APPENDIX A: INFRASTRUCTURE DEMAND AND THE CALCULATION OF THE CONTRIBUTION RATES

5 s 7.11 contributions must be shown to be reasonable

There are particular requirements for s 7.11 contributions as distinct from s 7.12 levies, including the following:

- Contributions can only be imposed if the consent authority considers that the development 'will or is likely to require the provision of or increase the demand for public amenities and public services within the area' (s 7.11(1)).
- Contributions toward recoupment of facilities can only be imposed if the facilities were provided in preparation for or to facilitate the carrying out of development in the area and the development will benefit from the provision of those public amenities or public services (s 7.11(3)).
- Contributions that are imposed must be reasonable (s 7.11(2) and (4)), and a developer may appeal to the Land and Environment Court on the grounds that contributions imposed on a development are unreasonable in the particular circumstances of the case (s 7.13(3)).

These requirements mean that a contributions plan that authorises s 7.11 contributions needs to show that the contribution rates are reasonable by explaining the relationship between the anticipated developments and the demand they generate for the infrastructure included in the plan.

So that the contributions that are imposed are reasonable, the s 7.11 contribution rates in this plan have been calculated having regard to the principles of nexus and fair cost apportionment. This has included consideration of:

- whether the infrastructure serves existing or new populations or both;
- whether the infrastructure serves residents or workers or both;
- the relative demand for infrastructure between residents and workers; and
- whether the infrastructure serves the North Sydney area development, or populations beyond the North Sydney LGA boundary.

This section explains the expected development in North Sydney LGA, the infrastructure necessary to support this development, and the way in which the s 7.11 contribution rates have been calculated.

6 Development and population context

6.1 Area context

North Sydney LGA is in Sydney's inner northern suburbs and part of the North District Plan. It is approximately 3km from the Sydney CBD. It is bound by the local government areas of Willoughby to the north, Mosman to the east, Lane Cove to the west. Sydney Harbour adjoins the southern parts of the LGA.

North Sydney LGA is approximately 10km² in area. Its residential areas consist of a mix of housing types. Unlike many parts of Sydney, the area's housing mix is dominated by higher density housing forms such as:

- town houses, terraces and residential flat buildings; and
- lift accessible apartment buildings in many areas including North Sydney CBD, St Leonards, Cremorne and Neutral Bay.

The area also has both minor and major employment areas, the most significant being:

- North Sydney CBD and surrounds, which contains a range of retail, commercial and other services typical of a major centre;
- St Leonards, Crows Nest and Neutral Bay with a mix of employment uses; and
- The Mater Hospital.

6.2 Recent development and population characteristics

North Sydney has been experiencing high rates of residential development from medium to large sized apartment blocks to dual occupancies, villas and town houses throughout the suburban areas. The construction of these types of housing is likely to continue due to the area's proximity to the Sydney CBD and other inner-city locations with ample employment opportunities.

6.2.1 Housing

Table 7 below shows the increase in number of dwellings between 2011 and 2016. Over this time there was a net increase of 1,888 dwellings, representing an average of 378 net additional dwellings per annum. The highest increase in dwelling types during this period was medium and high-density dwellings.

Table 7 Dwelling structure comparison 2011-2016

Dwelling type	2011		2016		Change
	Number	%	Number	%	2011 to 2016
Separate house	4,518	12.9	3,764	10.2	-754
Medium density	8,985	25.7	9,196	25.0	+211
High density	21,203	60.8	23,629	64.2	+2,426

Caravans, cabin, houseboat	22	0.1	11	0	-11
Other	112	0.3	78	0.2	-34
Not stated	57	0.2	107	0.3	+50
Total Private Dwellings	34,897	100	36,785	100	+1,888

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016.

In the six-year period to 2018, an additional 2,826 dwellings were completed across the LGA – an average annual growth of 1.2%, or an average of 471 extra dwellings per annum. The vast majority of these new dwellings were apartments.⁷

In the five-year period between 2014 and 2019 the resident population of North Sydney LGA grew from 69,937 to 75,021, corresponding to an average annual growth rate of 1.4%, and an average of 1017 persons per annum being added to the local population. (ABS Catalogue No. 3218.0 *Regional Population Growth, Australia*).

Reflecting its close proximity to the Sydney CBD, parts of North Sydney LGA have some of the highest population densities in the North District.

6.2.2 Household type

North Sydney's household type and family structure are outlined in Table 8 below.

