

Integrate infrastructure,
land use and service
planning

10



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Strategic directions

- ▶ Coordinate infrastructure, land use and service planning to meet future housing, employment, industry and community needs
 - ▶ Increase private sector participation in the delivery of government-led precincts
 - ▶ Regularly update planning regulation and land use controls to reflect current circumstances
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The simultaneous release of the *2018 State Infrastructure Strategy (SIS)*, *20-year Greater Sydney Regional Plan* and *Future Transport 2056* in March 2018 was an important milestone for the NSW Government in better linking strategic land use planning with infrastructure planning. Coordinated strategic planning enables the NSW Government to ensure that jobs, services and housing growth are supported by the right infrastructure at the right time and in the right places.

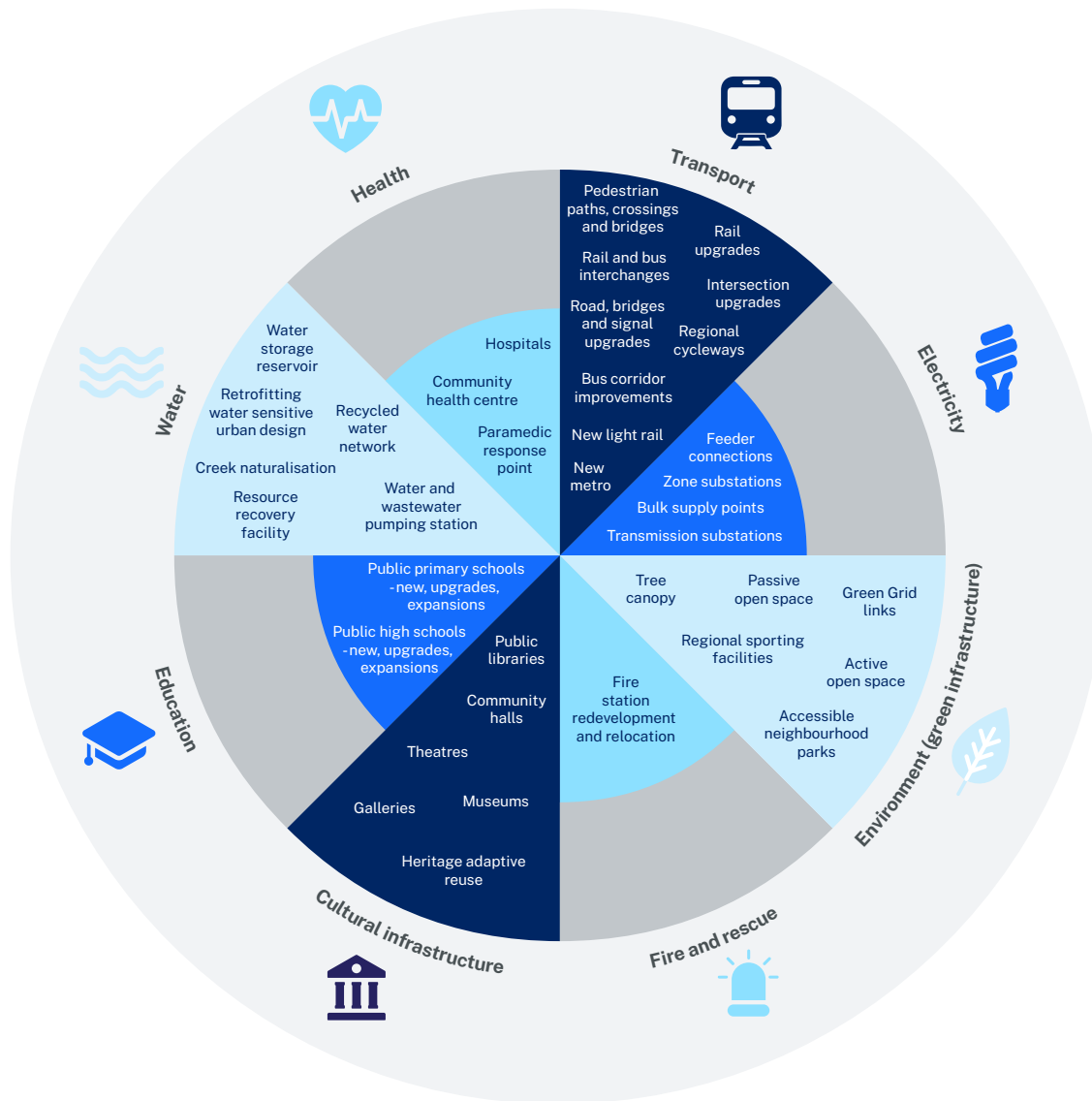
The 2018 SIS recommended piloting a ‘place-based’ approach to infrastructure and land use planning. The pilot was delivered through the Place-based Infrastructure Compact (PIC) and place-based Strategic Business Case for the Greater Parramatta and the Olympic Peninsula (GPOP) area. Many of the lessons from the pilot have been applied to assess the sequence and priority of infrastructure and land use needs for the Western Parkland City.

