitiveness. Trade-enabling infrastructure (such as airports, ports, and trans-boundary transport links) within the Asian and Pacific subregions is poor. The ADB estimates that improved trade-enabling transport infrastructure along with harmonisation of regulations to facilitate new trade would generate \$13 trillion in increased income for Asia over the next 10 years⁵. Improving trade-enabling infrastructure will also spread the benefits of growth and trade to poorer more remote areas.

⁵ ADB, Sustainable Transport for All, <http://www.adb.org/sectors/transport/overview>, Accessed: 1 December 2014

The aid program can help to improve connectivity throughout the region by facilitating a range of infrastructure development initiatives including improving supply chains between producers and consumers (e.g. connecting farmers to national and international markets); major transport connections such as arterial roads, railways and ports; and ICT that improves the efficiency of commerce, financial services and transport logistics. In the case of large-scale investments our approach will be to assist partner governments to develop infrastructure (e.g. project preparation and technical assistance). For smaller-scale investments, we may directly finance or build infrastructure.

Connectivity in the Mekong

Australia is investing \$160 million in the design and construction of the Cao Lanh Bridge in Vietnam as part of a major new road transport network in the Mekong. This will improve road access, reduce travel time, and remove the bottleneck caused by slow ferry operations. It will also enhance connectivity in the Greater Mekong Subregion from Ho Chi Minh City to the Southern Coastal Region and Vietnam's western provinces to the Cambodian and Thai highway networks. These areas are largely rural and poor and this development will bring economic opportunities to the region.

Australia is also providing support to help Cambodia, Laos, Burma and Vietnam become more integrated through improved cross-border management and transit procedures, and exchange of traffic rights. These investments aim to unlock the economic benefits of transport projects such as the Cao Lanh Bridge in Vietnam, through addressing policy and regulatory barriers to trade, as well as improving private sector trading capacity. These initiatives include safeguards activities such as income restoration, and HIV/AIDs and human trafficking awareness and prevention.



Construction of Cao Lanh Bridge. Photo: DFAT

Infrastructure Delivery

The following outlines some of the key issues and approaches to infrastructure development for the aid program.

Hard and Soft Infrastructure Support

Our infrastructure investments generally consist of both hard (building infrastructure) and soft (capacity building and technical assistance) support. Building infrastructure is generally highly regarded by both partner and Australian governments as it provides a tangible output which stands as a visible reminder of the investment. It is an entry point to strengthen our relationship with government counterparts to get a 'seat at the table' and engage in policy dialogue on infrastructure issues. It can also demonstrate good practice in infrastructure governance (e.g. appropriate maintenance, safeguards and road safety).

The flip side to this is that in most cases the scale of our infrastructure investment is small compared to the infrastructure needs of a country. In larger or more developed countries (e.g. Indonesia) our infrastructure investments are minor compared to the local infrastructure budget. Soft infrastructure can be transformational and make a more significant and sustainable difference than we could have gained through investing in construction. Examples include improving a partner government's ability to attract private investment or improving their capacity to maintain and deliver more cost effective infrastructure services. Our best use of resources is not necessarily providing capital for major infrastructure, such as ports or energy generation, rather supporting activities such as project preparation, safeguards, and leveraging public and private funding. An example is using technical assistance to promote competition in the telecommunications sector that can leverage private sector investment in infrastructure and improve service delivery (see case study below). Program areas should carefully consider the soft infrastructure needs of projects and the appropriate balance of soft and hard investments.

Telecommunication Reform

A good example of soft infrastructure investment is DFAT's support for telecommunications reform. The World Bank estimates that a 10 per cent increase in access to broadband and mobile communications in lower middle income countries results in an additional 0.8-1.4 per cent increase in GDP.⁶

In Indonesia, specialist advice was provided on the most transparent and economic way to award radio spectrum for 3G mobile telephony and internet services. This resulted in an auction from which government secured over \$700 million in revenue and one of the fastest roll-outs of 3G services in the world.

Similarly in Vanuatu, Australia helped to introduce private sector competition and independent regulation that expanded mobile coverage from 20 per cent to 85 per cent of the population from 2007 to 2009. The prices of handsets dropped from \$100 to \$25 and monthly internet access from \$200 to \$60.