Table 8 Household type 2016 census

Household type	North Sydney 2016 (No.)	North Sydney 2016 (%)
Couples with children	5,910	18.0
Couples without children	9,348	28.5
One parent families	1,752	5.3
Other families	400	1.2
Group household	2,018	6.1
Lone person	10,629	32.4
Other not classifiable household	2,215	6.7
Visitor only households	573	1.7
Total households	32,845	100.0

Source: ABS Census of Population and Housing, 2016

The dominant household type in North Sydney was lone person, accounting for 32.4% of households. During the intercensal period, this type of household reduced from 34.1% to 32.4% of households in the LGA. The household types that increased during the same period were:

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⁷ North Sydney Local Strategic Planning Statement p15

- Couples with children, from 15.4% to 18.0%,
- Couples without children, from 28.1% to 28.5%, and
- One parent families, from 4.8% to 5.3%.
- The number of lone person and couple only households is expected to increase by 32% by 2036.8

30

⁸ Ibid [17].

6.2.3 Occupancy rates

The following occupancy rates were recorded across North Sydney at the 2016 Census.

Table 9 Occupancy rates

Residential development type	Occupancy rate
0 and 1 bedroom dwellings	1.4 persons per dwelling
2 bedroom dwellings	2.0 persons per dwelling
3 bedroom dwellings	2.5 persons per dwelling
4+ bedroom dwellings	3.2 persons per dwelling

Source: Compiled from ABS census 2016 data

Recent research compiled by PwC and the Property Council of Australia indicates that self-contained seniors living dwellings have a similar occupancy rate to that of 0 and one bedroom dwellings – i.e. 1.4 persons per dwelling. Secondary dwellings also make up the housing mix in the LGA. The ABS census does not separate data for occupancy of these dwelling types. This plan assumes an average dwelling occupancy rate for secondary dwellings of 1.4 persons per dwelling.

6.2.4 Cultural diversity and language

The population of North Sydney is culturally diverse, and similar to the Sydney average.

In 2016, 37.8% of people were born overseas compared with 36.7% in Greater Sydney. The most common countries of birth were United Kingdom (7.6%), New Zealand (3.0%), and China (2.9%). Other overseas origins include India, South Africa and Japan. Between 2011 and 2016 the number of people born overseas increased by 1.4%.

In North Sydney LGA, 22.2% of people speak a language other than English. The dominant language is Mandarin, with 3.4% (2,276 people) speaking this language at home. Other languages that are highly represented include Cantonese, Japanese and Spanish.

6.2.5 Labour force and education

At the time of the 2016 census, 96.3% of North Sydney's 15+ year old population were employed. This was more than the Greater Sydney average of 61.6%. The unemployment rate was 3.7%, which is also lower than that of Greater Sydney (6%).

Of those employed, 71.1% worked full-time and 23.9% part-time. Of those persons looking for work, 2.3% were looking to work full-time and 1.4% were looking to work part-time.

Compared to Greater Sydney, the population of the North Sydney LGA has a significantly higher proportion of people holding formal qualifications that may include a Bachelor or higher degree, Advanced Diploma or Diploma, or vocational qualifications. It also has a lower proportion of people

⁹ 2018 PwC/Property Council Retirement Census November 2018. The occupancy rate is derived from the finding that 61% of self-contained seniors living dwellings are occupied by a single resident and 39% of the dwellings are occupied by couples.

with no formal qualifications. Overall, 70.7% of the population aged over 15 hold educational qualifications and 18.9% have no qualifications compared with 52.7% and 37.7% respectively for Greater Sydney.

The most common occupations were professionals (43.8%), managers (21.4%) and clerical and administrative workers (12.6%). Together, these occupations account for 77.8% of the employed resident population.

6.2.6 Income

In 2016, North Sydney LGA had a higher proportion of individuals earning a high income (more than \$1,750 per week or more) and a lower proportion of individuals of low income (less than \$500 per week), compared to Greater Sydney. Overall, 34.1% of the population earned a high income, and 18.4% earned a low income compared with 14.4% and 36.1% respectively for Greater Sydney.

Overall, 42% of households in the North Sydney LGA earned a high income (earning \$2,500 per week or more) and 9.6% were low income households (less than \$650 per week) compared with 28.3% and 15.1% respectively for Greater Sydney. This is consistent with the relatively high number of people with qualifications and lower unemployment rate.

6.2.7 Journey to work

North Sydney LGA residents are much more likely than residents in other parts of Sydney to use travel modes apart from the private vehicle to get to work. In 2016 almost two-thirds of workers used active transport methods or public transport to get to work or work from home.