Lessons from the pilot have also informed the recent NSW Government’s *Precincts Strategy: Practitioner’s Guide*, which provides guidance and tools for agencies tasked with delivering better precinct outcomes.³⁴⁰

While the NSW Government has made progress in taking a place-based approach to integrated planning, there remain significant opportunities to refine, formalise and embed the practice more broadly. In preparing and delivering place-based plans, the NSW Government should seek to:

- ▶ optimise use of major infrastructure – such as passenger rail and stations – where there is capacity, to ensure assets and government services are utilised efficiently
- ▶ better coordinate prioritisation and sequencing of infrastructure and precincts delivery, in line with growth between and within identified new development areas and precincts
- ▶ leverage new precincts across NSW to enable wider adoption of digital technology and deliver circular economy, Net Zero emissions, resilience and liveability outcomes.

Figure 10.1 – Services supporting well-functioning cities and places



Source: Infrastructure NSW, based on Greater Sydney Commission (2019)

10.1 Optimise land use where infrastructure capacity exists

More than half of NSW's infrastructure program is committed to major transport projects. The NSW Government is increasingly focused on connecting people with jobs, services and amenity by planning for growth and development around public transport infrastructure, such as passenger rail stations, interchange hubs and freight routes.

Priority should be placed on using the capacity of the existing and planned transport network. The *NSW Productivity Commission White Paper 2021* notes that the existing transport network and planned investments hold development potential – for example:

- ▶ T4 Eastern Suburbs Line, which runs at substantial spare capacity in the morning peak
- ▶ Sydney Metro City and Southwest
- ▶ Sydney Metro Northwest (noting that housing development along the line has fallen short of expectations due to restrictions on housing density)
- ▶ near the Eastern Economic Corridor.³⁴¹

Higher productivity, such as reduced road congestion and shorter travel times, can be achieved by rezoning transport corridors to accommodate more housing. In doing so, appropriate standards for development are important to minimise adverse amenity impacts and risks of future land use conflicts.

Optimising existing networks saves costs by delaying the need for investment in new major public infrastructure and by driving higher patronage on public transport routes, which reduces subsidies. The pilot GPOP PIC analysis found that the cost of delivering infrastructure to support housing and jobs growth in areas with well-established infrastructure is lower than those with limited pre-existing infrastructure (see Box 10.1).³⁴²

The choices NSW citizens make about where they live and how they travel are influenced by convenient access and seamless connections between mobility modes, as well as first- and last-mile travel options. Good connections expand the radius of residential developments, increase housing supply and better connect people to jobs and services.

