File no: F20/994

14 December 2021

Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop NSW 1240

Dear Sir or Madam

IPART's review of the essential works list, nexus and efficient infrastructure design - submission

Thank you for the opportunity to provide a submission on your review of the essential works list, nexus and efficient infrastructure design.

Our submission is attached.

If you would like any further information about our submission, please do not hesitate to contact me directly on [redacted].Yours sincerely

[redacted]

Dennis Bagnall
Manager Developer Contributions

IPART's review of:

- the essential works list
- nexus, efficient design and
- benchmark costs for local infrastructure

Submission to the Independent Pricing and Regulatory Tribunal

December 2021

Table of Contents

1. Introduction and about Blacktown City 3
2. Executive summary 4
3. Overview of IPART's proposed framework 6
4. Proposed changes to the Essential Works List 8
5. Developers should pay for local infrastructure when there is a nexus to the development 12
6. Incorporating efficient design and delivery principles 15
7. Benchmark costs for base level infrastructure 20
8. Project allowances 26
9. Benchmark cost for plan administration 27
10. Process for updating the benchmark costs over time 30
11. Costing approach as an alternative to using benchmark costs 31
12. Councils need to demonstrate the costing approach was followed 33
13. Review of Cardno reports 35

1. Introduction and about Blacktown City

Blacktown City is 35 kilometres from the Sydney CBD, occupying 247 square kilometres on the Cumberland Plain. Eastern Creek, South Creek, Ropes Creek and Toongabbie Creek and their tributaries provide natural corridors that buffer areas of urban development. Sydney's North West Growth Area (NWGA) precincts occupy 7,700 hectares within the northern third of Blacktown City.

Our City's current population of 403,000 is one of the fastest growing in Australia, and within 10 years it will be home to more than 500,000 people. By 2041, the NSW Government forecasts that Blacktown City's population will exceed 600,000 people.

This means that we need to build on our planning for new homes and jobs that are importantly supported by the full range of essential local infrastructure, delivered in the right place and at the right time.

Other statistics that describe Blacktown City include:

- economy of $21.98 billion
- average economic growth rate 4.6%
- 150,000 jobs
- 21,200 registered businesses.

Blacktown's ability to provide new urban infrastructure in its release areas has been, and continues to be, primarily reliant on developer contributions funding. Since the inception of the Environmental Planning and Assessment Act in 1979, and in particular, Section 94 (now Section 7.11), we have been keenly interested in the improvement and operation of the developer contributions scheme in NSW. We have also been actively involved in a number of reform agendas.

Our extensive experience, particularly in greenfield development, places us well to make our submission. Having successfully managed one of the largest local government developer contributions schemes in NSW, we believe that we can be a key contributor to IPART's review of the essential works list, nexus and efficient design and benchmark costs for local infrastructure.

We currently have several Section 7.11 contributions plans that have funded the local infrastructure needs of the established areas of Blacktown City since contributions plans became a mandatory requirement under the Act in 1993. We also have 8 IPART reviewed Section 7.11 contributions plans that will fund local infrastructure for our NWGA precincts for the next 30 years. Collectively these plans, together with contributions plans for the remainder of the NWGA, have, or will fund, over $5.2 billion in essential local infrastructure.

We have worked hard to establish successful collaborative relationships with IPART, the development industry and the Department of Planning, Industry and Environment, to partner in delivering much of the infrastructure for our City.

As such, we offer Blacktown City Council as a trusted partner to aid in IPART's policy formulation. We are willing to work with IPART and the Department of Planning, Industry and Environment to advise best practice, based on the depth of our experience.

Should interested parties have any questions in relation to Council's submission, initial enquiries should be forwarded to our Manager Developer Contributions, Mr Dennis Bagnall on 9839-6461, or via email to dennis.bagnall@blacktown.nsw.gov.au.

2. Executive summary

We accept that IPART is conducting its review of the Essential Works List, nexus and efficient design and benchmark costs for local infrastructure in accordance with a narrow term of reference set by the NSW Government.

The terms of reference for the Essential Works List specifically closes the scope of works that have been classified for decades as 'development-contingent', such as community facility buildings. These facilities are now recognised by the NSW Government as a general cost to NSW ratepayers. Notwithstanding, this submission addresses the documentation published by IPART including:

- Terms of Reference: set by the Minister for Planning and Public Spaces and approved by the Premier of NSW
- Draft Report: Essential Works list, Nexus, Efficient design and Benchmarking costs for local infrastructure (29 October 2021)
- Consultant Report: Cardno - Draft Benchmarking Items and Costing Methodology (27 October 2021)
- Media Release: Draft report to improve the developer contributions process (29 October 2021).

Our submission leverages on our extensive experience in funding and delivering local infrastructure, particularly in a greenfield context. We have experienced what happens when you get this right and when you get this wrong.

Section 7.11 contributions plans when prepared, cannot include a contingency for unforeseen issues that arise during the life of a contributions plan. They can only include an industry contingency for individual projects or line items. As such, as a source of funding for development contingent infrastructure, they are doomed to fail before they begin.

No contributions plan makes money. This is generally understood by all stakeholders. At best, they attempt to minimise funding holes caused by various reasons i.e. spiralling land acquisition costs, contribution reviews times, over-regulation and inadequate regulated indices. Councils are powerless to control these issues.

We discuss the merits of further regulation through:

- a new Essential Works List
- efficient design requirements
- benchmarking of local infrastructure costs.

Our submission is structured into five specific parts:

- Overview of IPART's proposed framework
- Proposed changes to the Essential Works List
- Developers should pay for local infrastructure when there is a nexus to the development
- Incorporating efficient design and delivery principles
- Benchmark costs for base level infrastructure.

We also engaged a Quantity Surveyor to provide IPART with another source of truth for benchmarked costs. The independent report is attached to this submission.

Overview of IPART's proposed framework

3. Overview of IPART's proposed framework

IPART has exhibited its proposal for a principles-based framework where councils will apply to assess what infrastructure can be included in a contributions plan, at what cost, and how this would be updated over time. IPART is aiming for a flexible approach. **We support this**.

IPART's proposed framework has 5 elements/stages:

1. Is it on the Essential Works List?
2. Is it development contingent?
3. Does it meet efficient design and delivery principles?
4. What costs can be included in the initial plan?
5. How and when can costs change within a plan change?

We understand the framework and have no issues with the elements. IPART has explained its rationale for its review, which we understand. Most of our comments on these elements follow.

Proposed changes to the essential works list

4. Proposed changes to the Essential Works List

IPART's draft decision

1. Costs included in a section 7.11 contributions plan should relate to provision of local infrastructure in one or more of the following categories:

- land and/or facilities for open spaces
- land or strata space for community facilities
- land and/or facilities for transport
- land and/or facilities for stormwater management
- costs of plan preparation and administration
- borrowing costs to forward fund infrastructure.

IPART's question	1. Do you think our proposed principles-based approach to the EWL, as part of our broader framework incorporating efficient design and delivery and benchmark costs, provides enough certainty? Have we got the balance right between flexibility and certainty?

There needs to be flexibility in the system. Having generic descriptions in the Essential Works List is good as it allows for innovation and performance-based outcomes.

Car parks

For the transport items on the Essential Works List that relates to car parks, IPART should change the wording of exclusions from "carparking" to "car parks" as most roads allow parking. E.g. '**major cark parks** are excluded from the EWL'. This would clarify the intent of the exclusion.

Benchmarking should reflect development standards

The benchmarking items and costs must reflect current development standards including government policies, industry standards and development control plans. Industry standards such as Australian Rainfall and Runoff [1](Geoscience Australia and the National Committee for Water Engineering) are asking for stormwater volume management not just peak flow management. This is currently being incorporated in work associated with the Aerotropolis project and may become a requirement for local contributions plans.

Managing urban heat

Urban heat island impact management needs to be included as base level infrastructure. The current Cardno benchmarking items allow for street trees, which is a key base component to provide shade/canopy cover. However, the provision isn't adequate or consistent as it allows for 1 tree on each side of the road every 15 metres for local roads, 25 metres for collector roads and 50 metres for sub-arterial roads. Councils should be providing more canopy cover along all roads to

[1] Australian Rainfall and Runoff (ARR) https://arr.ga.gov.au/home

mitigate heat island impacts. The goal should be to achieve 50% summertime shading of all road pavements. This should be reflected in the benchmark costs.

The principles-based approach will only deliver the correct outcomes when the Essential Works List and associated benchmark list keeps up-to-date with required performance outcomes and standards. We need to keep in mind that the infrastructure is there to deliver a sustainable and resilient community outcome and that expectation needs to be achieved.

It must be understood that community's expectations for infrastructure are high and never go backward. This is the result of 'best developments' over time.

Community Facility Buildings

The Essential Works List should include community facility buildings. The current Special Infrastructure Levy and proposed Regional Infrastructure Contribution will collect contributions for community facilities, such as schools and hospitals. Similarly, new development creates the need for development-contingent infrastructure like local community facility buildings. Communities require these basic community facilities such as libraries and community/neighbourhood centres.

There are numerous NSW Government strategies, plans and policies that discuss and promote the delivery of local community facilities as a key aspect of what makes a place liveable. Appended to this submission is a list of numerous examples where the NSW Government promotes the delivery of community facilities. Excluding them from the Essential Work Lists is contrary to NSW Government policy.

The Practice Note[2] currently exhibited by the Department of Planning, Industry and Environment provides advice on what a contributions plan can fund. However, there is a policy inconsistency and contradiction concerning 'development-contingent costs' in this particular module. The module states that:

> Local infrastructure is the public amenities and services that councils are usually responsible for delivering. Depending on the infrastructure needs of the area this might include for example, open space, **community facilities**, local roads, traffic management and stormwater drainage. Local infrastructure is generally **a development-contingent cost** as it is infrastructure that would not be required if the development did not proceed. The development has created these infrastructure costs by increasing the demand for infrastructure.
>
> Development-contingent costs only include infrastructure designed to the standard needed to support development. Community preference for higher standards, such as a higher order playing field embellishment, is a general cost as it does not arise because of a particular development.

We agree that community facility buildings are a development-contingent cost as community facility (land or buildings) would not be required if development did not proceed. They can be designed like other infrastructure to the standard needed to support development (not gold plated). This was addressed by the controls in place before 2010.

We note that the NSW Government has specifically excluded the capital cost of community facility buildings from contributions plans but considers that the land for these facilities is development-contingent. It does not provide a rationale for this illogical policy position.

[2] Infrastructure Practice Note Review Policy Paper October 2021 – page 25

We also note that IPART's exhibited draft report on the review of the Essential Works List[3] includes a new listing:

> Land or strata space for community facilities

This again reinforces the status of these facilities as being 'development-contingent'.

Case study: Community facility infrastructure

Blacktown City's population is projected to grow to 522,000 by 2036 with growth primarily through development of new land release areas in the North West Growth Area (NWGA). Blacktown City has an extensive and diverse network of recreation and open spaces, however there is limited community facilities to meet the growing population.

Blacktown Council's community hub model creates integrated, multi-purpose facilities rather than stand-alone facilities, including neighbourhood/community centres, child care centres, youth centres and libraries. The model is based on guiding principles that facilities should be iconic, multipurpose, provide co-located service delivery, be accessible, promote local public art, generate community activity, ensure a safe built environment, be environmentally and financially sustainability and provide for total asset management.

Community facilities are significant places where people can come together and connect, form friendships and create social support networks. Given this, it is critical to invest in community facility infrastructure to meet the growing population and create and maintain strong communities.

The NSW Governments Essential Works List excludes community facility buildings for contributions plans. The exclusion of levying for community facility buildings in Blacktown will see a projected population of more than 250,000 people in the NWGA that will have no libraries, no swimming pools, no youth centres and no community meeting spaces, yet development that is contingent on this infrastructure continues.

The funding required for these facilities, at a standard which was permitted by the Government until they were removed from the Essential Works List (i.e. not gold plated), is conservatively estimated at +$500M.

The NSW Government's Essential Works List has resulted in a lack of community facilities in the NWGA, which significantly impacts on the livability of the area. Government assistance is needed to rectify this inequity to enable Council to provide the facilities that are identified in the precinct plans prepared and approved by the DPIE.

[3] https://www.ipart.nsw.gov.au/Home/Industries/Local-Government/Reviews/Contributions-Plan/Review-of-the-essential-works-list-nexus-and-efficient-infrastructure-design - page 24

Developers should pay for local infrastructure when there is a nexus to the development

5. Developers should pay for local infrastructure when there is a nexus to the development

IPART's draft decision

2. Costs included in a section 7.11 contributions plan should relate to provision of development contingent local infrastructure. Proposed items will be development contingent where:

- The expected development creates a demonstrable increase in the demand for public amenities and services
- The types of public facilities proposed in the contributions plan are required to address that demand
- The proposed facilities consider the extent to which existing facilities have capacity to meet that demand.

IPART's question	2. Is the proposed evidence to establish nexus for infrastructure in a contribution plan appropriate and reasonable? Is there any other guidance on nexus for local infrastructure that should be included in an updated practice note to assist councils, developers and other stakeholders in preparing and assessing contributions plans?