Current and emerging trends including greater take-up of active transport options and working from home, together with the rise of public transport accessibility is expected to reinforce this relatively balanced use of travel modes.¹⁰

6.2.8 Non-residential development

In 2018 there were approximately 92,000 full-time equivalent jobs located in workplaces situated in North Sydney LGA.¹¹

Professional, scientific and technical services was the most represented industry group (31.9%). Financial and insurances services (with 11.2%) and information media / telecommunications (6.9%) were the next most represented industry groups. In comparison, Greater Sydney employed 9.1% in professional, scientific and technical services, 5.1% in financial and insurances and 2.3% in media/telecommunications. Most industry sectors of employment, except manufacturing and mining either remained stable or grew marginally between 2014-2018.

¹⁰ North Sydney Local Strategic Planning Statement p17

National Institute of Economic and Industry Research (NIEIR) 2019, accessed at http://economy.id.com.au/north-sydney/employment-by-industry-fte

7 Expected development and population

7.1 Planning framework

Future development in the North Sydney LGA is guided by number of plans and policies, including the Greater Sydney Regional Plan ('A Metropolis of Three Cities') and the North District Plan - both prepared by the Greater Sydney Commission (**GSC**); as well as the North Sydney Local Strategic Planning Statement (**LSPS**) and Community Strategic Plan 2018 – 2028 (**CSP**).

North Sydney is one of nine LGA's covered by the North District Plan. Key North District Plan priorities relevant to this contributions plan include:

- enhancing local centres to provide jobs, services and amenity;
- creating walkable and well-connected centres by improving walking, cycling and public transport connections to achieve a 30-minute city;
- creating and renewing great places for people while protecting heritage and local character:
- aligning growth and development with infrastructure;
- enhancing the quality and improving access to Sydney Harbour and open space, and increasing urban tree canopy.¹²

Various trends, challenges and opportunities that will impact on North Sydney's future have been identified in the CSP, many of which relate to the provision of infrastructure:

- a growing and changing population;
- aging infrastructure;
- movement in and around the North Sydney LGA;
- healthy, safe and connected communities;
- growing demand for sport, recreation and open space;
- greater collaboration between all stakeholders; and
- growing community expectations and remaining financially sustainable. 13

7.2 Anticipated residential growth

This plan adopts a resident population of 75,021 at the commencement of the of the plan period and 86,923 at the end of the plan (i.e. 2036). The most recent available published figure on the North Sydney LGA population is 75,021 for 30 June 2019.¹⁴

Council's Local Housing Strategy and LSPS anticipates that 11,870 dwellings could be delivered in the LGA between 2016 and 2036. Some 2,790 of these dwellings may be expected to be accommodated in the St Leonards – Crows Nest Planned Precinct.¹⁵

¹² North Sydney Local Strategic Planning Statement p11

¹³ Ibid [13]

¹⁴ Estimated Resident Population, ABS Catalogue No. 3218.0 for June 2019, published March 2020

¹⁵ North Sydney Local Strategic Planning Statement p54

Council's Local Housing Strategy also anticipated growth in residential population of approximately 19,000 in the period 2016 to 2036. This estimate was based on data issued by DPIE in 2016. DPIE published updated projections in December 2019 soon after the completion of the Local Housing Strategy. These projections revised growth downwards, including the anticipated population in 2036 being anticipated to be 86,923.

7.2.1 Age structure

North Sydney is an attractive location for young and middle-aged adults who want to live close to employment and entertainment opportunities that are available close to the centre of Sydney. Half of the residents North Sydney LGA in 2016 were aged between 25 and 49 years, which is significantly greater than the North District (34%) and 38% across Greater Sydney. 16

However, these trends are anticipated to slowly change as North Sydney becomes home to greater numbers persons aged 45 or more.

A summary of the 2016 and expected 2036 age profile of the North Sydney LGA population, compared to the Greater Sydney area, is shown in Table 10.

Table 10 Age profile 2016 and 2036

Age group (years)	2016 North Sydney %	2016 Greater Sydney %	2036 North Sydney %	2036 Greater Sydney %
0-4	5.8%	6.7%	6.1%	6.3%
5 – 9	4.0%	6.4%	4.3%	6.2%
10-14	2.9%	5.7%	3.9%	6.0%
15-19	2.8%	6.0%	3.6%	5.9%
20-24	5.5%	7.5%	4.5%	6.2%
25-29	11.6%	8.5%	8.8%	6.9%
30-34	13.0%	8.5%	9.7%	7.1%
35-39	10.1%	7.4%	8.5%	7.3%
40-44	7.8%	7.0%	7.5%	7.4%
45-49	6.4%	6.5%	6.9%	7.1%
50-54	5.5%	6.2%	6.2%	6.4%
55-59	5.5%	5.7%	5.7%	5.4%
60-64	5.1%	4.8%	5.4%	4.9%
65-69	5.0%	4.2%	4.9%	4.3%
70-74	3.7%	3.1%	4.4%	3.8%
75-79	2.4%	2.3%	3.8%	3.3%

¹⁶ Ibid [15].