Box 10.1

Pilot Place-based Infrastructure Compact model and place-based Strategic Business Cases

The 2018 SIS recommended piloting a Place-based Infrastructure Compact (PIC) and place-based Strategic Business Case (SBC) for the Greater Parramatta Olympic Park (GPOP) area to guide NSW Government investment decisions around the sequencing and delivery of infrastructure to meet projected service demand (recommendations 1 and 2). At its core, the pilot GPOP PIC reaffirmed the need to:³⁴³

- ▶ understand the type, level and timing of infrastructure required for an area, based on capacity available from existing and planned infrastructure
- ▶ estimate the costs associated with providing necessary infrastructure to service the planned growth and identify who should be contributing to its funding
- ▶ sequence land use changes so that rezoning meets market demand but doesn't outpace the capacity of government and the market to fund and deliver services and infrastructure
- ▶ place greater focus on realising the potential of selected precincts before moving on to others
- ▶ align the investment and assurance process with land use planning.

In December 2020, the NSW Government responded to the recommendations of the Greater Sydney Commission (GSC) PIC model with a direction to the Department of Planning and Environment (DPE) and the GSC to prepare a guide to inform where and when a PIC should be employed in the future, as a PIC will not be appropriate in all circumstances and is ideally suited to places where there are complex, large-scale land use planning processes involving multiple agencies. Work is underway to assess the PIC model for scalable and transferable elements for smaller growth locations and precincts.

In addition, a Central River City Program Coordination Office has been established to oversee the delivery of the projects across the Central River City, including GPOP.

10.2 Corridor preservation and efficient planning rules

NSW's international gateways and economic corridors support the State's economic competitiveness, secure and generate employment opportunities, and sustain critical supply chains for the State's industries (see Chapter 3 for more). Industrial and urban services land zones that underpin these corridors enable economic activities that support businesses and consumers in the cities and regions of NSW.

Industrial and urban services land in some parts of Sydney is already highly limited, and in some instances economic activity is constrained due to encroachment from competing and incompatible uses, such as residential zones. Complaints about noise and pollution can lead to restrictions on land use activity, such as curfews.

There is strong competition for space from commercial, residential and mixed-use developers that seek proximity to Sydney Airport, Port Botany, the Sydney CBD and numerous existing health and education precincts. While residential, mixed use and commercial land uses must be supported and preserved in a service-oriented modern economy, ensuring adequate capacity for industrial and essential urban services is important to meet the needs of the growing population.³⁴⁴

The Sydney Airport and Port Botany facilities, both in highly settled areas of Sydney, serve the bulk of the State's freight needs which are projected to increase over the next 20 years.³⁴⁵ To manage this growing freight task, infrastructure and land use planning need to ensure the efficiency of freight corridors and that industrial and logistics activity is not compromised by the encroachment of incompatible land uses. This is particularly the case where there is scope to continue leveraging established major economic gateways.

This issue is acknowledged at a national level as well. The *National Freight and Supply Chain Strategy* developed by the Australian Transport and Infrastructure Council seeks to protect freight assets and networks from residential development encroachments in integrated land use and transport planning.³⁴⁶ This includes making sure that future freight corridors are identified and protected.

The Greater Sydney Commission's Industrial Lands Policy Review - December 2021 Review Update highlighted the value and need to secure industrial capacity to meet the State's industrial needs today and in the future, while also acknowledging that in some circumstances industrial lands could transition to alternative uses.³⁴⁷ The next update of the Greater Sydney Regional Plan should incorporate the need for industrial and urban services land at the Greater Sydney Region level, and consider the implications for statewide supply chain networks in the long term.

Ensuring land use controls keep pace with modern needs

The NSW Government has progressed planning reform initiatives to improve land use planning and infrastructure outcomes for communities and businesses.³⁴⁸ The planning system is established to balance and mitigate the impacts of land use on other parts of the community and that should, and will, remain the core focus of the system. However, efforts to review and reform outdated regulation and restrictions should remain a continuous priority of the Government as industry and community needs evolve.