IPART must ensure that its rate peg for growth allows all councils the funds to construct the 'different' infrastructure which is a consequence of the above policy approach.

What developers should pay for relates to nexus, and nexus relates to community expectation e.g. there are expectations that sports training can be hired out at night. This requires floodlights and an expectation that women and girls participate equally in sport. As such, men's and women's change rooms and referee facilities are essential.

We agree that developers should pay for local infrastructure when there is a nexus to the development. The proposed evidence to establish nexus for infrastructure in a contributions plan is appropriate and reasonable as it continues the nexus principle used in contributions plans since the introduction of the *Environmental Planning and Assessment Act 1979*. As mentioned above, there is no doubt that there is a nexus for the funding of community facility buildings that are development-contingent.

We note that the NSW Government is seeking to introduce a Regional Infrastructure Contribution that requires developers to pay a set contribution rate for various forms of development without the need to establish any nexus or demonstrate reasonableness. Whilst it is part of the overall principles-based policy reforms, it is inconsistent with the local infrastructure contributions system.

We do not understand why the proposed new system of local infrastructure contributions in NSW is highly regulated and transparent, while the current SIC and proposed RIC are mildly regulated and opaque.

Incorporating efficient design and delivery principles

6. Incorporating efficient design and delivery principles

IPART's draft decision

3. Costs included in a section 7.11 contributions plan should reflect the base level, efficient local infrastructure required to meet the identified demand. Proposed items will satisfy these requirements if:

- They deliver the minimum level of performance required to meet the identified need and comply with government regulations or guidelines and industry standards
- They provide value for money compared with the different options available for meeting the identified need, with costs and benefits considered over the life of the assets proposed.

IPART's question	3. What further guidance on base level, efficient local infrastructure should be included in an updated practice note to assist councils, developers and other stakeholders in preparing and assessing contributions plans? How definitively should the guidance in an updated practice note specify the standards expected of infrastructure (e.g. legislation and other industry standards)?

Efficient design should not reduce design quality

Chapter 6 of IPARTs draft report discusses IPART's principles for incorporating efficient design and delivery principles for infrastructure. IPART states:

> Infrastructure that is efficient not only reflects minimum applicable standards, but also meets community needs and provides value for money.

Councils' are continually challenged by the NSW Government and community expectations to improve design quality and standards of local infrastructure. There are numerous plans, strategies, policies and guidelines produced by the NSW Government that outline the design principles for public infrastructure. It is important that IPART clearly articulates how it defines design efficiency and base level infrastructure to ensure that councils can provide the design quality of local infrastructure that meets NSW Government guidelines and community expectations.

One example is the NSW Government's recently released draft State Environmental Planning Policy (Design and Place) 2021 and accompanying manuals and guidelines[4] that is based on a design-led, place-based approach. The package is on public exhibition until February 2022. It is supported by a Cost Benefit Analysis report by Deloitte Access Economics who undertook an economic evaluation of the impact of the proposal, including an assessment of the cost of public open spaces. It includes certain design outcomes that need to be delivered for infrastructure such

[4] https://www.planning.nsw.gov.au/Policy-and-Legislation/State-Environmental-Planning-Policies/Design-and-Place-State-Environmental-Planning-Policy

as public open space and community buildings. This package needs to be considered by IPART in determining what constitutes design efficiency and the ability for it to be funded.

The principle of efficient design needs to be considered in the context of who pays and benefits from the infrastructure, both in terms of present and future generations. That means that initial capital cost of infrastructure needs to consider quality in terms of architectural and urban design to meet guidelines and standards, but also in terms of materials and finishes to ensure that it is sustainable and reduces the longer-term cost liability on residents from maintenance and replacement costs. Base level infrastructure that may appear to be cost efficient to deliver, may result in long term inefficient outcomes if not designed appropriately.

Requiring future residents to pay for improvements and higher maintenance costs to base level inefficiently designed infrastructure is simply a transfer of costs from the developer to the community. The principle should be based around sustainability by considering the cost impacts on present and future generations whilst meeting contemporary design outcomes that the community and NSW Government values.

Lifecycle of assets

We agree that that efficient cost needs to consider the full lifecycle cost. However, there are a number of questions that this raises for councils.

The discussion on this issue includes documenting all options considered to arrive at the most cost-efficient outcome and assessing a reasonable number of options. For the Department of Planning, Industry and Environment's precinct planning work in the North West Growth Area, this hasn't been documented in the precinct planning studies.

For example, bio-retention systems were adopted as the preferred form of stormwater treatment in the North West Growth Area as this is general industry practice for achieving an efficient outcome.

> *Do we then need to develop other schemes as part of the precinct planning process to demonstrate efficient outcomes and complete a documented cost benefit assessment?*

This would require significant work for our adopted contributions plans.

> *Should these requirements apply only to new contributions plans?*

From an overall efficiency point of view, does this need to be done for every contributions plan if the adopted approach has been assessed as efficient on previous similar plans?

Benchmarking of lifecycle costs

Benchmarking of capital costs has been undertaken, which is part of the equation. Lifecycle costing is the other part. To arrive at your capital costs, lifecycle costs needs to be considered, but these are not benchmarked.

> *Will there be benchmarking of lifecycle costs by IPART as well?*

Currently the lifecycle costing is to be undertaken by Council.

> *How will IPART assess the lifecycle costings provided by Council and determine whether they are efficient or not?*

This could require more specific data capture by a councils' maintenance activities than they currently capture. This can add costs to councils' processes for data capture.

> *Do councils need to have their maintenance activities market tested or assessed by a Quantity Surveyor?*
>
> *Should land acquisition costs be considered as part of the equation?*

This is particularly important in established areas where land acquisition costs are substantially higher and an increased capital costs such as retaining walls, which may require land take, capital costs, maintenance and renewal may deliver a more efficient outcome.

Consideration of broader catchment context

Efficient outcomes should consider the broader catchment context, particularly for stormwater and roads. For example, the broader South Creek stormwater catchment has a number of development precincts (South West Growth Area, North West Growth Area, Aerotropolis etc.). It also covers a number of different council areas.

In isolation, the measures implemented in each development area may not have a significant impact within the development precinct, but the combined outcome of all precincts may have an impact.

There may also be opportunities to provide more efficient management outcomes on the overall catchment scale rather than at individual precinct scale. This higher-level view of efficient infrastructure delivery should be considered at the early land use planning phase. For these larger catchment planning outcomes, a coordinating authority should be considered to guide and deliver the overall management strategy.

Implementation plan

Efficient delivery should include an infrastructure implementation plan with precinct planning. This may result in a staged release of rezoning or development to ensure the required infrastructure can be delivered in a timelier manner to support development.

Adopting consistent infrastructure standards across regions could also be a benefit. For example, the Western Sydney Planning Partnership's work on standardising Street Design guidelines a good idea. If this project can be successfully completed to the point where they can be implemented, this would streamline the assessment of efficiency and cost benchmarking.

Costing method

The recommendation is to use benchmarked costs, and only use a site-specific cost approach where this is more accurate or where benchmark costs are not available.

Separate benchmark costs should be provided for infrastructure in greenfield areas and established areas. For established areas, existing utility services, traffic, property adjustment and staging costs are part of the base cost elements required that generally don't apply to greenfield development. It is not clear from the Cardno report on benchmarking costs[5] what proportion of the constraint factor applies to utility services.

[5] Typical scopes and benchmark costs of local infrastructure costs – Cardno 12 November 2021

If we were to apply the flexibility principle and use the base benchmark rate for a road, but identified major services that required adjustment and wanted to apply a specific cost for a utility adjustment, how would we adjust the constraint factor?

Or because of the utility issue, would we need to cost that particular road using the site-specific cost method? We note that while some broad development areas may be considered greenfield, existing roads may be more an established area situation with significant existing utilities.

The adjustment factors could then be used to provide for a cost range based on the extent of the constraints in either greenfield or established areas.

Information on; differential costs for different ground conditions; services / utility relocation costs are not available at the precinct planning stage.

Resilience and climate change

Councils will need to demonstrate how we have included impacts of climate change in our contributions plans. This means they will need to undertake assessments using the NSW Treasury Guidelines for Resilience in Infrastructure Planning and address urban heat as part of contributions plans reviews.

Benchmark costs for base level infrastructure

7. Benchmark costs for base level infrastructure

IPART's draft decision

4. We will establish cost standardised benchmark scopes and base costs for the items listed in Table 7.1. Our approach will incorporate variation in the appropriate costs using base costs and adjustment factors.

IPART's question	4. Are there other items that we should consider benchmarking?

Benchmarking items and costing methodology

There needs to be more clarity on the sub-items in the report. A report with the full list of items and sub-items needs to be made available in order to meaningfully consider whether any additional items are required.

- Inclusions, exclusions and typical scopes

The benchmark costs should be separated to reflect the infrastructure class that contributions will be levied under. For example, Stormwater Item 2.02 combined basin and raingarden facility. In our contribution plans, the stormwater detention cost is levied under quantity management, whereas the raingarden cost is levied under quality management. It would be better to have a separate cost for a raingarden located within a basin rate as there will be construction efficiencies when combining the works as opposed to a standalone raingarden.

Similarly, for shared paths, as part of a road project there are efficiencies, whereas if you were constructing a standalone shared path along a creek corridor, then the rate would be higher. It is not clear how these types of cost differences are captured or accounted for.

For bio-retention systems, there is a need to allow for staging of works or protection of works during development. This should be added as an exclusion as it may reasonably be required. For roads, there is a need to allow for current landscaping standards to address urban heat island impacts. There is a need to allow for more trees and alternate treatments to turf particularly on higher order roads.

Base level infrastructure

It is critical to ensure that the definition of base level infrastructure is consistent with statutory requirements, industry standards, government policy, development control plans and community expectation. It is important that all new infrastructure delivers a sustainable and resilient outcome that contributes to managing the urban heat impacts of new development. New development creates the impact, so there is a nexus for this issue.

The current forms of urban development in the North West Growth Area for example, make it very difficult to include large trees within development lots. It is critical that new public reserves and infrastructure are properly landscaped to provide some mitigation of urban heat island impacts. The cost of achieving this outcome must be included in base level embellishment costs.

Transport

The benchmark item list needs to be amended for transport. There are significant base cost differences between developing in greenfield area and established areas.

They have different base starting requirements and activities, which are not easily or accurately reflected in a congestion/constraint factor. The adjustment factors should then focus more on the degree of constraints.

For example, in established areas, consideration is given to how many and what type of services are present, what are the existing traffic volumes, what is the local context, are night works required to deliver infrastructure and how many properties require adjustment.

Other specific transport items that should be benchmarked are as follows:

- new sub-arterial roads for greenfield areas as the current item in SICs are not acceptable in this context
- industrial collector roads
- line marking and signage
- extra costs for widening pavements and special pavement types at intersections

Further, the base costs don't reflect efficient costs. There are significant gaps in pricing roundabouts and signalised intersections. The base road costs allow for the standard road widths. The intersections include additional widths for turning lanes and slip lanes. Roundabouts usually have a modified asphalt wearing course to account for the shear forces of turning vehicles. These extra scope items don't appear to be captured in the benchmark costs

There is also a need to consider staging costs. For example, half road widths that Council may need to build along reserves won't be half the cost of the full width road due to higher proportion of site establishment, likely traffic control and work efficiencies being reduced.

Traffic signals (TFNSW)

When councils construct traffic signals, they are required by TFNSW (formerly RMS and RTA) to fully fund all the planning /development / implementation costs including supervision and **the full maintenance costs of the signals for the first 10 years of operation**[6]. These upfront costs should be included in the capital costs for benchmarking traffic signals as councils must comply with these requirements.

If not included in the benchmarking of traffic signals, these maintenance costs must be removed by TFNSW.

Stormwater drainage

The stormwater benchmark list should also be amended. We should not be nominating the concrete and rock filled mattress channels as items. These should be replaced by landscape channels that help manage flows and mitigate heat island impacts as well as providing better amenity for the community.

[6] Traffic Control Signals Fact Sheet – December 2008 https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/lgr/documents/traffic-control-signals-fact-sheet.pdf

Items such as gross pollutant traps should have benchmark rates based on treatable flow rate ranges rather than pipe sizes. This would cover more situations rather than just the few pipe sizes listed. There would also be a broad range of sub items that could be added. For example, item 2.01 Culverts has a limited number of sizes and makes it difficult to interpolate between sizes. Also, no culvert headwall benchmarks are listed but headwalls are listed for pipes.

The increase in stormwater volume and frequency of flows from development does impact the stability of existing watercourses. This increase would require additional flow volume management infrastructure (either within the development and/or a precinct scale) and or stabilisation works within the existing watercourses. As such, retention storage ponds/basins should be benchmarked as stormwater runoff volume management as now recommended by industry standards such as Australian Rainfall and Runoff.

In terms of stabilisation work, this can involve revegetation. This should be considered as stormwater management works rather than environmental management works as they help reduce flow volumes from roads and help mitigate urban heat impacts as well by having healthier trees with more water available in the soil. Interpretation of the proposed works is therefore important when applying the Essential Works List.