80-84	1.4%	1.6%	2.9%	2.6%
85+	1.6%	1.8%	3.0%	3.0%

Source: NSW 2019 Population Projections, published by the NSW Department of Planning, Industry and Environment

7.3 Non-residential development and worker growth

North Sydney LGA will continue to shift towards an economy based on knowledge and innovation. The North Sydney CBD will continue to be the primary employment location the LGA, strengthening its role in accommodating jobs in professional and technical services, finance and insurance services, an information media and telecommunications. Its relationship with the Sydney CBD will be strengthened with the completion of the Metro in 2024.¹⁷

The plan will address the infrastructure demands of non-residential developments that are approved or occupied from 2021-2036. Jobs growth is also expected in St Leonards leveraging off existing education, medical, telecommunications and multimedia workplaces.¹⁸ Between 2016 and 2036, the LSPS anticipates that the LGA will accommodate between 22,500 and 37,400 new workers.¹⁹

The plan adopts worker projections for the 15-year period 2021 to 2036 published by Transport for NSW for the Travel Zones within the North Sydney LGA. The plan forecasts an additional 16,746 workers from 2021-2036.²⁰ This has been calculated based on data which has been derived from the map in Figure 3. It is noted that an area, known as Travel Zone 1844 includes some areas of adjoining LGAs. Data for these LGAs has been subtracting to eliminate the areas of Lane Cove Council, Willoughby Council area which are not in North Sydney, to provide the following employment forecasts.

For the purposes of this plan Table 12 shows the assumptions have been made to establish 'existing' workers (2021) and forecast workers (2036).

Table 11 - Employment Forecasts North Sydney LGA 2021-2036 by Travel Zone

Local Government Area	Forecast Workers				
	2021	2026	2031	2036	Total:
North Sydney LGA	90,590	95,670	101,332	107,336	16,746

Source: Transport Planning and Analytics (TPA) Employment (by place of work) projections by Travel Zone for the Sydney Greater Metropolitan Area (GMA). https://www.transport.nsw.gov.au/data-and-research/forecasts-and-projections/employment/land-use-planner-employment

¹⁸ Ibid [27].

¹⁹ Ibid [27].

¹⁷ Ibid [28].

²⁰ Transport Planning and Analytics (TPA) Employment (by place of work) projections by Travel Zone for the Sydney Greater Metropolitan Area (GMA). https://www.transport.nsw.gov.au/data-and-research/forecasts-and-projections/employment/land-use-planner-employment

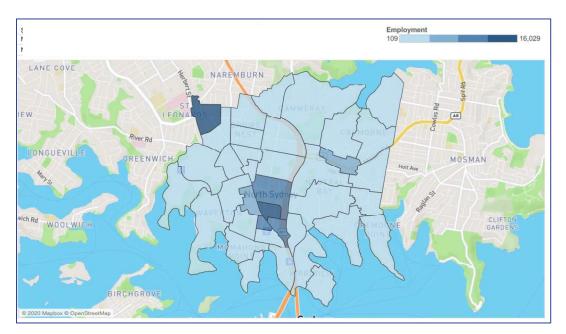


Figure 3 North Sydney employment by Travel Zone + 2021–2036 projections

 $Source: \quad \underline{https://www.transport.nsw.gov.au/data-and-research/forecasts-and-projections/employment/land-use-planner-employment} \\$

7.3.1 Accounting for both workers and residents in the rate calculation

The demand for infrastructure will be made up from the expected growth in residents and workers. Residents are likely to use local infrastructure more than workers. The simplest way to account for this differential use in the calculation of reasonable contributions is to establish an 'equivalent' resident population. A weighting is applied to each worker for all discrete infrastructure types to establish an equivalency. The proportions used to derive the 'per worker' rate shown in Table 2 of the plan.

For the purposes of this plan Table 12 shows the assumptions have been made to establish 'equivalent' residents.