State and local governments place restrictions at times on the use of infrastructure and surrounding land to balance competing interests. Such restrictions often remain in place for a long time, rarely being revisited for their efficacy.

One recent example is the range of planning rules that were eased temporarily during the COVID-19 pandemic. Restrictions on trading hours for businesses and supermarkets, and deliveries and non-trading activities on industrial lands, have long been believed to be necessary and have remained in place unchallenged. However, the temporary easing of these restrictions during the pandemic demonstrated the value and public benefit of retaining the eased restrictions permanently.³⁴⁹

Another example is the *Liquor Amendment (Night-time Economy) Act 2020* introduced in December 2020 to address the issue of planning consent and licence conditions unnecessarily limiting music and live performances at hospitality venues. The amendment was introduced to support the ability of local councils to facilitate a vibrant, safe and modern night-time economy.

In addition, the *Local Government Act 1993* was amended to allow councils to establish 'special entertainment precincts' within their local government areas. Where a special entertainment precinct has been approved and designated as part of local land use plans, consent authorities will be unable to refuse development consent based on noise caused by the playing or performance of music, if they are satisfied the noise can be managed and minimised to an acceptable level.³⁵⁰

In this regard, there is scope to review restrictions on some of the State's cultural infrastructure and sporting assets.^{351,352} Freight infrastructure assets, such as industrial estates and port terminals, also face ongoing operational restrictions due to government approval conditions that limit throughput and operational activity and efficiency.^{353,354,355}

The NSW Government should identify and review planning restrictions – both general and specific to certain locations and infrastructure – that may have outlived their initial purpose and are hindering the efficient use of public and private infrastructure and surrounding lands. The Government should progressively revise restrictions where the costs of these become disproportionate to the benefits.

Managing land use conflicts in regional NSW

A similar challenge exists in regional NSW where there is increasing awareness of land use conflicts involving agricultural operations. A 2021 report released by the NSW Agriculture Commissioner highlighted two main sources of conflict – increasingly intensive agricultural production practices and an expanding urban footprint to accommodate population growth in certain regional communities.³⁵⁶ The report outlines measures to improve planning outcomes for the agricultural sector while increasing certainty for nearby residents and communities through strategic and statutory planning levers, among others.

As regional communities grow, the potential for land use conflict will increase. Fragmentation of land parcels can diminish economies of scale, particularly where agricultural activity is involved. Strategic planning and future reforms to the planning system should do more to mitigate such conflicts and reduce the risk of infrastructure assets being stranded or underutilised.

Importantly, there are other land use conflict challenges in regional NSW that need to be balanced, beyond agricultural operations. The State's scarce water resources need to be managed effectively to ensure the economic growth of regions can be achieved without unduly compromising other outcomes, such as safe, secure and sustainable water supplies for communities and the protection of environmental assets, habitat and biodiversity (see Chapters 7 and 8 for more).

Map 10.1 – NSW major international gateways, freight routes and intermodal terminals



Source: Infrastructure NSW (2022)

10.3 Prioritise precincts and sequence investments in enabling infrastructure

The NSW Government has announced many new priority precincts since the 2018 SIS. A few of these precincts and other locations to support growth, such as GPOP, were highlighted in the 2018 SIS, Greater Sydney Regional Plan and *Future Transport 2056* (2018 SIS recommendations 1 and 2).

To deliver value for money and ensure infrastructure delivery is aligned with population growth and service demand, the NSW Government needs to prioritise and sequence investments.

Focus on a limited number of priority precincts

Sequencing and prioritisation of precincts and growth locations should consider the pace at which the market can absorb new development, including residential, industrial and commercial space, to avoid creating excess supply and under-utilised capacity for services and infrastructure.

This is true both at a precinct level, but also when planning for a growth location, and at a regional and/or district level, and between regions.³⁵⁷ It is neither feasible nor efficient to progress all identified 'precincts' simultaneously across NSW. Instead, the NSW Government should define and focus on a limited number of priority precincts in Greater Sydney for coordinated planning and

investment. For regional NSW, the focus should continue to be on the six Special Activation Precincts (SAPs) (see Box 3.3).