Open space and community infrastructure

In terms of open space and community infrastructure, we are concerned that the existing prescriptive and limited Essential Works List will be retained as the guide for what community infrastructure can be funded through section 7.11.

We are also concerned that if the Essential Works List is adopted in the form of the proposed 'open space embellishment' and proposed 'benchmarking costs' that this will limit local government's ability to respond to relevant and site-specific and community needs.

The limitations of the items listed on the open space embellishment list will not allow local government to meet the expectations of the NSW Government's relevant guidelines including 'Better Places', 'Everyone Can Play', Premier's Priority for tree canopy cover, Caring for Country and other policies that have been adopted by the NSW Government and embraced by the NSW community.

The following are additional concerns with the infrastructure limitations:

- aquatic and leisure centres: councils should be able to levy developers for the entire funding amount required to deliver the community, aquatic and leisure centres that the NSW Government has itself identified a need for
- the NSW Government should permit the full levying of acquisition funds, design funds and construction funds for community aquatic and leisure centres on development, not rates for the incoming population, as they are development-contingent
- the Essential Works List should be broadened to allow infrastructure provision beyond the limited list as it currently stands, particularly for brownfield requirements to ensure that councils can deliver open space embellishment to meet the needs and expectations of the community. This includes skate facilities, synthetic sportsgrounds and water play areas.
- it is unclear why 'cricket nets' are specifically mentioned, yet 'baseball practice nets' are not, or skate parks, which is an Olympic sport. This again is a policy inconsistency.

- councils need to be able to deliver open space embellishment that meets their long-term maintenance and operational obligations. For example, reasonable landscape planting densities should be able to be levied by councils and not be limited to 1-2 plants per square metre. This is below industry standard.

More specifically, the following embellishment items should be included:

- site establishment and preparation
- demolition of existing structures (including dams)
- synthetic sports surfaces (to cater for higher level of use and multipurpose use, and less grounds recovery time). This type of synthetic facility has been adopted and built for hockey activities for decades. It is a reasonable infrastructure type that needs to be able to be levied for where required
- youth facilities, including skate facilities, BMX (yet another Olympic sport), parkour, outdoor dance areas for young women, etc.
- water play
- dog off-leash areas
- urban and park furniture
- tree planting to an extent that will meet the Premier's Priority
- play space embellishment to meet the NSW Government's Everyone Can Play guidelines
- cultural interpretation infrastructure including public art and signage
- removal of fill and associated transportation costs
- decontamination and remediation.

The following is a list of concerns about the proposed limited benchmarked embellishments:

- they do not reflect community need and community expectation
- each embellishment item should allow for multipurpose use (e.g. double playing field should include cricket wicket and cricket practice nets so that football codes and cricket are provided as one cost item)
- double playing field embellishment items may not provide flexibility to provide an alternative sporting facility, such as athletics or AFL (size and cost will be greater) so flexibility should be allowed
- amenities buildings and change rooms that cater for men, boys, women, girls and referees need to be minimum 450sqm to enable multiple user groups
- it is unclear whether the size of each embellishment item will be limited or require justification (e.g. car park size or size of playground)? This should be clarified.

The benchmark cost report prepared by Cardno is incomplete. There are numerous discrepancies between headings, text descriptions and figures. Not all the items listed for benchmarking are included in the report, so it is difficult to assess the full scope of the benchmark items.

IPART's question	5. Do you agree with our approach to use adjustment factors so that the benchmarks are applicable to a broader range of projects?

Adjustment factors used in the correct context are appropriate. They should describe changes from a consistent/comparable base (e.g. greenfield areas vs established areas, roads vs stormwater).

Any adjustment factors should also consider the infrastructure type. Different factors should apply to roads and stormwater works, such as a stormwater basin, as they would not usually be constrained by services.

However, a primary project variability is whether the site is greenfield or an established area. Separate base benchmark rates should be provided for each base case and then adjustment factors applied for the degree of constraints or complexity in each base case.

There is a very large list of items that make up infrastructure delivery. For example, stormwater pipes and culverts have a large range of sizes. For pipes, the rates vary depending on pipe diameter. For culverts, there is a large variation in sizes, but the primary components may be given more generic cost rates, such and base slab $/m2 for xxx mm thick slab, precast crown units $/t. Consideration needs to be given to any adjustment factors/allowances for works that are less than the minimum quantity.

There also needs to be an adjustment for development occurring ahead of the infrastructure delivery. We often find that new development increases the number of utilities that need to be adjusted beyond those that were in place at the time of plan preparation.

Guidance required on the adjustment factor

Some guidance on the breakup of the adjustment factors is required. For example, if councils wanted to use the base road cost but identified major services that exceed the adjustment factors, how would we account for the extra over cost associated with relocating utilities? Would we then need to use the specific cost method for the whole item?

This section also asks councils to provide appropriate evidence to justify their use. It would be helpful to list what forms of evidence are appropriate. We would assume it is items such as:

- geotechnical reports
- utility services maps and records
- survey
- other investigation reports.

With open space, in theory this approach could work. However, the limitations on the Essential Works List, the proposed benchmarking costs, and the historical cap limits on contribution plans do not allow for infrastructure delivery to meet community expectation.

It would be progressive if adjustment factors were also available for use by councils to utilise when providing infrastructure that is not provided as a benchmarked cost or on the Essential Works List. For example, a playground or multipurpose court could also be adjusted for use as a youth facility.

This raises a number of questions:

If the open space embellishment list and associated benchmark costs remain fixed and limited to its current proposed structure, how do councils ensure for example, that an AFL field can be provided given it is larger than a rugby league field?

How do councils provide baseball practice nets if only cricket practice nets are listed and costed?

How do councils provide a new field for a little athletics club given the infrastructure is more extensive than a cricket field (i.e.: long jump pits, discuss cages, shot put areas)?

Additionally, if an amenities building is capped at 400sqm, how does a council provide the additional storage requirements for little athletics (i.e.: high jump mats)?

Further, Blacktown City Council is seeking to maximise community use at all parks. If the amenities building is capped at 400sqm, how do we provide storage areas for basketball court user groups (Basketball NSW programs), volleyball user groups (Volleyball NSW programs), tennis user groups etc.?

If we are limited to 400sqm and accommodating only 1-2 sports at each location we are not meeting the needs of the broad community. We will not be providing an activated space. We will not be meeting NSW Government policy.

IPART's question	**6. What other factors increase the complexity of a project that could be used as an adjustment factor?**

There will be some elements, such as utility services, that will need to be assessed on each project as there will be high variability in scope and cost. Notwithstanding, aadjustment factors should work, if other costs, such as fill removal and associated costs, were recognised as essential works.

Other factors that increase the complexity of an open space project are listed below:

- specific community need, such as the location of a special needs school / care facilities (private) that has not been identified in prior planning. Our approach would be to embrace these local needs and include sympathetic facilities to encourage their use
- the nature of the sport being played at the sportsground. This is not just cricket. Other sports need consideration, such as little athletics, AFL, BMX/pump track, fitness stations
- contamination and pre-existing structures that require demolition, such as dwellings, outbuildings, dams etc. on a proposed sportsground site
- topography and need for terracing, retaining and stabilisation
- adjacent land use and potential need to provide fencing, sound barriers and visual barriers, such as sportsgrounds located adjacent to residential areas
- storage needs of a particular community sport, such as little athletics.

8. Project allowances

IPART's draft decision

5. We recommend project allowances to applied to base costs at the rates proposed under Table 7.3 and Table 7.4.

IPART's question	**7. We seek stakeholder views on the approach to project allowances, including the rates and their application**

On-cost rates appear to be reasonable. However, contingency for planning phases are low. The contingency allowance at the planning stage should be typically 30%.

Project planning is proposed to be consolidated with investigative studies for multiple contribution works (e.g. roads, drainage, adjoining open space) and these be included within single holistic planning documents. This should reduce duplication. However, allowance needs to be made to ensure delivery of those multiple projects is recognised as occurring over greater periods of time. Open space is often delivered last, and in that time, flora and fauna studies will have expired as they are currently only valid for 5 years. Therefore, any project allowances for planning and design should reflect the need for them to be revisited (often) over the life of the project.

Contamination and unsuitable ground conditions are a significant risk. Contamination is generally dealt with during the acquisition process. However, under compulsory acquisition, the full cost impact may not be resolved as it is not within the just terms scope. Site investigations sample a spread of locations across the site. There is always a risk that contaminated or unsuitable material is encountered during site works. Adequate contingencies need to be included for this risk. The minimum contingency for any civil construction project should be a minimum of 15% when preparing contributions plans.

The on-cost for cultural heritage should be explained more as to where it applies. From our experience, undertaking test and salvage excavations can add significant costs to projects (commonly $100-200,000). The rate nominated by Cardno is generally consistent with our experience.

IPART's question	**8. We seek stakeholder views on alternative benchmarks for open space. Is there value in a per person benchmark? How would it work?**

Not supported as this is a crude alternative and would not work.

9. Benchmark cost for plan administration

IPART's draft decision

6. The benchmark cost for plan administration should be set at 1.5% of the total value of works to be funded by local infrastructure contributions. This should cover the total costs of plan preparation, management, and administration.

IPART's question	**9. Does 1.5% of the total value of works excluding land broadly reflect the actual cost councils face to administer a contributions plan? If not, what percentage would better reflect the actual cost councils face?**

There are generally 2 ways of calculating administration costs in a contributions plan:

- a bottom-up costing of the resources required for plan administration
- a fixed percentage of land and/or works costs.

The bottom-up approach involves:

- identifying tasks for council staff, the time required for each task and the cost of each staff member's time
- identifying tasks or technical studies undertaken by consultants, their cost, and setting out these tasks against the entire life of a plan.

Compared to the commonly used alternative of applying a fixed percentage to the total cost of infrastructure works, the bottom-up approach can be more accurate (i.e. cost reflective) and transparent. However, the bottom-up approach can be inflexible when preparing a contributions plan and may not include all unforeseen administration costs that may arise during the life of a contributions plan.

To change or add to the bottom-up components, councils need to review their contributions plans when unforeseen costs are realised during the life of a contributions plan. Often, contributions catchments may be significantly developed and the unforeseen costs or increases in costs needed, through a review of the contributions plan, would only be able to be levied on the remaining development.

Councils can be reluctant to review a contributions plan if the only reason for the review is to adjust components of the bottom-up administration levy. This results in loss of revenue for councils.

The benchmark percentage approach provides much more flexibility for councils and certainty for developers. It can be easily calculated once the estimated value of land and/or works is established.

In its 2014 Local Infrastructure Benchmark Cost report, IPART recommend a benchmark of 1.5% of the total value of works to be funded by infrastructure contributions, stating that:

- this approach is simple for councils to apply

- it may help to encourage efficiencies (by setting a 'soft' limit on-costs)
- the amount of works is likely to be a strong cost driver of the amount of preparation, management and administration of the plan, and it should therefore be relatively cost reflective.

IPART also recognised that there may be instances where a value of 1.5% of works costs may be insufficient. It recommended that where a council has higher administration costs, the council justifies the higher costs by using a bottom-up approach and include a cost breakdown in the contributions plan.

In IPART's current review it is asking whether its 2014, 1.5% of the total value of works benchmark, excluding land, broadly reflect the actual cost councils face to administer a contributions plan? If not, what percentage would better reflect the actual cost councils face?

This is difficult to quantify by the very nature of how the percentage is determined. We are currently using IPART's 1.5% of works benchmark in its North West Growth Centre contributions plans. We were concerned that the bottom-up approach was inflexible and may not address unforeseen administration costs, particularly with the number of reviews it needs to conduct with its contributions plans. We have found that at the peak of development in the North West Growth Area, the percentage does not provide adequate income to fund all administrative tasks. We acknowledge that these tasks may 'slow down' when we are closer to full development. However, what we did not foresee was the additional mandatory administration costs associated with the NSW Government's current infrastructure contributions reforms.

IPART's question	**10. What other types of information or data would provide a clear evidence base for the true costs of plan administration?**

In regard to administration costs for Section 7.11 contributions plans, the NSW infrastructure contributions reforms essentially do two things:

- acknowledge that administration costs are essential through their inclusion on the essential works list.
- provide advice through a practice note review policy paper that administration costs are capital costs which can include:
    - background studies, concept plans and cost estimates required to prepare the plan
    - project management costs for preparing and implementing the plan, such as the employments costs for developing and co-ordinating the plan.

These inclusions are not new. They are generally reflective of the type of administration expenses that a council may incur with its contributions system. They do not account for the new administrative responsibilities of a council through the NSW infrastructure contributions reforms. These are additional administrative requirements that have been added to the current system and no administrative responsibilities have been removed through the proposed reforms.