Table 12 Equivalent resident weightings

Infrastructure type	Relative demand: residents v workers
Open space and recreation facilities	1 resident = 5 workers
Community facilities	1 resident = 5 workers
Active transport	1 resident = 1 worker
Public domain facilities	1 resident = 1 worker

The weighting of workers to residents for public domain and active transport facilities is considered equivalent. This is due to workers continuing to be significant users of the CBD public domain spaces during the working week and, with the move towards travel demand management there is likely to be just as much demand by workers for active transport options as residents for the journey to work.

Workers who are also residents of North Sydney LGA need to be excluded from the calculation. In 2016, 14% of North Sydney Council area's local workers were residents. Therefore, base and projected worker populations have been reduced by this amount for the purposes of calculating contribution rates

The equivalent residents for the purposes of calculation of the contribution rates are shown in Table 13 below.

Table 13 Equivalent resident populations

Infrastructure type	No. of equivalent residents		
	Where the infrastructure demand is attributable to the growth in residents and workers to 2036	Where the infrastructure demand is attributable to the expected total number of residents and workers in 2036	
Open space and recreation facilities	14,782	105,384	
Community facilities	14,782	105,384	
Public domain facilities	26,304	179,232	
Active transport	26,304	179,232	

The method used to calculate these figures is shown in Table 14.

Table 14 Equivalent resident population calculations

Equivalent resident result	Explanation
Growth only - relative demand 1:5	Resident growth to 2036 = 86,923 - 75,021 = 11,902
	+
Open space and recreation facilities Community facilities	Non-resident worker growth assuming the demand for infrastructure by workers is 1/5 th that of a resident, i.e.
community realistics	Worker growth = 107,336 - 90,590 = 16,746
	[adjusted to remove resident workers (-14%, or -2,344)] = 14,402
Growth in equivalent residents = 14,782	[adjusted to reflect 1:5 resident: worker demand weighting = 14,402 / 5 = 2,880 equivalent residents
	11,902 + 2,880 = 14,782
Growth only - relative demand 1:1	Resident growth to 2036 = 86,923 - 75,021 = 11,902
	+
Public domain facilities	Non-resident worker growth assuming the demand for
Active transport	infrastructure by workers the same as that of a resident, i.e.
	Worker growth = 107,336 – 90,590 = 16,746
Growth in equivalent residents = 26,304	[adjusted to remove resident workers (-14%, or -2,344)] =
	14,402
	11,902 + 14,402 = 26,304

Equivalent resident result	Explanation
Existing + growth - relative demand 1:5	Total residents in 2036 = 86,923
	+
Open space and recreation facilities Community facilities	Total non-resident workers in 2036 assuming the demand for infrastructure by workers is 1/5 th that of a resident, i.e.
Community Identities	107,336 workers [adjusted to remove resident workers (-14%, or -15,027)] = 92,309
	[adjusted to reflect 1:5 resident: worker demand weighting = 92,309 / 5 = 18,461 equivalent residents
Total equivalent residents = 105,384	86,923 + 18,461 = 105,384
Existing + growth - relative demand 1:1	Total residents in 2036 = 86,923
	+
Public domain facilities	Total non-resident workers in 2036, i.e.
Active transport	107,336 workers [adjusted to remove resident workers (-14%, or -15,027)] = 92,309
Total equivalent residents = 179,232	86,923 + 92,309 = 179,232

8 Infrastructure strategies, schedules and nexus

8.1 Background

New and augmented infrastructure will be required to support further development and increased resident and worker populations in the area. North Sydney is a built-up locality with residential and employment areas and significant green space along the Sydney Harbour corridor. These land-use attributes mean that future development will take place by:

- conversion of already-developed land from one use to another (e.g. a residential use replacing a commercial use), and/or
- denser development of the same land use on the same parcel of land (e.g. residential flat buildings replacing detached dwelling houses).

The common feature will be more intensive use of land.

This has significant implications in terms of planning for the future infrastructure needs of the future developments in the area:

- Parts of North Sydney, particularly the southern part is well-endowed with open space, much
 of it along the Sydney Harbour foreshore, with limited opportunity for public use beyond
 passive recreation.
- Developable land is a scarce resource, meaning its price is likely to continue to increase in value.
- Opportunities to increase the amount of open space will continue to be limited. Existing open space, recreation and community facilities assets will need to 'work harder' to accommodate both current and future needs.
- Many people living in future developments will be almost exclusively apartment-dwellers with limited access to private open space. Increasingly, apartments are being occupied by couples with children and lone person households who, despite living side by side, have limited interaction with each other. Availability of high-quality, ground-level public open space areas within walking distance will be important, particularly in the major growth areas of St Leonards and Crows Nest.
- Development will increasingly be in vertical form, which will create the opportunity for floors within the new buildings to be used for community purposes such as libraries, community centres and, in the case of rooftops, outdoor sports courts²¹ and other open space.