This is not to say that private proponents should be constrained from pursuing other initiatives if they see fit, but the NSW Government's commitment of funds should be targeted at those deemed to deliver the greatest public benefit.

A consistent approach to integrated planning, infrastructure and service delivery

The current situation presents an opportunity for the NSW Government to:

- ▶ **prioritise and sequence identified growth locations and precincts** based on the NSW Government's Common Planning Assumptions and services and infrastructure capacity analysis, so that the most viable and strategic precincts become the focus of government land use and infrastructure planning. This requires oversight by a coordinating agency to develop and apply a consistent framework for prioritising precincts while overseeing the implementation progress for selected precincts
- ▶ **prepare a servicing plan**, including staging and sequencing of investments to service incremental growth, as well as arrangements for contributions by developers and occupants for precincts identified as priority. This should leverage digital tools and collaboration approaches such as the NSW Spatial Digital Twin and related government land use and

property data for efficient coordinated planning outcomes

- ▶ **ensure State-based planning cascades to regional and local planning** – for instance, the Greater Cities Commission has engaged with local councils across Greater Sydney to ensure that District Plans and Local Strategic Planning Statements are aligned. This approach to improving strategic alignment is also relevant across regional NSW to ensure integrated delivery of services, infrastructure and land use planning. It should progress in line with identified priorities outlined in key strategic documents, including the 20-Year Economic Vision for Regional NSW and the Regional Economic Development Strategies (REDS)
- ▶ **establish governance for selected precincts** to coordinate different tiers of government, industry and community stakeholders. Examples of well-functioning governance structures to deliver precincts previously established by the NSW Government include:
 - Central River City Program Coordination Office to deliver outcomes for GPOP and the Central River City
 - Western Parkland City Authority, which brings together three tiers of government to collaborate with industry and community stakeholders

- the Greater Cities Commission, which is leading the delivery and coordination of four key innovation precincts in Greater Sydney
- Department of Regional NSW, which has collaborated with local councils to develop strategies for SAPs and Regional Job Precincts (RJPs).

Managing corridors preserved for the future

Long-term strategic planning includes protecting and, in some cases, acquiring land where future infrastructure needs are identified. Preservation of infrastructure corridors can potentially reduce the future cost of delivery and avoid community and environmental disruption if preserved corridors are managed effectively.

Planning and prioritisation of investments and land use decisions should consider corridor preservation needs, including funding mechanisms, over the long term. Equally important is effectively managing the value of reserved corridors in a staged manner until they are needed for infrastructure.

Both the acquired land and surrounding lands need to be considered to ensure the intended use for protected corridors is not compromised over time due to encroachment of conflicting uses of adjacent land, including residential development. As interim uses, corridors can provide temporary storage facilities and deliver early placemaking benefits or construction efficiencies.³⁵⁸

10.4 Leveraging opportunities presented by precincts

Planning at the precinct level provides opportunities for the NSW Government to achieve many of the objectives and strategic directions outlined in the 2022 SIS. This includes opportunities to:

- ▶ embed innovative and efficient approaches to reduce carbon emissions in the built environment
- ▶ adopt solutions that lead to more efficient use of water and reduction in waste
- ▶ build in the necessary levels of digital connectivity and speed to support future demands
- ▶ embed smart infrastructure, such as IoT sensors and digital billboards, into the urban fabric
- ▶ provide local amenity through open and recreational space
- ▶ plan, locate and deliver government services efficiently.

The greatest opportunities exist in State-significant government-led precincts. However, there are several challenges to overcome in order to fully leverage precincts.