Some of these new administration responsibilities include (but are not limited to):

- implementing the new reforms

- considering submissions on planning agreements instead of only requiring public notification
- planning agreements to be uploaded to the planning portal and on councils' websites
- a new method of charging and administering local levy (S7.12) contributions
- administering the charge of the new RIC on development consents in the 4 RIC areas
- additional Gateway involvement with contributions plans needing to be prepared and exhibited with planning proposals
- administering a new land value contribution (LVC) mechanism with involvement with the Valuer General's office
- administering LVC certificates and fees
- preparing and administering a new affordable housing contributions register
- reporting expenditure of affordable housing contributions by projects in annual reports, on council websites and through the planning portal
- aligning infrastructure contributions and strategic planning delivery by reviewing all contributions plans at least every 4 years
- publishing the exhibition of contributions plans on the planning portal
- requiring that planning certificates specify any SEPP imposing a regional infrastructure contribution
- including complying development contributions on council's contributions registers
- additional financial reporting requirements for planning agreements income.

Most of these new administrative functions are difficult to quantify to a specific amount for a council. But it is reasonable to say that many councils will struggle with compliance due to inadequate funding and resourcing.

The cost of amending strategies to comply with new statutory requirements and documenting changes from adopted plans also needs to be done with reviews. This is extra activity that needs to be charged as an administration cost of a contributions plan.

For these reasons, we believe it is reasonable that the 2014 administrative benchmark of 1.5% be increased to a benchmark of 2% (as a minimum) of the cost of capital works in Section 7.11 contributions plans.

10. Process for updating the benchmark costs over time

IPART's draft decisions

7. IPART should annually update the benchmarks to account for cost escalations using the ABS Producer Price Indexes for construction in Table 8.1, and publish the escalated benchmarks on its website.

8. IPART should review the set of benchmarks no less frequently than every 4 years and should carefully monitor the use of benchmarks in contributions plans to determine if an earlier review is required.

9. IPART should work with DPIE and councils to establish a mechanism for obtaining actual project costs to refine the benchmarks.

IPART's question	**11. We seek views on our proposed approach to annual escalations and 4 yearly reviews of benchmarks, including the choice of index and timeframe.**

This concept seems reasonable. However, it would be good to have a mechanism where project specific costs for an item type could be included in the annual update rather than waiting for a 4-year major review.

IPART's question	**12. We seek views on an appropriate feedback or data collection mechanism to obtain reliable and consistent project information to refine the benchmarks over time.**

IPART is looking at ways to capture post construction cost data to improve accuracy of benchmark costs over time. We would need to see what format and what attributes could be captured during the construction process to easily provide data in the required form. This data could be made available through the NSW Planning Portal.

This would need a standard list of bottom up pricing elements used to calculate the overall benchmark rate. Councils would need to capture complex information and costs such as utilities, ground conditions etc. for each project. This would be a significant data collection exercise.

11. Costing approach as an alternative to using benchmark costs

IPART's draft decisions

10. We recommend that councils provide appropriate justification, consistent with the principles described in chapter 9, when using cost estimates instead of benchmarks.

11. We recommend that councils use either a top down or bottom up approach to estimating costs that uses the most accurate information consistent with the methods described in chapter 9.

IPART's question	**13. Are the proposed principles and information requirements for councils using an alternative costing approach adequate? Should councils be required to provide any further information to justify deviations from the standard benchmark costs?**

We consider that the requirements are adequate.

IPART's question	**14. Are the proposed principles for reviewing plans and updating costs adequate? Are there any principles that should be removed from or added to this list?**

Principle 1.

This needs to be built into the rezoning/precinct planning process not just contributions plan preparation. There needs to be an infrastructure implementation plan to go with the rezoning and contributions plan to ensure efficient delivery

Principle 2.

This implies that regular design reviews are required over the life of the plan to maintain optimal design and best practice. This could increase the overall design cost component in contributions plans as potentially this will be doing **redesign work**. What happens if new best practice requires increased infrastructure costs? How can this cost be recovered?

If actual costs from a competitive process are required, councils will presumably need to see and review their tender processes associated with Works-In-Kind agreements and Planning Agreement projects.

Principle 5.

A contingency allowance should decrease as uncertainty decreases. However, for civil works, we never have absolute certainty on cost until the project is constructed. A council never knows exactly what it will find until it 'starts digging'. Contingencies, even at the detailed design and tender phase, should still be 15%.

IPART's question	**15. Are the proposed information requirements for councils enough? Are there any other pieces of information that should be added to this list?**

We believe these are enough. However, IPART should prepare a draft checklist in its application form with clear instructions and examples to assist councils understanding IPART's requirements and justification for the requirements.

This will ensure that minimal time is lost with further requests for information from IPART.

12. Councils need to demonstrate the costing approach was followed

IPART's draft decision

12. We recommend all contributions plans above the threshold amounts ($20,000 / $30,000 per lot infill / greenfield) be reviewed every 4 years consistent with the principles outlined in Table 10.1, with appropriate evidence to support the reviews as described above.

IPART's question	**16. Do you support our approach for a threshold to determine which plans must be reviewed?**

We do not support thresholds. Threshold or caps are problematic for councils. There are 128 councils in NSW and each one is different. Greenfield, infill, costal and rural councils will have circumstances that cannot be covered by a broad-brushed threshold.

The new system of infrastructure contribution reforms in NSW seeks to abolish caps and thresholds. We do not understand why IPART would introduce something that goes against the principles of these reforms.

IPART's question	**17. Do you support our proposal for a fixed 4 yearly review of contributions plans?**

No. Some councils have many contributions plans and do not have the resourcing to review plans every 4 years. This requirement must be staggered as a minimum. We have recommended to the Department of Planning, Industry and Environment, that fixed review requirements should be 5 years as a minimum. If the 4-year time-frame is introduced, IPART should increase its administration benchmark of 1.5% of capital costs in a contributions plan to provide the revenue councils needs to comply with these requirements.

IPART's question	**18. Does the annual update and four-yearly review provide an appropriate balance between cost reflectivity and certainty?**

It does but for the reasons stated above, councils will struggle with these requirements unless they have the resources or funding to comply.

Review of the IPART's "Typical scopes and benchmark costs of local infrastructure" and Cardno's Draft "Benchmarking Items and Costing Methodology"

13. Review of Cardno reports

We engaged Mitchell Brandtman Quantity Surveyors to review the following reports:

- Typical scopes and benchmark costs of local infrastructure and
- Cardno's Draft Benchmarking Items and Costing Methodology.

The independent review by Mitchell Brandtman is appended to this submission.

Comments on specific items

Additionally, we have outlined below our comments on various specific items listed in the report.

Item	Description	Comments
1.01	New local road	Inclusions: ○ *What allowance is made for stormwater?* ○ *Is this a percentage of total cost or nominal sizing?* ○ *Is subsoil drainage on 1 or 2 sides of a road?* • The description of a footpath as 125mm thick, is thicker than that listed in item 1.16, which is supposed to be a shared path. ○ *Where is the allowance for soil and water management?* ○ *Are root barriers included for street trees?* • Street tree spacing at 8m would be better for urban heat impact mitigation. • Street lighting is provided for local roads, so include or reference a link to item 1.27. Applicable Standards: • Councils' DCP and Engineering guides need to be referenced. • The benchmark cost is considered at the low end of the expected range • TFNSW standards
1.03	New collector road	• Functional description is missing and needs to be included such as 2 lanes + 2 parking lanes, neighbourhood access and connectivity (could list daily traffic volumes). Inclusions: ○ *What allowance is made for stormwater?* ○ *Is this a percentage of total cost or nominal sizing?* ○ *Is subsoil drainage on 1 or 2 sides of a road?* ○ *Where is the allowance for soil and water management?* ○ *Are root barriers included for street trees?* • Tree spacing should be the same as local access roads. • Street lighting is provided for local roads, so include or reference a link to item 1.27. • Earthworks allowance should be more than for local access roads. Exclusions:

Item	Description	Comments
		• guard rails/traffic barriers may be required particularly in brownfield areas or at culverts Applicable Standards: • Add councils' DCP and Engineering guides. • Benchmark cost are too low about 10% more than local access road, but with much higher pavement area and standard, and an added shared user path.
1.04	New sub-arterial road	Functional description doesn't describe road function. It should be 2 lanes in each direction, usually access denied. The benchmark base cost notes 4 lanes. This is an example of a difference between greenfield area and established areas. We would not build this road cross section in a greenfield context. It would only be considered in an established area. There must be separate descriptions and classes of sub-arterial roads. Inclusions: ○ *What allowance is made for stormwater?* ○ *Is this a percentage of total cost or nominal sizing?* ○ *Is subsoil drainage on 1 or 2 sides of a road?* • The description of a footpath as 125mm thick, is thicker than that listed in item 1.16, which is supposed to be a shared path. ○ *Where is the allowance for soil and water management?* ○ *Are root barriers included for street trees?* ○ *Where is the allowance for earthworks?* • Street tree spacing at 8m would be better for urban heat impact mitigation. ○ *Where is the allowance for earthworks?* This is a major cost as grading requirements are more stringent than collector roads. • The North West Growth Area requires medians in sub-arterial roads. Include medians in the scope of work and amend typical sections on which current dimensions don't add up. Medians provide separation of oncoming traffic which improves road safety and also allows for turning lanes to be added at intersections Exclusions: • Street lighting should be included in an urban context. • Guardrails or traffic barriers can be required • Benchmark cost at too low for this class of road.
1.05	New industrial road	Functional description doesn't describe road function. Must include extra width in road reserve to facilitate turning movements. Inclusions: • must include a footpath on one side at least. Carriageway width is much less than our current standard (13.5m).

Item	Description	Comments
		○ *What allowance is made for stormwater?* ○ *Is this a percentage of total cost of nominal sizing?* ○ *Is subsoil drainage on 1 or 2 sides of a road?* ○ *Where is the allowance for soil and water management?* ○ *Are root barriers included for street trees?* • Tree spacing should be same as local access road. Applicable Standards: • add Councils' DCP and Engineering guides • benchmark costs are too low about 15% more than local access road but with much higher pavement area and standard.
1.06	New rural road	Inclusions: • the nominated width doesn't add up to the figure • rural roads often have table drains and these should be included.
1.07	Upgrade to collector road	Functional description doesn't make sense. ○ *Is the intent to upgrade an existing local or rural road to a collector road?* If that is the case, then there is a need to reconstruct the full pavement, not just add 1 x 3.2m lane. Be clear about what we are trying to achieve. ○ *Is this meant resemble some form of cost apportionment between existing road and new road?* The existing road is servicing the needs of the existing community, but the new development increases the demand to require a higher order road so the full cost of the upgrade should be recovered from development. ○ *Why is pavement completely different to collector road pavement?* Provide a sketch of typical section to illustrate what the scope is meant to be. Inclusions: ○ *Shared path 125 or 150mm thick?* Add: • traffic management • soil and water management • replace street trees. Applicable Standards: • add Councils' DCP and Engineering guides • benchmark cost: not clear what the scope is.
1.08	Upgrade to sub-arterial road	Functional description. There is a need to confirm that this is only for adding a 1 x 3.2m lane to an existing sub-arterial road. Inclusions: • demolition and disposal costs for existing infrastructure

Item	Description	Comments
		• traffic management • soil and water management • replace street trees Applicable Standards: • add Councils' DCP and Engineering guides • benchmark cost: we disagree that adding 1 lane to an existing road costs 13% more than constructing full width item 1.04. Item 1.04 is way too low.
1.09	Signalised intersection (single Lane)	Very unusual that this road configuration would warrant traffic signals in greenfield context. Inclusions: • don't have median pedestrian refuge shown on the plan • add line marking • add traffic cabinets • may need kerb blisters as normally won't permit 6m approach lane as single lane.
1.10	Signalised intersection (2 lane)	As shown may be appropriate in an established area context only. Greenfield context wouldn't get this layout approved. It would need turning lanes and medians. Carriageway widths shown on figure don't match the separate road items 1.01 to 1.06, so there would be an extra over cost that is not captured if the figures are correct.
1.11	Signalised intersection and 1 turning lane)	As shown may be appropriate in an established area context only. Greenfield context wouldn't get this layout approved. It would need turning lanes and medians. Base benchmark cost must address this. Carriageway widths shown on figure don't match the separate road items 1.01 to 1.06, so there would be an extra over cost that is not captured if the figures are correct.
1.12	Signalised intersection and 2 turning lanes)	Item is missing from report.
1.13	Priority controlled/ un-signalised intersection	Inclusions: • add line marking • benchmark rate doesn't apply to an established area situation.
1.14	Roundabout single lane	Wouldn't normally build this configuration in greenfield urban context. Inclusions: • description doesn't match figures – 6m trafficable concrete, but figure shows kerb only at inside of surrounding annulus, which makes the central part non-trafficable. In this situation the central area should be landscaped so there needs to be subsoil drainage added • need to add extra pavement areas for turning circles and add extra costs for modified asphalt pavement required at roundabouts • add line marking.