Council has identified a schedule of local infrastructure to meet the needs of the current and future (2036) population. The works schedule in this plan has been based on various studies, mostly focused on the need for various types of social infrastructure such as recreation and community facilities. These studies include:

- North Sydney Local Strategic Planning Statement (2019)
- North Sydney Community Strategic Plan (2018-2028)

²¹ Vertical approach to social infrastructure provision is reflected in the NSW Government's strategy to develop vertical primary and secondary schools in Sydney

- St Leonards Crows Nest Planning Study (2015)
- North Sydney Recreation Needs Study (2015)
- North Sydney Integrated Cycling Strategy (2014)
- NSROC Social and Cultural Infrastructure Strategy (2020)
- NSROC Regional Sportsground Management Strategy (2013)
- North Sydney Housing Strategy (2020)
- North Sydney Council Delivery Program (2018/19-2020/21)
- North Sydney Open Space Provision Strategy (2009)
- North Sydney Visitor Economy Strategy (2019)
- North Sydney Ward St Master Plan
- North Sydney Public Domain Strategy
- North Sydney Transport Strategy (2017)
- Crows Nest Placemaking & Principles Study (2016)
- Anderson Park Plan of Management (2019)
- Bradfield Park and Kirribilli Foreshore Masterplan (1999)
- Cremorne Reserve Masterplan (2013)
- Lavender Bay Parklands Masterplan (2007)
- St Leonards Park Landscape Masterplan (2018)
- Tunks Park Plan of Management (2019)
- Waverton Peninsula Strategic Masterplan (2000)
- Foreshore Access Strategy (2006)
- Foreshore Parks & Reserves Plan of Management (2017)
- North Sydney Oval Business Plan (2014)
- Playgrounds Plan of Management (2016)
- Smoothy Park Plan of Management (2016)
- Watercraft Storage Strategy (2018)
- Public Domain Style Manual (2019)
- Family and Children's Services Strategy (2018-2024)
- Library and Historical Services Strategic Plan (2016-21)

Further detail on specific items, their estimated costs and staging, and location maps are included in Appendix B.

8.2 Open space and recreation

8.2.1 Objectives

Provide a range of open space and recreation facilities that will meet the demand of future residents.

8.2.2 Needs assessment

Council currently manages 144 ha of open space. This comprises natural areas including bushland, harbour foreshore and structured recreation areas. Councils open space contains various recreation facilities including:

- District and local parks and playgrounds;
- sporting fields and courts;
- tracks, paths and cycleways; and
- leisure and aquatic centres.

Council needs to balance competing interests of active and passive recreation users.²² Council maintains a network of over 200 parks, which are heavily used by the community due to relatively high population densities. The existing network of parks does not currently meet the recreation needs of existing resident, worker and student population in North Sydney LGA and do not have the capacity to absorb the recreation needs and demand of new populations. Both indoor and outdoor facilities are at capacity.²³

The North Sydney Recreation Needs Study 2015 was completed to review the open space needs of the community. The study identified growing demand for walking and cycling, provision for sport (particularly hockey, soccer, netball, touch, indoor basketball, badminton and squash), social/family recreation parks and water-based recreation. There is also likely to be additional demand for short duration group fitness, indoor sports opportunities and for sports that are based on a 'pay and play' model.²⁴

Bushland and foreshore areas provide natural conservation, ecological and/or scenic values and passive recreation. Open space areas accommodate multiple recreation experiences and support the populations' formal passive and active and sports recreation needs. Future development and additional population creates greater demands for open space and recreation facilities. Most new residents will be apartment-dwellers with access to very little private open space. Thus, the needs of the new residents is arguably greater than many of North Sydney's existing residents.

8.2.3 Infrastructure strategy

A more practical approach to provision of open space

Current rates of open space provision (1.8 ha per 1,000 persons) is low-moderate when compared to the traditional standard of 2.8 ha per 1,000 persons.

²² North Sydney Local Strategic Planning Statement p39

²³ Ibid [82].

²⁴ Ibid [62].

On this basis, Council is committed to providing the new residents of North Sydney with the same level of open space as enjoyed by the existing residents. Based on the current provision rates, and an anticipated resident population growth of 11,902 over the next 16 years, it is estimated that a further 22 hectares of open space would need to be provided.