Challenges to getting more out of precincts

The combination of infrastructure and property in precincts creates opportunities to deliver integrated solutions that surpass those developed in isolation. However, the complexity in precincts presents significant challenges, including conflicts between public objectives and private commercial interests. Some of these challenges stem from the:

- ▶ difficulty in reconciling innovation with government reference designs, parallel planning processes, challenging timeframes and meaningful engagement with developers, investors, contractors and occupiers
- ▶ ambiguity in criteria used for good design, such as adaptability, access, environment, connectivity, stewardship, identity and experience
- ▶ difficulty aligning government budget approvals and delivery with market demand and private sector commercial priorities
- ▶ complexity associated with developers combining teams with different risk profiles, capabilities and investment criteria; for example, infrastructure construction contractors and property developers. Consortia need time to form, resolve internal commercial risk allocation and develop proposals iteratively as proposals mature.

Box 10.2

Greater London Authority's *Opportunity Areas Planning Framework*³⁵⁹

Opportunity Areas are identified in the London Plan as significant locations with opportunities to accommodate new homes, jobs and infrastructure. They are generally linked to existing public transport plans and typically have capacity for at least 5000 new jobs and/or 2500 new homes. The Mayor of London is responsible for designating these places.

The *Opportunity Areas Planning Framework* sets out minimum targets for new jobs and housing that should be accommodated in these areas, alongside a set of minimum environmental, affordability, density, connectivity and land use standards. Examples of current Opportunity Areas in London include:

- ▶ Old Oak and Park Royal, in the North West of London, benefiting from new major investments in Crossrail and High Speed 2, with a capacity to accommodate a minimum of 65,000 jobs and 25,000 new homes
- ▶ City Fringe, in the Eastern part of the City of London, which is centred around Tech City, and has capacity to accommodate at least 53,000 jobs and 15,000 new homes.

While the Greater London Authority, local councils and other stakeholders drive the planning process, the expectation is for private proponents to present schemes that meet minimum employment and housing targets alongside environmental, public realm and open spaces, technology, biodiversity and other standards.

The challenges are magnified by the fact that no two precincts are the same, with approaches to delivery needing to be adapted to the specific challenges in each precinct. This makes it difficult to prescribe a framework that can be applied across the board.

An outcomes-based approach to precinct planning and delivery

One approach for precincts is to specify a set of outputs and outcomes that government expects to achieve.

London's *Opportunity Areas Planning Framework* provides a potential approach that can be adapted to reflect the legislative environment in NSW (see Box 10.2). This approach would set the minimum standards and outcomes expected across a set of government objectives, with private proponents responding to tenders by specifying how their designs and approaches would meet these standards and deliver the required outcomes.

To be effective, an outcomes-based approach to precinct planning will require procurement policies and processes to be updated so the tender evaluation framework gives weight to flexibility and innovative designs that achieve specified precinct outcomes. Other considerations include:

- ▶ planning for longer tender periods and early-stage gateway reviews aimed at prioritising design innovation in the procurement processes

- ▶ expanding tender interactive sessions to include more structured engagement with councils or planning authorities
- ▶ reimbursing some design tender costs where intellectual property is submitted prior to being awarded exclusivity for the project
- ▶ allocating more realistic time to allow for design development/discussions and greater weight in the final tender evaluations given to precinct design innovation that goes beyond the public reference design.

The NSW Government's *Precincts Strategy: Practitioner's Guide* is a significant step in providing public sectors planners with a methodological approach to precinct development. The Guide will require further engagement with private sector stakeholders for the next phase of work and should assist in identifying gaps in existing policies and processes in precinct planning, design and procurement.

10.5 Land, place and infrastructure

Infrastructure and civic structures shape the social, environmental and economic performance of a place. In turn, this helps communities form a sense of place and civic pride. As a result, it is important to ensure infrastructure reflects Country, local community identity, culture and history.

Big statements and small mercies

Favoured places are often marked by celebrated structures. Sydney Harbour is as famous for its buildings and civil engineering as it is for the natural environment, which combine into a complex and unique landscape. In regional cities, there are hallmark structures that mark impressive endeavours in civil engineering, while long-built structures often announce the products or character of a city.