Item	Description	Comments
1.15	Roundabout two lane	Item is missing from report.
1.16	Concrete pathway	Main report describes this item as a shared pathway 1.5m, which isn't correct, as shared paths are usually 2.5m wide. Benchmark base cost label also describes it as a shared path. The nominated thickness of 100mm would only apply to a pedestrian/foot path. Road items 1.01 to 1.06 have paths typically 125 or 150mm thick. Please correct path descriptions and standards for all types.
1.17	Footpath/ path	Item is missing from report.
1.19	Road Bridge	For bridges over waterways, add scour protection as an inclusion. In an urban context, need to allow provision of new services in bridges. ○ *How are extra over costs for the bridge approaches captured as these often involve retaining walls?* Include provision or list as an exclusion. Retaining walls aren't included in base road costs.
1.20	Pedestrian / cycleway bridge	Fine for overpasses over roads. Should include typical sub-items for bridges over waterways as these typically won't have stairs or ramps required and will be a simpler and cheaper construction type.
1.23	Bus shelter	Generally OK.
1.25	Pedestrian crossing	Describes retrofit only. Should add sub-items for new. Would normally have kerb side islands now instead central refuge. Figure provided shows the refuge only not the pedestrian crossing. At least show what we are proposing as the base item.
1.26	Signals/ traffic signals	Not in report. Presume now covered by items 1.09-1.12.
1.27	Street lighting	Clarify what allowance has been made for electrical supply along the road to power the street lighting.
2.01	Culvert	Add description of what allowance has been made for the base slab. The detail on the figures shows in-situ concrete base slab. Cost for subitem 2.01.7 seem disproportionately high compared to cost of a single cell of same size.
2.02	Combined basin and raingarden facility	Figure shown only looks like a raingarden not combined with detention storage. Please clarify item scope and function intent. Figure shows stone pitching but this isn't listed as an inclusion in the costing. For Western Sydney, include provision for a saturated zone in the design. Must include allowance for maintenance during plant establishment phase of a minimum 2 years, otherwise the system is likely to fail and not be efficient during lifecycle. Need to consider provision of maintenance access track depending on location of facility.

Item	Description	Comments
		Should consider a maximum size for this type of installation configuration.
2.03	Single raingarden facility	Figure looks like a street tree pit. Confirm item name and function. If item is meant to be a tree pit, then add other sub-items to describe other typical installation types such as tree pits behind kerb on higher order roads.
2.04	Bio-retention basin	Item name is for a basin but most sub-items are for swales. Separate basin from swales as they are different base items. Sub-item description doesn't include detail for 2.04.5 bio-retention basin, or delete sub-item for bio-retention basin as that is already shown in item 2.02.
2.05	Bio-retention filter	Provide more information about the context of this activity. ○ *Is this at 15-20 years after construction when design life is reached or replacement of a sacrificial installation after development construction work is complete?* If it is the former then need to allow for the full cost of planting and establishment again. In both scenarios, need to allow for the removal of the surplus filter material as a base cost.
2.06	Bio retention are	Item is missing from report.
2.07	Bio-retention system	Item is missing from report.
2.08	Wetland basin (ephemeral)	Figure doesn't represent current ephemeral wetland design. These have more extensive macrophyte zones across full width of wetland with shallow and deeper marsh zones. Need to include maintenance and water level control during plant establishment period as a base cost.
2.09	Constructed wetland	Item is missing from report.
2.10	Detention basin / enhanced storage area	Applicable standards add "Australian Rainfall and Runoff".
2.11	Gross pollutant trap	○ *What device types are prices based on?* Some sizing data provided by some manufacturers is wrong based on their indicative sizing data. Would be better to base prices on a treatable flow range as most devices have a range of flows that they can treat effectively. This would avoid adding a cost for each required pipe size or interpolating somehow. The device selected also needs to be considered as part of the overall treatment train for overall cost efficiency.
2.12	Enhanced storage area	Item is missing from report.

Item	Description	Comments
2.13	Stormwater pipe	Most pipes will be under roads, so need to add a cost adjustment for HS3 bedding condition. Add sub items for 525, 825, 1050 and 1200-mm diameter pipes as these are commonly used also.
2.14	Stormwater headwall	Correct functional description as these aren't primary pollution devices. Have same pipe size list as item 2.13. Exclusions that may be reasonably required is safety fencing around headwall. Add headwall items for box culverts as well.
2.15	Stormwater pit	Generally OK for road works. Consider adding sub-items for special pits such as flow splitting with say a rate per m3 of concrete.
2.16	Stormwater channel/open channel	Very expensive for a small drain. We should not be building these concrete channels in greenfield areas and avoiding them in established areas as well. Provide landscaped channel options instead with benchmark costs.
2.17	Stormwater channel stabilisation	We should avoid rock filled mattress open channels for any new channels. If the intent is to provide base costs for channel stabilisation then look at sub-items for interim measures such as jute mesh or matts (plants provide long-term erosion protection) and permanent measures such as rock riprap and then possibly rock filled mattresses. Can provide rates per m2 for these treatments rather than pricing one channel size and shape.

Appendices

MitchellBrandtman
Quantity Surveyors & Construction Expert Opinion

Jf: 31465

Executive

Shane Brandtman AAIQS

Andrew Opperman AAIQS

Simon Brandtman AAIQS

Matthew Kritzler AAIQS

Tass Assarapin AAIQS

2nd December 2021

Blacktown City Council
PO Box 63
BLACKTOWN NSW 2148

Attention: Mr Graham Mallison

Dear Mr Mallison,

RE: REVIEW OF DRAFT CARDNO BENCHMARK REVIEW

I have reviewed the Draft Cardno Benchmark Costs for Local Infrastructure, dated 10 November 2021 and reply as follows:

Other Items That Should be Benchmarked?

1) Local Road Upgrade from rural.
2) Options for town roads with increased areas of paved footpath hardstand in lieu of reinforced concrete and WSUD street tree blisters.
3) Construction of half local road width adjacent parks.
4) Option for milling and resheeting existing roads.
5) Upgrading existing intersections to signalised intersections.
6) Upgrading existing intersections to roundabout intersections.
7) 2.5m wide shared pathway to existing roads including demolition of existing 1.2m or 1.5m wide redundant footpath.
8) 2.5m wide shared pathway to open space including an allowance for earthworks.
9) Options for bridges including planks and super tees depending on span requirements and depths.
10) Culvert bridge crossings.
11) Scour protection and landscaping restoration in bridge waterway construction.
12) Retaining walls for sloping sites associated with road cuttings, bridge structures and parks at variable heights.

13) Cost to build new bridge on existing bridge alignment or adjacent to existing bridge including demolition of redundant structure.
14) Large pedestrian and cycleway bridge over water crossing where stairs and ramps are not required.
15) Small pedestrian creek crossing.
16) Raised pedestrian crossing.
17) Wingwalls including scour protection to reinforced concrete box culverts.
18) Cost adjustment rates or inclusions of calculated rates for undergrounding, relocation and protection of existing utility infrastructure being relocated.
19) Landscaping open channels as recently installed by Blacktown and Liverpool councils.
20) Additional items should be included the social infrastructure / open space embellishment costs to allow for the following typical items:
    a) General allowance for clearing and grubbing, erosion and sediment control, eradicating weeds, stripping topsoil, 500mm balanced earthworks, ameliorating site won topsoil, respreading topsoil and maintenance;
    b) Mass planting areas with 300-350mm topsoil, 6 x 150mm pot plants per m² and 75-100mm mulch;
    c) Medium and large size play equipment in addition to the small equipment already included;
    d) Organic/mulch soft fall;
    e) Retaining walls;
    f) Irrigation and drainage to playing fields;
    g) Maintenance for items already included.
21) Constrained bio-retention basin including retaining walls.
22) Underground reinforced concrete storage basins.
23) Local park amenities block with area approximately 12m² FECA (fully enclosed covered area) + 9m² UCA (unenclosed covered area) + 43m² external works. Single storey building including accessible WC building, ambulant and cleaners areas with external wash hand basin and roof covering all. Typically, $195,000 to $250,000.
24) Local neighborhood community centre.
25) At grade carparking adjacent road.
26) Culvert headwalls including scour protection.
27) WSUD planting zones in road corridors including excavation, geofabric, subsoil drainage, aggregate layer, filter layers, sandy loam, topsoil, planting, mulch and kerb treatments.

Are the Inclusions, Exclusions, and Typical Scopes Appropriate and Clear?

28) There does not appear to be sufficient items or adjustment factors in the Cardno report to accommodate the difference in greenfield and brownfield infill developments. Site constraint, soil condition and contingencies suggested in the Cardno Report would not adequately include for factors that can impact brownfield development. My review of the report suggests the scope and rates have been based upon delivery in greenfield environments. Most work councils in Sydney are now delivering in their contribution plans are for brownfield infill development or improvement of existing infrastructure. It would be ideal if further schedules were developed to accommodate brownfield development or additional sub items be included to account for specific project requirements.

The additional factors that impact brownfield developments that are not reasonably allowed for include:

a) Smaller amounts of work being delivered in stages due to fragmented land ownership;
b) Demolition, clearing and disposal of rubbish left on land from previous owners;
c) Remediation including the disposal of general solid waste and contaminated material off-site and the replacement with suitable fill;
d) Demolition and removal redundant infrastructure to deliver new works;
e) Requirement to import or dispose fill due to existing site constraints as the balance cannot be integrated into the design process;
f) Undergrounding, relocation and protection of existing utility infrastructure;
g) Staging of works due to half road construction and works adjoining developments;
h) Generally work is not as productive on brownfield sites when compared to greenfield subdivisions resulting in higher comparable rates;
i) Additional costs associated with significant horizontal and vertical road realignment when upgrading existing infrastructure;
j) Scope increases to tie-in with existing infrastructure;
k) Modification and adjustment of adjacent impacted properties;
l) Noise walls and sound attenuation of adjacent dwellings;
m) Out of hours work requirements;
n) Maintaining property access during works;
o) Traffic and pedestrian management during works;
p) Temporary works including diversions to deliver transport and stormwater infrastructure
q) Additional preliminary, margin and cost escalation associated with prolonged delivery programmes;
r) Additional design and coordination costs.

29) Roads do not allow for subgrade improvement in the base costs. Most roads in growth centers will require up to 350mm crushed rock or select material sub-grade replacement. The inclusion of a typical sub-grade improvement rate would be more effective than applying '*Note 1 Soil Condition'* adjustment factor.

30) New local roads only include 1 x 1.5m wide footpath. Typically, new local roads have 1.5m wide footpaths on both sides.

31) Stormwater is included separately in items 2.13 and 2.15 and not part of roads in Items 1.01 through to 1.14. It could be easier if general stormwater pipe and pits in connection to roads was included in the road costs. Most contribution plans include stormwater in roads as part of the road cost and stormwater in connection with basins and water quality separately.

32) 45 litre street trees are smaller than typical requirements for most councils. Tree sizes are generally being increased to offset heat island effects being generated in new developments. It is not clear if root barriers, planting zones, stakes, surrounds and edges are included.

33) Item 1.01, New Local Roads excludes signage and linemarking. It is not apparent why these items exceed minimum requirements and are excluded. Linemarking is required for safety requirements and street signs are required for speed, parking, wayfinding and vehicular management purposes and therefore an allowance should be included.

34) Erosion and sediment control has not been included in any of the roads as it has not been listed in the inclusions.

35) The allowance of 500mm cut/fill balance is the same for all types of roads. Typically, the wider the road the more earthworks would be required. If 500mm is included for local roads, 625mm should be included for collectors and 730mm for the sub-arterial (excluding 2m median) based upon a width apportionment basis.

36) Item 1.04, Sub-arterial Road design does not include for a median. Medians should be included to split the trafficable lanes and allow for turning lanes into streets and intersections.

37) Item 1.05, Industrial Roads exclude footpaths to either side of the road. Industrial developments typically have paths on at least one side to promote pedestrian access.

38) Item 1.05, Industrial Roads can be wider than the 11m wide carriageway allowed due to truck turning requirements.

39) Item 1.06, New Rural Road cross section does not align with the inclusions listed in the specified section of the report. For example, the inclusions specify 2 x 3m wide carriageways and an 8m wide road reserve, while the cross section indicates 2 x 3.5m wide carriageways and an 14m wide road reserve with 2 x 2.5m wide shoulders. This item needs to be amended so that the scope, cost and diagram align.

40) Item 1.07, Upgrade Collector Road does not include for scope that would incorporate typical detail for upgrading existing roads to collectors. Cardno's report does not specify what demolition or upgrade is required and based upon the rate included in the Cardno Report of $3,000 per m the scope of the upgrade is minimal.

41) Typically redundant roads need to be demolished and rebuilt to new specifications that satisfy the design requirements of the upgrade. The detail in Cardno's report suggest just an additional 3.2m wide lane, composed of 200mm base and 300mm depth composition of asphaltic concrete. This suggests that only the widened area will be upgraded. This type of upgrade very rarely occurs as the existing pavement will likely fail over time due to increased traffic, changes in road alignments to achieve design requirements, relocated services and tie-ins with new infrastructure being developed. The complete milling and resheeting of the residual road width should also be included if this type of widening occurs.

42) The allowance for traffic management in connection to the upgrade is not explained or listed as an inclusion in Cardno's Report. There definitely needs to be an allowance for this item and Cardno's Report needs to be clear as to what allowance has been made so that adjustments can be made when using the base cost.