Additional open space is provided through land acquisition by state or local government. Purchasing land in the North Sydney LGA is very expensive. On the most optimistic assessment, 22 ha of new open space land would cost \$660 million.²⁵ This would translate to a s 7.11 contribution of over \$100,000 for a typical 2-bedroom apartment. Imposition of such a high contribution amount is not permitted by Ministerial Direction, which caps the maximum contribution at \$20,000 per dwelling. Even if it were permitted, no development would occur because it would be unaffordable.

A more realistic approach is for Council to pursue a two-pronged approach that entails:

- (a) Acquiring, or negotiating with developers to provide, a limited number of local open space areas; and
- (b) Increasing the recreation carrying capacity of existing Council and other public land (i.e. making existing assets work more effectively).

New open space in strategic locations

The North District Plan has set a priority to promote and encourage connectivity and upgrade and increase public open spaces. Council intends to increase the amount of developed open space in the areas of highest projected population growth.

Council will do this by doing one or more of the following:

- acquiring and embellishing new open space in strategic locations;
- facilitating or directly providing linkages between existing and new public open space areas;
- embellishing existing open space areas in a way that increases their carrying capacity.

Making assets work more effectively

Council will apply the following efficiency principles in its infrastructure planning:

- Better planning and design of the existing network so that increases in capacity, quality, diversity, usability and accessibility of open space can be achieved;
- Providing flexible and multi-purpose use arrangements wherever possible;
- Improving access to existing open space assets both within and outside the LGA through better
 connections and crossing points, upgrading or providing new linear linkages and access paths
 (such as footpaths and cycleways), and implementing the metropolitan strategy's 'Green Grid'
 where funds allow:

²⁵ Assumed acquisition cost of \$3,000 per m², which in turn is derived from comparative sales from the Cushman & Wakefield land valuation report 2019, commissioned for this Plan. This amount was the average price for a non-strata dwelling block in North Sydney LGA.

- Providing greater opportunities for walking and passive recreation through new and upgraded paths through publicly owned lands;
- Increasing the weekly time available for active recreation pursuits by upgrading sports fields and sports courts surfaces;
- Endeavouring to secure joint use arrangements with schools and other institutions to make available open space and sporting facilities on their lands for public use; and
- Exploring the opportunities to convert existing public-owned land to parkland or to accommodate recreation facilities.

The infrastructure strategies outlined in the Recreation Needs Study 2015 are a combination of renewals and new and augmented facilities that will provide improved active and passive recreation.

The works include:

- renewal of existing facilities and construction of new playgrounds;
- upgrade sporting fields, lighting, irrigation systems and spectator seating;
- provision of additional walking paths, furniture and exercise equipment to numerous existing parks;
- conversion of existing sports fields to synthetic surfaces where appropriate;
- new and upgraded aquatic and indoor sports facilities; and
- upgrade and provision of new of water-based recreation facilities.

These and other works have formed the basis of this contributions plan's work schedule.

Council will also continue to investigate innovative and cooperative methods to extend the open space network, including land swap arrangements, development negotiations, leasing vacant government land, donations/bequests, grants, sponsorships, partnering neighbouring councils, and use of land not dedicated as open space.

Other initiatives include partnering with commercial entities and education establishments to provide shared recreation facilities and to re-use existing space (including rooftops and car parks), transport infrastructure, and green space for sport and recreation use.²⁶

8.2.4 Nexus and apportionment

This plan levies s 7.11 contributions on residential accommodation and non-residential (per worker) development. As the new open space land and the works that increase carrying capacity of existing open space are to accommodate new demand from new residents and workers, it is reasonable that the contribution rate calculation for those works assumes that the costs be met entirely by the growth populations.

New playgrounds and playground upgrade embellishments have been apportioned to and will be met by the growth population. All other works excluding the North Sydney Olympic Pool and Hume Street Park have been apportioned to the existing and growth populations of North Sydney LGA.

²⁶ North Sydney Local Strategic Planning Statement p39

This means the new population will only a portion of the cost of the works. The balance of the funds will be met by other funding sources.

Aquatic facilities (North Sydney Olympic Pool)

Council proposes to demolish the existing facility and construct a new facility.