Sustainable Infrastructure Delivery

Infrastructure development goes well beyond the construction phase. A full lifecycle approach needs to be taken. Infrastructure provides ongoing services (e.g. access to markets, provision of energy and water) that need to be maintained. A common failure in the region is the lack of allocation of resources

⁶ Kim, Kelly, & Raja, WB, 'Building broadband: Strategies and policies for the developing world', 2010.

and systems for the operation and maintenance of infrastructure. This can lead to an inefficient and unsustainable cycle of build–neglect–rebuild. A priority for our investments in infrastructure is to build capacity and encourage resourcing for operation and maintenance systems. In addition, technologies, materials, systems and approaches that are used should be within partner country’s ability to finance and maintain.

Partner Government Engagement

Engagement with partner governments, building capacity and strengthening institutions, is critical to infrastructure development. Effective public institutions are required to undertake proper planning, financing, procurement, contracting, regulation, and maintenance of infrastructure. Partner government engagement should also consider building capacity for risk management (e.g. environmental, social, and fiduciary risks) and addressing cross-cutting issues (e.g. gender equality, disaster risk reduction and safety). These processes are central to governments achieving value for money for their infrastructure investments. One approach to encourage systems strengthening is to channel funding for infrastructure investments through partner government public financial management systems. However, program managers considering this approach must undertake assessments of those systems to ensure that any risks are identified and appropriate mitigation measures are incorporated into the program design. This will inform program implementation arrangements to improve the longer-term sustainability of program outcomes.

While increased volume and efficiency of public sector investment is needed, private investment to address infrastructure financing gaps is also important. Assisting partner governments to develop an enabling environment that supports and regulates private sector investment in infrastructure can help to encourage this private sector investment.

Private Sector Engagement

The aid policy requires all new investments to explore innovative ways to engage the private sector in achieving development outcomes. In infrastructure development, the private sector should be engaged at a number of levels. Infrastructure investment supports private sector development, which in turn supports growth in employment and incomes. Engagement with the private sector at the investment concept and design stages will help identify major obstacles to private sector growth and prioritise investments. As discussed earlier in this Strategy, private investment as a means for planning, financing, delivering, maintaining or operating infrastructure should be considered.

Multilateral Development Banks (MDBs)

MDBs remain important for us in infrastructure development. MDBs use financial instruments and expertise that we do not currently have. They have experience in major infrastructure investments and have a comparative advantage and specialist expertise in areas such as private sector engagement, trade-related infrastructure, regional connectivity, urban development, energy and ICT, which can be utilised effectively in certain circumstances. The MDBs operate and support global and regional programs which work to address transnational issues and coordinate stakeholder engagement where many parties are involved. Investments in these programs can provide financing instruments, expertise, legitimacy and scale unachievable through a bilateral investment. Moreover, investments in these programs can be at the forefront of innovation in the infrastructure sector. Finally, financing MDBs allows us to maintain a more consistent expenditure profile given the variability of bilateral infrastructure expenditure.

Other Implementation Partners

Many regional and global organisations that we engage with (such as APEC, ASEAN and the G20) have regional and global connectivity agendas that Australia actively supports. Working with these groups is

one way our aid program can contribute to our broader foreign policy and trade objectives. These forums prioritise private sector participation in infrastructure that strongly aligns with priorities for the aid program. Many of our aid program activities already contribute to these forums. For example, Australia is supporting APEC to develop a network of PPP centres in the region through our support for the Philippines PPP centre and funding we are providing for a new centre in Jakarta.

Program areas could also pursue opportunities to partner with other like-minded donors, for example, the United Kingdom, United States, Canada and European donors that are operating in our region. These donors often share common agendas with us and prioritise infrastructure development that fosters economic growth, trade and business development. In recent times, the infrastructure sector has also attracted non-traditional donors to the region. China, for example, is strengthening its presence as a donor in our region by establishing the Asian Infrastructure Investment Bank. Partnering with non-traditional donors can increase the pool of donor funds in the region and ensure that non-traditional donors adopt good donor practices. It is critically important that program areas carefully assess the risks involved, particularly where there are differences in approach.

Loans and Other Financial Instruments

Loans, guarantees and other financing instruments are commonly used in infrastructure development. They can provide the magnitude of funds needed for large scale infrastructure investments and can enhance partner government commitment to infrastructure projects. The Department has provided one loan in the past (Eastern Indonesian Road Improvement Project) and is actively considering the use of further loans and other financial instruments reflecting the aid policy focus on innovation and working with the private sector.

Risk Management

Infrastructure development carries a number of risks that must be actively managed. They can range from cost overruns and delays to increasing the prevalence of HIV/AIDs and human trafficking. The likelihood of risks occurring can be minimised with appropriate management throughout the project life cycle. Upfront planning is critical, and is about shaping the risk profile so that it can be managed during implementation.