43) Only one new 2.5m wide shared way has been included on the proposed road upgrade rate. Typically, an additional 1.5m footpath would be required as older roads would not have a footpath or have a 1.2m wide footpath.

44) Cardno have not allowed for utility relocation or undergrounding. Utility relocation is hard to price without details, however all upgraded roads would typically require an allowance due to alignment changes and the requirement to install services off the new alignment to ensure correct depths of conduits and pipes are adhered to in accordance with Australian Standards.

45) Remediation does not appear to have been included in Cardno's base cost. Typically, an allowance needs to be included to dispose of general solid waste and contaminated material as fill and redundant structures would not be able to be reused on site and be required to be disposed in a licensed landfill.

46) The requirement to import or dispose of fill should also be included as road upgrades do not allow for the balance of material to be managed on site when aligning to existing levels.

47) New street trees have not been included in road upgrades. Trees need to be included as roads will be upgraded to new alignments. Existing will need to be removed and replaced with new.

48) Additional items addressed in paragraph 28 are not included in Cardno cost for upgrading roads. These can all impact costs resulting in upgrades of over $17,500 per m.

49) Item 1.08, Upgrade to Sub-arterial Road does not include for scope that would incorporate typical scope for upgrading existing roads to sub-arterials. The reason for these upgrades are explained in paragraph 28 and included above for Item 1.07, Collector Road Upgrades.

50) The upgrade to a sub-arterial would typically need to include for a new median in addition for a new lane.

51) Undergrounding, relocation and protection of existing utility infrastructure can add substantial costs for roads being upgraded to sub-arterial as the existing services would be substantial.

52) Item 1.09 through to 1.11, Signalised intersections does not include any options for upgrading existing intersections to being signalised.

53) All intersections do not include for traffic control, extent of median refuge (indicated as being included in scope, however not indicated on sketch design), road construction including additional turning lanes, additional lane width, thickened pavement construction, allowance for electrical supply to traffic signal controller and additional costs for services fittings due to bends and tees.

54) Item 1.14, Roundabout Single Lane does not include additional pavement costs associated with increased road areas due to pavement turning circles and costs associated with thickened pavement construction, concrete road pavements or modified asphalt in lieu of standard asphaltic concrete wearing course.

55) Item 1.16 Concrete Pathway, is reflective of a 1.2 to 1.5m wide path and not a 2.5m wide, 125mm to 150mm thick shared pathway. Contribution plans are more likely to include separate items for shared paths than footpaths.

56) The concrete path is detailed as being 100mm depth. Shared paths are typically 125mm to 150mm deep and more expensive than $100/m² due to the increased thickness and construction joints in addition to the expansion joints. Rates would be approx. $120/m² on roads and higher for off-road construction where additional earthworks and preparation is required.

57) Item 1.19 Road Bridge does not specify the base length and height that has been allowed for. It is important to note the base allowance in case adjustments need to be made to the rate to adjust for very small, high or longer spanning bridges.

58) Item 1.20, Pedestrian / Cycleway Bridge does not specify the standard height and length of the bridge that has been included. It is assumed that it has been included to allow for a crossing over a sub-arterial road and requires stairs and ramps. If this is the case it should also include extra over rates to allow for vertical transportation.

59) Item 1.23 Bus Shelter should include an extra over cost to remove existing when upgrading on brownfield sites.

60) Item 1.27 Street Lighting does not clarify length between poles and extra over cost for higher poles required on sub-arterial roads.

61) Item 2.01 Culvert does not specify the footing requirements that have been included.

62) The rate for the twin 1500 x 600 cell culvert is very high when compared to the single cell.

63) The rate for Item 2.02, Combined Basin and Raingarden Facility is hard to comment upon without knowing what the size of each component is. Typically these items are measured separately so that rates can be applied to suit the individual requirements.

64) Weirs, scour protection, vehicle access tracks, raised pits, landscaping, maintenance and geotextile fabric are not listed as being included. All these items are typically included in basin and raingarden construction.

65) Basin and raingardens are typically constructed in stages to minimise the buildup of silt in the base of the basin and filtration layers of raingarden to maximise the storage capacity and life cycle. Staging requirements have not been addressed in Cardno's Report.

66) The size of item 2.03, Single Raingarden Facility needs to be included in the Cardno Report so adjustments can be made depending on project requirements.

67) It is not clear what scope has been included for Item 2.04.4, Bio-retention Trench and Item 2.04.5, Basin. The rates appear low, however are hard to justify without scope clarification.

68) It is not clear what Item 2.05, Bio-filtration Filter represents. $65/m² appears low to excavate 500mm deep filter material, dispose off-site, replace with new material (approx. $140/m³), replant, mulch and maintain.

69) Item 2.08, Wetland Basin (and all basins, water storage and quality areas) is appropriate for a greenfield sites where surplus material can be reused, however it is very low for brownfield sites where surplus material needs to be disposed off-site.

70) It is not apparent if wetland basin includes typical scope such as maintenance access tracks, raised pits, landscaping and maintenance.

71) Rates for Item 2.11, Gross Pollutant Traps appear marginally low compared with recent pricing. Prices would further increase in brownfield sites where additional shoring and diversion water pumping requirements would be applicable.

72) Rates included in Item 2.13, Stormwater Pipes, is typical of greenfield sites with high productivity where surplus soil can be reused on site. Costs can be substantially higher on brownfield projects where existing infrastructure is being replaced due to increased sizing capacity. Soil could be potentially uncontrolled fill or contaminated and is required to be disposed off-site.

73) Larger sized reinforced concrete pipes should also be included up to 1,200mm dia.

74) Item 2.14, Stormwater headwalls should include allowances for scour protection as this is typically required for all headwall installations.

75) Rates included in Item 2.15, Stormwater Pit, is typical of greenfield sites with high productivity where surplus soil can be reused on site. Costs can be substantially higher on brownfield projects where soil could be uncontrolled fill and contaminated and is required to be disposed off-site. Larger sized pits to accommodate larger pipes or box culverts should also be included.

76) Item 4.01, Amenities Buildings indicates a building size of '*400sqm'* with '*notional facility size of 100m²*'. The suggested applicable rate is $2,500/m². It is not apparent if the rate should apply to the 400m² or the 100m². The rate would appear low for the 400m² building and very low for a 100m² building. Recent projects for the suggested scope suggest a budget of $1,650,000 is appropriate for a single storey building including canteen/kiosk, referee change rooms, change rooms, amenities, accessible amenities, first aid, bin enclosure and sports storage. This building would include a building area approximately 155m² FECA (fully enclosed covered area) + 360m² UCA (unenclosed covered area), excluding carparking and landscaping.

77) Item 4.06, Cricket Wicket is marginally low. Recent pricing indicates a rate of $20,500 is reasonable for a wicket including preparation, pad footings, 100mm DGB20 base, 125mm reinforced concrete slab with joints and 60mm synthetic turf.

78) Item 4.07, Demolition includes for disposal of general solid waste at $60 per tonne, This rate should be in excess of $180 per tonne in Sydney. Rates for demolition of concrete slabs and bitumen are high while structure demolition costs are low.

79) Item 4.08, Playing Fields are very low and only include very basic quality construction. These rates would exclude substantial earthworks, upgrading and amelioration of existing topsoil and importing additional topsoil or mixing compost to upgrade the existing quality, subsoil drainage or slit drainage, drainage layers, irrigation and maintenance. These fields are calculated at rates less than $30/m² which I would consider insufficient for most field projects.

80) The area of 9,500m² is low for a cricket pitch. Pitches are typically a minimum of 11,000 to 17,500m². 17,500m² is the size indicated for double soccer fields which would also accommodate a seasonal cricket pitch.

81) Item 4.09 Lighting, does not allow for consumers mains connection, main switch boards and metering if required.

82) Item 4.12, Basic Landscaping rates are generally low. 45 litre plants are approximately $145 each, 100 litre are approximately $360 each, shrubs approximately $55 each and 100mm mulching is approximately $10/m².

83) Item 4.15, Park Lighting is not sufficient at $1,500 per luminaire. Scope allows for connection to existing power supply within 20m, however indicates spacing at 25m. A conduit and cable installed at least 600mm deep in a trench would be a minimum of $60/m. At 25m spacing this equates to $1,500. A footing, post and luminaire would be an additional $2,250. The total would be $3,750.00 for a basic standard pole and fitting.

84) Item 4.17, Paved Area rates are low for sandstone and brick paving, These would typically have a concrete base and require an additional $95/m². The rate for shared asphalt is high at $250/m². This should not be more than $140/m².

85) Rates for Item 4.19, are not reasonable for standard playground equipment. They are very low and reflect prices for small equipment that would not typically be installed in a local playground.

86) Item 4.24, Turfing includes for 500mm cut/fill earthworks, irrigation and turf. It is not apparent why this scope is included and why this rate is cheaper than a sportsfield rate.

Do the Base Costs Reflect Efficient Costs?

87) The base costs reflect efficient costs, typical of new work being delivered in large greenfield subdivisions based upon high productivity rates.

88) There are however significant omissions in scope when addressing work being delivered in brownfield projects. The items are not considered in Cardno's Report and detailed previously in paragraph 28.

Do the Sub Items and Adjustments Appropriately Deal with Project Variability?

89) As stated above I have listed items that are not appropriately dealt with that impact on the project variability in paragraph 28.

90) The extent of soil condition impacts is not typically determined until subgrade is encountered and tested. Therefore, the factors included in '*Note 3 Soil Condition*' cannot be readily applied at the planning or design stage unless the worse case scenario is applied at planning stage. Typically, a rate for sub-grade improvement would be included in lieu of a percentage if this scope is expected based upon geotechnical reports or expected local conditions.

91) The suggested escalation factor adjustment method of applying ABS data in '*Note 4 Indexation*' is more appropriate than using CPI Sydney All-Groups. Over the past decade building indices has escalated at a higher rate than CPI so the proposed is perforable, however specific escalation should be applied to certain items if required. For example, steel has increased over 40% in the last year so items like street lighting and reinforced concrete culvert and pipes should escalate at a higher rate that ABS indices if deemed appropriate.

Do the Project Allowances for On-costs and Contingency Reflect Efficient Practice?

92) It is not apparent from Cardno's Report what the 'base costs' represent. Are these based upon residential subdivision developments in Sydney growth areas or are they based upon council works for delivering local infrastructure? To enable the efficient application of sub items and adjustments it is important to establish what the base costs represent. Based upon my review of base costs they appear to reflect new infrastructure being constructed productively in large greenfield subdivisions.

93) Cardno suggest using Rawlinsons Australian Construction Handbook or raw material prices to adjust benchmark costs, however, not both factors when adjusting costs for regional indices.

94) The indices in Rawlinsons have been calculated predominately from building construction data and not local infrastructure. The price factors impacting local infrastructure can vary to building construction and therefore specific factors impacting materials, plant and labour need to be applied in certain instances. An example of this is that quarried material can be cheaper in rural areas if quarries exist nearby. Transport, traffic and labour price factors are not as highly impacted and can be more economical than comparable city prices.

95) Items like steel signage poles or streetlights have recently been impacted by raw material increases that are much higher than standard indices increase. When these items are installed in a regional environment a regional transport factor would need to be applied. Therefore, both raw material and regional factors can apply to specific items. This is contrary to Cardno's comment that both factors should not be applied.

96) On-cost rates can vary considerably depending on the complexity of a project and should not be categorially calculated based upon the cost. For an example a $5M rail over bridge collector road with multiple underground services would likely require an on-cost of over 12% to enable the delivery. It would be ideal if the on-costs could be flexible so that percentages could be adjusted if required to reflect the actual expected cost of the works being delivered.

97) Contingency rates should be applied depending on the risk profile of specific projects and not just fixed percentages. For example, at 'planning' stage a greenfield collector would only require a 5% to 10% contingency, where a large intersection upgrade would require 30% to 40% contingency. The suggested rate of 20% is therefore not applicable to all work with this project category. At a 20% rate, the contingency on greenfield projects would excessive, whilst brownfield projects would insufficiently allowed for. Improvements to the contingency would include the option to include specific rates dependent on the works being delivered or contingencies calculated after undertaking a P90 Monte Carlo simulation;

98) It is not identified in the Cardno Report, what evidence IPART require to justify the use of the adjustment factors.

99) The extent of unsuitable ground condition including contamination impacts is not typically determined until subgrade is encountered and tested. Therefore, these factors cannot be readily applied at the planning or design stage unless the worst-case scenario is applied. The impact of these factors alone could be much higher than allowances for on-costs.

Should you require further information and details, please contact the undersigned.