Opportunities arise for infrastructure to better reflect history, community identity and place. At present, there are opportunities in high-profile locations such as Barangaroo (including the Cutaway), Sydney Metro stations, Bradfield City Centre, Sydney Fish Markets and as part of Australian Government projects such as the Western Sydney International (Nancy-Bird Walton) Airport and Snowy Hydro 2.0.

Done well, these new structures and precincts can contribute to the culture and identity of NSW. Investments in regional towns and suburbs of cities should not only lift amenity and liveability; they should also create a distinct sense of place and civic pride. Design, public art and community identity should not be afterthoughts when these opportunities arise at a school, road, station, court, prison or hospital.

History – ancient and modern

Infrastructure presents an opportunity to acknowledge and celebrate the living history of Aboriginal communities in NSW. It also provides an opportunity to 'restitch' large gaps in the memory of a place before colonisation, caused by disruption to Aboriginal landscape, people and cultural practices.³⁶⁰

The built environment can better recognise Australia's earliest infrastructure, made by Aboriginal people on the land and waterways, such as the Brewarrina Fish Traps. Acknowledgement of the history of modern Australia with Aboriginal people's stories can enrich, inspire or be painful and jarring.

NSW's Aboriginal cultures are rich in knowledge and lore that can be incorporated more regularly into the design of infrastructure and precincts to articulate the importance of a place. The NSW Government Architect's draft *Connecting with Country Framework* seeks to achieve this. The Framework provides an approach to developing connections with Country that can inform the planning, design and delivery of built environment projects.

10.6 Recommendations

No	Recommendations	Implementation timeframe	Lead agency
43	<p>Optimise the use of industrial and urban services lands through integrated strategic land use planning with infrastructure investment</p> <p>a. Consider long-term requirements to maintain an efficient statewide supply chain network.</p> <p>b. Review the efficacy of planning constraints placed upon the use of industrial and urban services lands, recreational facilities and associated infrastructure.</p>	Extended Program	Planning and Environment & Transport
44	<p>Deliver more housing, jobs, amenities and services in locations where there is spare capacity in existing and planned infrastructure</p>	Immediate Priority	Planning and Environment & Transport
45	<p>Preserve and strategically manage protected corridors for future use</p> <p>a. Ensure corridor preservation needs for NSW are considered in the sequencing and prioritisation of infrastructure delivery and land use decisions.</p> <p>b. Effectively manage preserved corridors with appropriate and staged ‘meanwhile use’.</p> <p>c. Manage lands adjacent to preserved corridors to avoid encroachment of incompatible use through strategic and statutory planning.</p>	Extended Program	Planning and Environment & Transport
46	<p>Increase private sector participation, co-design and co-investment in State-sponsored precinct delivery</p> <p>a. Update the <i>Precincts Strategy: Practitioner’s Guide</i> with input from industry to ensure consistent practice across NSW Government agencies.</p> <p>b. Develop a flexible outcome- and output-based approach that can deliver key government growth, economic, environmental and social objectives.</p> <p>c. Engage early with the market to increase private sector participation in and the deliverability of government-led precincts.</p>	Immediate Priority	Planning and Environment & Infrastructure NSW
47	<p>Actively reflect history, culture and heritage in places and infrastructure</p> <p>a. Reflect Aboriginal people, culture, history and Country in the design of infrastructure and precincts to recognise and celebrate the living history of Aboriginal communities.</p> <p>b. Reinforce civic purpose wherever possible in new assets, including local infrastructure, by recognising the ‘best of the best’ and providing advice.</p> <p>c. Use the expertise of NSW arts, culture and creative institutions to support infrastructure and its use as civic assets.</p> <p>d. Capitalise on digital forms to enliven buildings and structures with civic identity.</p>	Extended Program	Planning and Environment & Transport