Given that infrastructure programs take a long time to prepare and are often delayed, planning and design should commence as early as possible to avoid the risk of expenditure shortfalls in the future aid program pipeline.

Environmental Risks

Infrastructure projects typically involve environmental risks. The environment is integral to economic prosperity accounting for 30 per cent of the wealth of least developed countries⁷. Between 50 and 90 per cent of the needs of the poor are derived from natural resources⁸. DFAT's Environmental Protection Policy outlines steps which must be taken in managing environmental impacts. All aid projects are legally required to comply with local environmental regulations and the Australian Environment Protection and Biodiversity Conservation Act (1999).

Social Risks

The risks of adverse social impacts from infrastructure development should not be underestimated. Involuntary resettlement resulting from physical or economic displacement of people to clear the site for infrastructure development has proven to be a high risk in aid program activities. In developing countries, projects that displace people can lead to long-term hardship and impoverishment unless

⁷ World Bank, 'Natural Capital Accounting', 2012.

⁸ TEEB, 'The Economics of Ecosystems and Biodiversity', 2010.

mitigating measures are effectively implemented. Resettlement requires detailed early planning, adequate resourcing and close supervision, including follow-up with displaced people. The Department must remain actively involved with the resettlement process and ensure that partners, including MDBs, deliver against commitments and achieve appropriate outcomes for the people we displace. DFAT's policy on involuntary resettlement outlines requirements for managing the resettlement process and includes our requirements for partner governments and implementing partners.

Child Protection Risks

Infrastructure projects have the potential to expose children to increased risks of child labour or trafficking and sexual exploitation. Large projects often attract a temporary, sizeable and mainly male workforce. These projects, including trucking corridors in and out of a project, can attract child traffickers and sex offenders. While it is not possible to eliminate all risks of child exploitation and abuse, careful management can reduce the risks to children that may be associated with aid activities. DFAT's Child Protection Policy outlines the key compliance standards and mandatory reporting requirements that apply to departmental staff and contractors.

Safety Risks

Safety should be at the forefront of all DFAT infrastructure investments. Of the approximately 1.2 million people killed in road traffic accidents in the world each year, over 90 per cent occur in low and middle-income countries with 60 per cent being in Asia⁹. Including safety at the design stage delivers better outcomes than retrofitting safety measures. All DFAT infrastructure programs should undertake safety assessments to minimise negative impacts for affected populations and to help manage the risks from our aid investments. Priority will be given to safer road design with all of our road programs implementing road safety plans for all roads we support.



Safety signage outside school in Indonesia. Photo: DFAT

⁹ ADB, 'Road Safety Action Plan', 2012.

Corruption Risks

The infrastructure sector is prone to corruption with the construction industry consistently ranked as the most corrupt sector globally. Transparency International estimates the costs of corruption at between 10 and 30 per cent of investment in public infrastructure¹⁰. The impact of corruption can include increasing the cost of infrastructure, poor quality (e.g. deaths from natural disasters are often worse in corrupt societies due to unsafe infrastructure), and discouraging investment by the private sector. Program areas must ensure that fraud and corruption risks are properly managed through effective risk mitigation strategies and adequate resourcing. DFAT's Aid Programming Guide outlines the necessary detection and prevention strategies that are required throughout the aid management cycle including the requirement to implement a Fraud Control and Anti-corruption Plan.

Cross-cutting Issues

The following issues should be appropriately considered in the planning, design and implementation of infrastructure projects.

Gender Equality

The aid policy sets the empowerment of women and girls as a priority and has a target of more than 80 per cent of investments effectively addressing gender issues. Approaches that program areas should consider to advance gender equality include:

- › undertaking early analysis of gender issues at the design stage of programs;
- › ensuring women are well represented in leadership roles, decision making, planning, and employment (with wage equality) during construction;
- › ensuring women receive the economic benefits of infrastructure development (e.g. building markets as part of road construction);
- › adopting construction principles such as safety for women who will be using infrastructure (e.g. safe market places and pedestrian access on roads);
- › bringing Australia's experience with equal employment opportunity to government capacity building and institutional strengthening programs;
- › adopting zero-tolerance to violence against women and girls in all our programs; and
- › engaging with partner governments and implementing partners to ensure they develop the capacity to promote women's empowerment and gender equality.