Yours faithfully
MITCHELL BRANDTMAN

[redacted]

MATTHEW KRITZLER
PARTNER

Appendix 2

NSW Government strategies, plans and policies that promote community facilities

Table of Contents

Greater Sydney Commission **2**
1. Greater Sydney Region Plan 2018 ..... **2**
2. Central City District Plan 2018 ..... **4**
Department of Planning, Industry and Environment **7**
3. Apartment Design Guide (2015) **7**
4. North West Growth Area Land Use and Infrastructure Implementation Plan (2017) **7**
5. Local Character and Place Guidelines (2019) **8**
6. Draft Design & Place SEPP – Explanation of Intended Effect (2021) **9**
NSW Health **12**
7. Healthy Built Environment Checklist (2020) **12**
Infrastructure NSW **14**
8. Cultural Infrastructure Strategy (2016) **14**

Greater Sydney Commission

1. Greater Sydney Region Plan 2018

Theme:	Infrastructure and collaboration
Objective 1:	Infrastructure supports the three cities

"*Planning decisions need to support **new infrastructure** including **cultural**, education, health, **community** and water infrastructure - to fairly balance population growth with infrastructure investment. Decisions are required to equitably enhance local opportunities, inclusion and connection to services. In this way, infrastructure can move from a focus on network-based service to a place based service approach*." (p 35)

Theme:	Liveability
Objective 6:	Services and infrastructure meet communities' changing needs

"*Tailored services and infrastructure is required for people to age within their communities where being close to friends, family and support networks improves their wellbeing. This means local access to health services, transport and **social infrastructure** which may require more innovative approaches to delivery*." (p 52)

Theme:	Liveability
Objective 7:	Communities are healthy, resilient and socially connected

"*Managing growth and change requires meaningful engagement with local communities. Understanding and building on a community's strength, networks and potential are critical. **Infrastructure** and services for socially connected communities include:*

- ***playgrounds, libraries, education facilities** and active street life;*
- *farmers' markets, eat streets, street verges and community gardens;*
- ***creative art centres, theatres, live music and co-working spaces**;*
- *bushcare groups, outdoor gyms**, sportsgrounds**, **aquatic centres and community spaces**.*

Being connected including physically, socially, economically, culturally and digitally is central to building healthy, resilient and diverse communities. Developing places for people is important at every scale, from large transformational projects to local public realm improvements. This requires collaboration and coordination across a range of stakeholders and agencies, councils and communities, developers and service providers." (p 55)

Theme:	Liveability
Objective 8:	Greater Sydney's communities are culturally rich with diverse neighbourhoods

"*Sporting participation is recognised as an important social and recreational pursuit that builds on social connections in diverse communities.* ***Multi-use and diverse open spaces and sporting facilities are essential social connectors***." (56)

Theme:	Liveability
Objective 9:	Greater Sydney celebrates arts and supports creative industries and innovations

"***Great places are made when artistic, cultural and creative works are visible, valued, distinctive and accessible****. Providing local opportunities for artistic, cultural and creative expression through support for, and access to, arts, literature, screen, performance and cultural experiences, public art and events encourages creativity and innovation that contributes to local identity (refer to Objective 7).* ***Growing the arts sector will draw greater participation from both residents and visitors, boosting the economy and attracting investment****."* (p57)

While there is an historic concentration of arts and cultural organisations in the Eastern Harbour City, ***there are important arts facilities and strong local arts networks that give the Central River and Western Parkland cities distinctive arts cultures****. These include Bankstown Arts Centre, Blacktown Arts Centre, Casula Powerhouse Arts Centre, Campbelltown Arts Centre, Penrith Performing and Visual Arts and the Riverside Theatres in Parramatta. However* ***more facilities to support arts and culture are required*** *in the Central River and Western Parkland cities to balance the three cities*." (p 57)

Theme:	Liveability
Objective 12:	Great places that bring people together

"*Through place-based planning the mechanisms for delivering public benefits can be agreed early in the planning process, so that places provide a combination of the following elements:*

- *Well-designed built environment: great places are enjoyable and attractive, they are safe, clean and flexible with a mix of sizes and functions.*
- ***Social infrastructure and opportunity****: great places are inclusive of people of all ages and abilities, with a range of authentic local experiences and opportunities for social interaction and connections.*
- *Fine grain urban form: great places are walkable of human scale, with a mix of land uses including social infrastructure and local services at the heart of communities*." (p 73)

2. Central City District Plan 2018

Theme:	Infrastructure and collaboration
Planning Priority C1:	Planning for a city supported by infrastructure

"[Planning] *Decisions are required to equitably enhance local opportunities, inclusion and connection to services. In this way* ***infrastructure provision can move from a focus on network-based services to a place-based service*** *approach*." (p 18)

"***Planning and investment in infrastructure is essential*** *to attracting and retaining jobs in the Central City District and enhancing the liveability of existing and new communities with improved access to parks, sporting fields, schools and childcare facilities*." (p 19)

Theme:	Liveability

"*Liveability is about people's quality of life.* ***Maintaining and improving liveability requires housing, infrastructure and services that meet people's needs****; and the provision of a range of housing types in the right locations with measures to improve affordability. This enables people to stay in their neighbourhoods and communities as they transition through life*." (p 25)

Theme:	Liveability
Planning Priority C3:	Providing services and social infrastructure to meet people's changing needs

"*Planning must recognise the changing composition of population groups in local places and provide* ***services and social infrastructure*** *that meet the changes in people's needs through different stages of life*." (p 26)

"***Growth increases demand on existing services and infrastructure****, including sport and recreation facilities that are, in some cases, at or nearing capacity. Integrated and targeted delivery of services and infrastructure is needed to support growth and take account of existing levels of provision and use, while also responding to changing demands over time and in different places.* ***Residents need the right local mix of services, programs and infrastructure to meet their needs***." (p 26)

"***Facilities can be the focus of neighbourhoods*** *with the co-location of schools, youth and health services, aged care, libraries, community and cultural facilities, parks and recreation. These facilities need to be accessible with direct and safe walking and cycling connections that can be used by people of all ages and abilities. This encourages people to be more physically and socially active, improves health outcomes and enhances the overall liveability of a neighbourhood or centre*." (p 26)

"*Creating opportunities for increased shared use and more flexible use of under-utilised facilities such as schools, sports facilities, halls and creative spaces can support growth and respond to the different needs of local demographic groups.* ***Multipurpose and intergenerational facilities are the key to better use of, and access to, infrastructure and services in urban renewal and land release areas***." (p 26)

"***Integrated and targeted delivery of services and infrastructure*** *is needed to support growth and respond to the different needs of population groups*." (p 26)

"*Infrastructure can be adapted and shared for different uses… In new developments providing* ***multipurpose and intergenerational facilities*** *can support better access to and use of infrastructure*." (p 29)

"***Each neighbourhood has facilities*** *such as libraries, community centres, adult education, sport and recreation facilities that enhance and promote social connections and networks within the community*." (p 29)

Theme:	Liveability
Planning Priority C4:	Fostering healthy, creative, culturally rich and socially connected communities

"*To foster healthy, creative, culturally rich and socially connected communities this District Plan recognises cultural richness and diversity as one of Greater Sydney's key strengths. Strong social connections are key to these strengths and a foundation of resilience and healthy lifestyles among the District's residents. To support and deliver these outcomes* ***a multi-faceted and place-based approach is required to focus on the local inter-relationships between healthy, creative, culturally rich and socially connected communities***." (p 31)

"*Connectivity of, and access to, diverse open spaces and opportunities for recreational physical activity are also essential to improved mental and physical health outcomes.* ***Sport and active lifestyles provide many social, cultural and health benefits***." (p 31)

"***Co-locating artistic and creative organisations*** *will support creative enterprises and precincts.* ***This requires planning for multi-functional and shared spaces*** *with opportunities for artists and makers to live, work, exhibit, sell and learn locally*." (p 32)

"*Many educational and* ***community facilities****, social enterprises, community initiatives,* ***clubs and sporting organisations and facilities*** *connect people with one another. These social connectors help foster healthy, culturally rich and networked communities that share values and trust and can develop resilience to shocks and stress*." (p 34)

"***Lifelong learning facilities and libraries provide valuable opportunities*** *to continue education and connect with others in the community. Digital connectivity is also emerging as key to building broad and diverse communities of interest that can cross traditional spatial boundaries*." (p 34)

"*Place-based planning to enhance social connections within and across communities should focus these activities at the heart of neighbourhoods and in local centres to enhance social and economic participation. This co-location of* ***social infrastructure*** *with daily needs and other services helps build connections*." (p 34)

Theme:	Liveability
Planning Priority C5:	Providing housing supply, choice and affordability, with access to jobs, services and public transport

"*Housing supply must be coordinated with **local infrastructure** to create liveable, walkable and cycle-friendly neighbourhoods with direct, safe and universally designed pedestrian and cycling connections to shops, services and public transport*." (p 37)

Theme:	Liveability
Planning Priority C5:	Creating and renewing great places and local centres, and respecting the District's heritage

"***Great places include all parts of the public realm** such as open space, streets, centres and neighbourhoods and the interface with the private realm which includes residential, commercial and industrial streetscapes. They exhibit design excellence and start with, and focus on, open space and a people-friendly realm. They recognise and celebrate the local character of the place and its people*." (p 46)

"*To create great places, the mechanisms for delivering public benefits need to be agreed early in the planning process, so that places provide a combination of the following elements as set out in A Metropolis of Three Cities:*

- *Well-designed built-environment: great places are enjoyable and attractive, they are safe, clean and flexible with a mix of sizes and functions.*
- ***Social infrastructure and opportunity**: great places are inclusive of people of all ages and abilities, with a range of authentic local experiences and opportunities for social interaction and connection.*
- *Fine grain urban form: great places are walkable, of human scale, with a mix of land uses including social infrastructure and local services at the heart of communities*." (p 46)

Department of Planning, Industry and Environment

3. Apartment Design Guide (2015)

Precincts and individual sites

"*Precinct plans provide a number of opportunities including: … providing space for* ***new community facilities such as recreational centres, libraries and childcare centres***." (p25)

4. North West Growth Area Land Use and Infrastructure Implementation Plan (2017)

Executive summary

"*Within the North West Priority Growth Area,* ***new communities will progressively develop with access to schools, parks, community facilities****, jobs, roads and public transport. Over the next ten years, 33,000 homes will be provided and the growth area will be home to around 92,400 people. The Land Use and Infrastructure Implementation Plan provides a robust framework to grow new communities in line with the provision of infrastructure*." (p2)

Aims

"***Coordinating infrastructure provision is essential to support growth with community facilities****, schools, green open space, and other public spaces, and to make these centres attractive and pleasant places to live and work*." (p9)

Vision

"*New communities will progressively develop across the North West Priority Growth Area with* ***access to schools, parks, community facilities****, jobs, roads and public transport. Over the next ten years, 33,000 homes will be built in the growth area, accommodating around 92,400 people. The Land Use and Infrastructure Implementation Plan provides a robust framework to grow new communities in line with the provision of infrastructure*." (p16)

Implementation and funding

"*As the North West Priority Growth Area is experiencing greater residential densities than initially anticipated, it may be necessary to model the resulting increased developer contributions that councils can expect to receive.* ***The Department will work with councils to plan for ways in which additional contributions can best be allocated to ensure that the future communities of the North West Priority Growth Area have access to local open space, transport and community facilities***." (p55)

5. Local Character and Place Guidelines (2019)

Part 1 Local character influences and approaches

"*Greenfield areas refer to undeveloped areas that are the communities, new neighbourhoods and postcodes of the future. These areas undergo substantial change to the landscape as they can be rezoned from an area with no development on the site to industrial, employment or residential land. It is important that we create these new areas to be interesting and diverse by drawing from their physical surrounds, history and culture, as well as the types of new homes, shopping amenities, industries,* ***community facilities and cultural activities that attract people to the area***." (p15)

Part 2 Character assessment toolkit

"***Community facilities support cohesive and integrated communities****, with places for people to gather and socialise. They foster a strong sense of place and instil community pride. Community facilities should be provided proportionally to a community's population and those facilities of particular value or in need of improvement should be recognised for enhancement*." (p23)

Part 4 Conclusion

"***Key considerations for community facilities*** *are:*

- *What community facilities are most highly valued? How could they be improved?*
- *What community facilities are missing or under-utilised?*
- *How do community facilities cater to everyone, whatever their age, gender, ethnicity, religion, sexuality or disability?*
- *Are there any local community facilities that serve people outside of your community?*
- *Where are community facilities located? Are they within a reasonable distance of most homes and easily accessible?*

Additional considerations for community facilities in greenfield areas are:

- *What types of community facilities would you like to see in your community?*" (p46)

6. Draft Design & Place SEPP – Explanation of Intended Effect (2021)

Principle 2: Design inviting public spaces to support engaged communities

"*As NSW plans for future growth and development, **equitable access to high-quality public space is becoming increasingly important**. Public spaces play a crucial role in ensuring quality of life for communities by providing spaces to share experiences, connect with each other, build healthy activities into everyday life, and get closer to nature*." (p17)

Strategy: High-quality public spaces are inviting, accessible, diverse and comfortable. They encourage a healthy public life for our communities, fostering active lifestyles and social connections

"***Public spaces include open spaces, streets, community facilities** and venues that are publicly owned or of public use, and can be used by all. Well-designed public spaces are flexible for a variety of intended uses, integrate well with their context, spark new opportunities for local economic development and are adaptable to changes in climate, ecology, demographics and economy. They play a critical role in creating healthy cities by mitigating climate change effects through water-sensitive design and providing the space and conditions for significant tree canopy and vegetation. Public spaces also build our capacity to withstand shocks during times of crisis by providing space for refuge or escape*

The Design and Place SEPP will:

- *propose new targets to retain or increase the provision and diversity of public space across NSW, including the protection of existing public space assets;*
- *propose that new dwellings and workplaces are located in close proximity to public space (either existing or newly created) to increase accessibility and create walkable neighbourhoods;*
- *deliver green infrastructure for greater connectivity, including landscape corridors, recreational walking and cycling networks, and fit-for-purpose open space for recreation;*
- *ensure that buildings near vibrant areas, such as licensed premises or major public space, do not impact the ability for those areas to continue to operate*." (p17)

Part 2 Designing Better Places - Section 2.6 Good design outcomes

Strategy: "*The design of the built environment must seek to address growing economic and **social disparity and inequity**, by **creating inclusive**, welcoming and **equitable environments**. Incorporating diverse uses, housing types and economic frameworks will support engaging places and **resilient communities***".

"*Inclusive*

- *A building, place or space that embraces the community and individuals who use it.*

Connected

- *A building place or space that establishes links with its surrounds, allowing visitors and residents to move freely and sustainably.*

Diverse

- *A building, place or space that embraces a richness in use, character and qualities. How does this create better outcomes?*
- *Accessible cities and towns make service delivery much more cost effective including health services, public transport and **community facilities**.*
- *Environments which support accessibility and social interaction promote community physical and mental health, reducing longer-term health impacts and costs*." (p40)

Part 2 Health, planning and the built environment

"*Design approaches can encourage physical activity and improve health outcomes*

The right design approach can encourage physical activity. Enjoyable built environments can significantly extend the distances people are willing to walk.

The following built form elements can help increase physical activity among adults:

- *the number of destinations such as transit stations, shops, **community facilities** and open space within walking or cycling distance*
- *greater diversity in land use*
- *shorter distance to transit stops*
- *neighbourhood walkability*" (p14)

Part 3 The 11 checklist themes: Open space and natural features

"*Having public spaces nearby helps bring communities together.*

Properly designed and cared for public spaces bring communities together, provide meeting places and foster social ties.

Public spaces can also provide environments for restoration from mental fatigue, solitude and quiet, education, artistic expression, contemplation, reflection and inspiration.

*Planning practice sets a walkable distance for most people at 400 metres (a five-minute walk). Having neighbourhood focal points – shops, **community facilities** and public spaces – within 400 to 500 metres of where most people live is desirable. This radius extends to 800 metres if centred on a railway station, which tends to encourage people to walk from a greater distance.*" (p60)

Part 3 The 11 checklist themes: Social infrastructure

"*Good social infrastructure is clustered, near transport hubs, flexible and accessible.*

Principles for providing social infrastructure include:

- *Cluster facilities with activity centres. Locate facilities with shops, schools and other activity centres to create community focal points and promote safety. This can reduce the need to travel to different places and encourage active transport such as walking and cycling.*
- *Consider locations carefully. Facilities should be in convenient, central locations that are accessible by public transport. When they are next to open spaces they allow for overflow activities such as children's play, festivals and markets.*

- *Design for flexibility. Make sure facilities can respond and change to meet evolving community needs.*
- *Create buildings that inspire community pride. Buildings are **community spaces** and should evoke a sense of identity, pride and ownership.*
- ***Promote equitable access**. Do this through distribution, design and management*." (p60)

"*Social infrastructure needs to be planned at the same time as planning for other infrastructure.*

People want to live in areas with good schools, health services, high-quality open spaces and recreational activities, all in accessible and convenient locations.

***Social infrastructure**, or 'soft infrastructure', should be an **integral part of development planning**, along with transport, water, electricity and other forms of 'hard infrastructure'. **If social infrastructure is considered after residential development occurs, it can cause inequities in access to services**.*

***Social infrastructure is important** in new developments where links between neighbours have not yet been forged. It creates a sense of ownership of place and a sense of community.*

*Well-planned social infrastructure can attract people of different ages, cultures and socio-economic backgrounds to an area, **helping create a sustainable community***." (p60)

Part 3 The 11 checklist themes: Social cohesion and connectivity

"*Social infrastructure planning needs to be integrated across disciplines*

*Social infrastructure is an important part of the planning process. Master planning is an opportunity to integrate community facilities into new communities and developments. Integration is important across social infrastructure providers, government agencies and service providers. For large developments and new precincts, **a high level of coordination is required to ensure social infrastructure is integrated early in the planning process***." (p65)

"*The built environment can help – or hinder – social cohesion*

*Features that encourage social interaction include walkable neighbourhoods, attractive public spaces and accessible community facilities that allow people to meet and take part in community events. **Good social infrastructure can also help generate social cohesion***." (p68)

NSW Health

7. Healthy Built Environment Checklist (2020)

Part 2 Health, planning and the built environment

"*Design approaches can encourage physical activity and improve health outcomes*

The right design approach can encourage physical activity. Enjoyable built environments can significantly extend the distances people are willing to walk.

- *The following built form elements can help increase physical activity among adults: the number of destinations such as transit stations, shops,* ***community facilities*** *and open space within walking or cycling distance*
- *greater diversity in land use*
- *shorter distance to transit stops*
- *neighbourhood walkability*." (p14)

Part 3 The 11 checklist themes: open space and natural features

"*Having public spaces nearby helps bring communities together*

Properly designed and cared for public spaces bring communities together, provide meeting places and foster social ties.

Public spaces can also provide environments for restoration from mental fatigue, solitude and quiet, education, artistic expression, contemplation, reflection and inspiration.

Planning practice sets a walkable distance for most people at 400 metres (a five-minute walk). Having neighbourhood focal points – shops, ***community facilities*** *and public spaces – within 400 to 500 metres of where most people live is desirable. This radius extends to 800 metres if centred on a railway station, which tends to encourage people to walk from a greater distance*." (60)

Part 3 The 11 checklist themes: social infrastructure

"*Good social infrastructure is clustered, near transport hubs, flexible and accessible*

Principles for providing social infrastructure include:

- *Cluster facilities with activity centres.*

Locate facilities with shops, schools and other activity centres to create community focal points and promote safety. This can reduce the need to travel to different places and encourage active transport such as walking and cycling.

- *Consider locations carefully.*

Facilities should be in convenient, central locations that are accessible by public transport. When they are next to open spaces they allow for overflow activities such as children's play, festivals and markets.

- *Design for flexibility.*

Make sure facilities can respond and change to meet evolving community needs.

- *Create buildings that inspire community pride.*

Buildings are community spaces and should evoke a sense of identity, pride and ownership.

- *Promote equitable access.*

Do this through distribution, design and management.

Social infrastructure needs to be planned at the same time as planning for other infrastructure. People want to live in areas with good schools, health services, high-quality open spaces and recreational activities, all in accessible and convenient locations.

Social infrastructure, or 'soft infrastructure', should be an integral part of development planning, along with transport, water, electricity and other forms of 'hard infrastructure'. If social infrastructure is considered after residential development occurs, it can cause inequities in access to services.

Social infrastructure is important in new developments where links between neighbours have not yet been forged. It creates a sense of ownership of place and a sense of community.

Well-planned social infrastructure can attract people of different ages, cultures and socio-economic backgrounds to an area, helping create a sustainable community.

Maximise efficiencies in social infrastructure planning and provision Facilities and the processes around them must be designed for multiple and shared uses. Sharing social infrastructure facilities also makes them more cost efficient. For example, community halls and school grounds can be used by different groups for different purposes." (p64)

Part 3 The 11 checklist themes: social cohesion

"*Social infrastructure planning needs to be integrated across disciplines*

Social infrastructure is an important part of the planning process. Master planning is an opportunity to integrate ***community facilities*** *into new communities and developments. Integration is important across social infrastructure providers, government agencies and service providers. For large developments and new precincts, a high level of coordination is required to ensure social infrastructure is integrated early in the planning process*." (p65)

Infrastructure NSW

8. Cultural Infrastructure Strategy (2016)

Executive summary

"*Cultural infrastructure is vitally important*

Cultural infrastructure includes buildings and spaces *that accommodate or support the visual arts, crafts, media arts, performing arts, heritage, museum, archives, libraries, publishing, sound recording, film, audio visual, radio and television. It ranges from iconic purpose-built facilities such as the Sydney Opera House through to adapting places and re-using spaces for cultural and artistic expression. It also includes the digital and technological infrastructure that enables online access to collections and performances and widens participation and appreciation for all audiences.*

Cultural infrastructure delivers many benefits*: It makes a vital economic contribution by creating jobs, generating exports and driving innovation in the wider economy. Our major cultural institutions make a substantial contribution to NSW's asset base, with collections and property worth approximately $8.2 billion.*

- *It plays an increasingly important role in attracting visitors to Sydney and NSW, with cultural and heritage visitors more likely to stay longer and have a higher average spend than other visitors*
- *It helps to define Sydney as a distinctive and appealing global city with a vibrant urban culture, where people want to live, work and invest*
- *It supports urban renewal and regional economic development, with new cultural projects proving highly successful in leading the revitalisation, regeneration and rebranding of old industrial areas and regional cities and towns*
- *It is a public good that benefits all, activating communities and neighbourhoods, improving health outcomes and providing opportunities for learning and self-development.*

Ensuring that the benefits of investment in cultural infrastructure are identified, realised, assessed and monitored is a core element of the Cultural Infrastructure Strategy." (p7)

"*Across* ***the State NSW Government investment will support a cultural offering*** *that is distinctive to NSW and Australia, achieves excellence, access and strength in the cultural sector and maximises economic and social benefits.*

- *Opportunities for attendance and participation at cultural events and venues are increased through physical, personal and virtual relationships*
- *NSW Government investment is targeted across the sector in accordance with a cultural infrastructure investment strategy that is periodically updated and refreshed*
- *Investment decisions stem from a strategic perspective that builds on other strategies such as tourism, urban renewal, transport and economic development*

- ***Arts and cultural experiences are embedded in daily life*** *through legible precincts, vibrant streetscapes,* ***community facilities*** *and transport links that nurture individuals and local communities, ensuring NSW is an attractive, connected, liveable place*
- *The scale and diversity of cultural experiences and opportunities respond to changing work and living patterns*
- ***Arts and cultural facilities*** *support the trend to greater informality, more deeply integrated technology and greater intimacy of experiences*
- ***Cultural infrastructure is recognised as a catalyst for urban renewal and regional economic development***
- *The benefits of maintaining and modernising key facilities are recognised and reflected in sustainable long-term funding arrangements*." (p17)

Chapter 1: Social inclusion, diversity and quality of life

"***Arts and culture are a public good*** *- delivering significant indirect or spill-over benefits. A thriving cultural sector benefits all: it provides a focus for communities, activates neighbourhoods and provides opportunities for learning and self-development. Significant cognitive and behaviour gains are achieved from participation in arts education, particularly for young people from disadvantaged backgrounds .... the multiple benefits of the arts for health, and this has been broadly confirmed by subsequent work. The interaction between arts and health is a dynamic field and positive outcomes are attributable across a range of health conditions including Parkinson's disease and dementia*." (p21)

Chapter 2: Trends and technology

"*Policy-makers across the world have embraced culture and cultural infrastructure as having a central role to play in delivering quality urban renewal.* ***Investment in cultural facilities helps transform neighbourhoods and supports regional economic development****. The strategic use of cultural infrastructure in urban policy internationally has been a recent unpredicted phenomenon, as has the rise and importance of cultural precincts. A strong cultural precinct can make a city and a neighbourhood more competitive in attracting global capital, knowledge workers and tourists. To be successful tourist attractions, cultural precincts typically require large, flagship institutions that attract artists and audiences. The precinct's public spaces and their capacity for activation are equally important*." (p28)

"*Cultural precincts benefit cultural organisations, residents and the retail and commercial sectors by encouraging visitors to spend time and money at multiple institutions in a condensed period of time. They support cultural organisations and offshoot industries.*

Cultural precincts also help to distinguish a city or neighbourhood*; but the art and culture inspired, created or engaged in within that cultural precinct* ***must be local*** *to or informed by the area itself. This leads to the creation of distinctive, organic, civil spaces and cultural experiences. A thriving cultural precinct can attract audiences from across the globe to an experience that could only happen in that place.*

***Investment in cultural infrastructure can contribute to attractive, animated, shared civic spaces**. Creating new and improved public spaces and creative place-making provides an opportunity to foster multi-use, informal spaces that meet the demand from broader audiences*." (p29)

Chapter 9: Implementing the Strategy

"*The NSW Government's ambition that cultural infrastructure reflects the best in contemporary design and draws upon the creative talents of NSW architects and designers.*

***Cultural infrastructure makes a fundamental contribution to the character and identity of our cities**. Design affects the functionality and character of the building, as well as the quality and performance of the public domain around and between it through the extent to which it:*

- *Integrates with the city and draws people in*
- *Creates new and attractive public space*
- *Can draw in the widest possible cross section of the community*." (p75)