Having a gender advisor responsible for guiding the implementation of a gender equality plan will result in better gender outcomes. Contracts should also have gender deliverables and the terms of reference of the program staff, in particular the team leader, should include responsibilities related to gender equality. As well as contractors, other implementation partners have not performed well in integrating gender equality into infrastructure programs and DFAT should be a firm and persistent partner in ensuring their programs are gender sensitive. Further information can be found in DFAT's Gender Equality and Women's Empowerment Strategy.

¹⁰ Transparency International, 'Global Corruption Report', 2005.

Gender Equality – Road Development in Timor–Leste

Roads for Development (R4D) is a \$30 million program aimed at rehabilitating and maintaining rural roads in Timor–Leste. It contributes to economic growth and poverty reduction by connecting coffee and other productive areas to the country’s broader road network.

Gender is given a high priority in R4D’s objectives. It aims for 50 per cent for women’s participation in employment by 2016 and has achieved its minimum benchmark of 30 per cent. Nine (15 per cent) female–owned companies have been contracted. R4D has piloted innovative approaches to address constraints to women’s participation in the program such as trialling childcare arrangements for women wishing to work as labourers, integrating gender equality issues into the technical training course for road contractors, ensuring women fully participate in village meetings, and supporting female-owned companies to actively tender for work under the program.



Women workers from a local community undertaking R4D rural road rehabilitation work in Lianai-Grotu road in Manufahi, Timor-Leste. Photo: Horacio dos Santos Barreto

Governance

Effective governance is critical to the delivery of infrastructure services. Effective public institutions are important for enabling proper planning, budgeting, procurement, oversight and asset management. Government also plays a key role in the regulatory environment for private sector engagement. Poor management of these issues may lead to inefficient allocation of resources, postponement of reforms, and poor value for money and quality of infrastructure. Infrastructure development is often subject to private agendas and corruption, for example, with decisions and transactions aimed to influence political outcomes, or benefit particular interest groups or individuals. Political economy issues in particular country contexts need to be taken into account when designing and implementing our interventions. More information is provided in DFAT’s Governance Strategy and Aid Programming Guide.

Disaster and Climate Resilience and Risk Reduction

Appropriate infrastructure development is important for building resilience to the risks and impact of disasters and climate change. The Indo-Pacific region is one of the most disaster prone regions in the world. Poor planning and infrastructure development have exposed people to increased disaster risk, particularly in urban and peri-urban areas. Climate change resulting from increased greenhouse gas concentrations in the atmosphere (e.g. changes in weather patterns, increased intensity and frequency of storms, fires, floods and droughts) has the potential to significantly impact on infrastructure.

Infrastructure development should take into account and respond to these potential impacts. This can include sound land use planning, improving building regulations and compliance mechanisms, relocating infrastructure to less vulnerable locations and building infrastructure that is more resilient (e.g. roads with better drainage, water supply and drainage systems that manage more variable precipitation). Disaster resilient technology should be demonstrated where appropriate.

Assessments of potential impacts from climate change and actions to mitigate and adapt to these impacts should be undertaken for all DFAT infrastructure investments. Further information can be found in DFAT's *Climate Resilient Infrastructure – Guidance Document*.



New roads in South Tarawa are more resilient to rising sea levels and tidal flows. Photo: DFAT.

Disability Inclusiveness

In developing countries, people living with disabilities are disproportionately represented among the most disadvantaged. Inclusive design in infrastructure can empower people living with disabilities to lift themselves out of poverty by enabling employment and access to services. Ensuring people living with disabilities are active participants in planning infrastructure is central to ensuring inclusive design. All infrastructure funded under the aid program should be designed in accordance with DFAT's *Accessibility Design Guide: Universal Design Principles for Australia's Aid Program*.

Fragility and Conflict

In conflict affected and fragile states, infrastructure is often run down and damaged. It is often a high priority of governments and offers the possibility of delivering significant humanitarian and

development outcomes. Infrastructure development can create employment for ex-combatants and deliver peace dividends for marginalised groups through providing access to markets and services. Infrastructure development in these environments, however, carries heightened risks that need to be managed. Elevated levels of corruption and security concerns can make infrastructure development more difficult and expensive in unstable environments. Governance and institutional capacity is typically weak, making provision of sustainable infrastructure services more challenging. There is a risk of large scale infrastructure development creating unmanageable government debt and recurrent costs that may exacerbate fragility. The asset or construction process may be appropriated by one faction in the conflict, aligning the Australian Government with that faction by inference.

Resources

DFAT is prioritising infrastructure investment as part of the strategic target of the aid program to increase aid for trade expenditure to 20 per cent of ODA by 2020. Aid for trade, as defined by the OECD, includes economic infrastructure (i.e. transport, energy and communications infrastructure). It excludes urban development, community-driven development, water and sanitation infrastructure, and health and education facilities. In 2013-14 economic infrastructure was 52 per cent of aid for trade expenditure.

Given the modest contribution bilateral infrastructure development makes to the total aid program (less than four per cent) the Department does not retain expertise with the full range of skills required for our infrastructure portfolio. Program areas will typically need to design and resource infrastructure projects to be self-sufficient. DFAT retains some infrastructure specialists in Canberra who can provide support to program areas. For assistance contact infrastructure@dfat.gov.au.

Performance

DFAT will monitor the overall performance of the aid program in maximising development outcomes from our economic infrastructure portfolio. We will assess the breadth, depth and effectiveness of our work in this priority area across the aid program, identifying lessons learned and examples of good practice. This assessment will be guided by the following key evaluative questions which relate to this Strategy's priorities:

- › To what extent have our development investments in economic infrastructure leveraged private sector investment and participation in infrastructure?
- › To what extent have our development investments in economic infrastructure improved services to the private sector?
- › To what extent have our development investments in economic infrastructure contributed to human development?
- › To what extent has women's participation and empowerment been advanced by our development investments in economic infrastructure?
- › To what extent have our development investments in economic infrastructure improved access to markets and trade networks?
- › To what extent have our development investments in economic infrastructure contributed to the high-level targets in the Australian aid program's performance framework?
- › To what extent are our individual program investments in economic infrastructure being effectively and efficiently implemented and achieving their intended impacts?

The performance of the aid program's overall portfolio of investments in economic infrastructure will be reviewed regularly. The outcome of this review will be publicly reported in the annual Performance of

Australian Aid report. To inform this assessment, we will collect and analyse information from a number of sources including:

- › Aggregate Development Results (ADRs) to deliver a high-level quantitative analysis across the economic infrastructure portfolio
- › Aid Quality Checks (AQC) of country and regional aid investments to understand progress, achievements and trends across the portfolio.
- › Annual Program Performance Reports (APPRs) to assess economic infrastructure strategies and investments in country and regional programs.
- › Data on economic infrastructure performance indicators collected through investment-level monitoring and evaluation frameworks, and through external, independent assessments.
- › Data on funding of economic infrastructure investments and how and where this is being spent.
- › Case studies on good practice in economic infrastructure programs.
- › Relevant experience from pilots and innovative approaches.

In depth reviews and analysis of emerging trends and opportunities will inform future investment decisions and Aid Investment Plans.

A Performance Assessment Note (PAN) will provide a range of indicators and evaluative questions for program areas to draw from in designing economic infrastructure investments and associated monitoring and evaluation frameworks. The PAN will draw on international experience and consultation with DFAT program areas. The PAN will highlight that program areas should:

- › Pick indicators that suit the context and program. Choice of indicators will be informed by the nature of the problem the investment is seeking to address, what solutions have been identified, and what data can feasibly be collected.
- › Combine quantitative and qualitative data.
- › Disaggregate data where practicable, including by gender and by disability.
- › Build in feedback loops. Ongoing testing of assumptions and feeding back lessons to inform and, if necessary, adjust investments, will help ensure intermediate changes support long-term results.

APPENDIX A

ECONOMIC INFRASTRUCTURE DEVELOPMENT STRATEGY THEORY OF CHANGE

The Australian aid policy focuses on enabling economic growth and poverty reduction through supporting private sector development and human development. It prioritises increasing investment in infrastructure as part of the strategic target of the aid program. Improved economic infrastructure can enable greater connectivity between businesses, which improves economic integration and growth. Improved infrastructure may also ensure that households, including women and girls, and businesses can access the services they need more easily to enhance productivity and wellbeing.

For these improvements to be realised, DFAT will facilitate greater involvement of the private sector in infrastructure development—both as investor, and as a partner in delivery. DFAT will also strengthen partner governments’ oversight capability to more efficiently plan, contract, regulate, maintain and finance infrastructure assets. To ensure the benefits of infrastructure investments endure and are equitable, DFAT will also support partner governments and the private sector to appropriately manage social and environmental risks and crosscutting issues. The theory of change recognises that for most DFAT investments, infrastructure outcomes can be conceived as a consequence of improving partner government and private sector capacity, not the direct deliverables of DFAT investments per se.