The new facility will include:

- A new 50m outdoor pool with dividing barrier function;
- 4 x lane 25m indoor pool, warm water pool, spa and sauna facilities;
- family leisure pool;
- children's interactive water play area;
- family change facilities;
- covered entry off Alfred Street adjacent to the original heritage entry;
- all facilities will be fully accessible with purpose-built ramps;
- grandstand with roof/shade structure, with capacity for 970 people;
- sundeck with gelato bar;
- café adjacent to Olympic Boulevard;
- café adjacent to the entry off Alfred Street;
- retail shop adjacent to the entry off Alfred Street;
- 1,100m² gym suitable for all ages in a new grandstand; and
- 120m² creche with 47m² outdoor play area on the ground level.

The facility is of a nature and scale that will continue to serve and benefit future residents of North Sydney LGA, existing and future workers beyond the North Sydney LGA, including tourists who visit the iconic Sydney Harbour Foreshore. The new venue is expected to have a service catchment of around 150,000 equivalent residents, as it will also be used by visitors and organisations outside the LGA for events. The cost of the redevelopment is to be funded using several sources including grants, general revenue, contributions and other sources. It is reasonable that the incoming population to North Sydney LGA should contribute only its share to the future facility.

Hume Street Park multipurpose and sport facility

Council proposes to demolish the existing multipurpose facility and construct a new centre that includes indoor sports. This centre is being upgraded to accommodate the existing demand and proposed future estimated growth in Crows Nest and St Leonards.

The preferred project design is known as option 3 in the Council report dated 21 September 2015. The option is to demolish the existing facility and create new open space, and a childcare centre at ground level by relocating the carpark, indoor sports facility, and new commercial space underground. The proposed floor space for the option compared to the existing is shown in Table 15.

Table 15 Comparison of existing and proposed areas* - Hume Street Park facility

Criteria (area)	Existing (m²)	Option 3 (m²)
Open space	2,925	8,242
Indoor sports	3,690	5,745
Cinema/other	-	3,035
Office/residential	-	810
Retail	393	210

Notes:

Source: Council report CiS01 dated 21/09/2015 p29

This option will have a total area of 13,987m². The total existing area of open space and indoor sports is 6,615m². This means the total area of open space and indoor sports will effectively double. As the expected population growth in the St Leonards and Crows Nest areas is likely to be substantial, it is reasonable for the existing population to be accountable for the cost of replacing the extent of existing amenities, and for the future populations to be accountable for the cost of the increased area of amenities.

Based on a doubling of size of both indoor and outdoor components, it is reasonable that half or 50% of the cost of the facility should be attributed to the existing population and half to the new population.

Summary of demand population for contributions

Table 16 shows the different classes of facilities and the equivalent residents that will generate demand for, or in the case of the North Sydney Olympic pool, the anticipated service population for, those facilities.

Table 16 Demand populations used to calculate contribution rates

Infrastructure category / facility	Facility demand expressed as equivalent residents ^a
Strategic land acquisitions to meet additional needs for open space	14,782
Capital works to increase carrying capacity (new demand)	14,782
Works to augment the existing infrastructure (existing and new demand)	105,384
Redevelopment of North Sydney Olympic Pool	150,000 ^b

Notes:

- a for explanation of equivalent residents, refer to section 3.3.1 and Table 16 above
- b this is an estimate of the service catchment that takes into account existing and anticipated North Sydney LGA residents and workers, plus an allowance for use by visitors who do not live or work in North Sydney LGA

^{*} site area for open space, gross floor areas for other facilities

8.2.5 Contribution rates calculation

The contribution formula for open space and recreation infrastructure can be expressed as follows:

Contribution per equivalent resident (\$ER) =
$$\sum$$
 ($\frac{\$INF}{ER}$)

Contribution per worker = $ER \times VDW \times VRW$

Where:

\$INF = the apportioned estimated cost of providing each of the open space and recreation facilities (refer works schedule in Appendix B).

ER = The expected equivalent residents that will generate the demand for the open space and recreation infrastructure (refer to Table 16 and Appendix B for values).

WDW = The worker demand weighting for this infrastructure type, being that one resident generates demand that is equivalent to 5 workers – the WDW is therefore 0.2.

NRW% = The average percentage of workers in the North Sydney LGA that did not live in the North Sydney LGA at the 2016 census - i.e. 86%.

To determine the total contribution that would apply to a proposed development, multiply the contribution rate by the proposed net additional residents or workers in the proposed development.

To determine the contribution rate per dwelling, multiply the contribution rate by the relevant assumed occupancy rate shown in Table 9.

Contribution calculations should also account for any demand credits pertaining to the existing development on the site.

8.3 Community facilities

8.3.1 Objectives

Provide a range of community facilities and services to meet the demands created by future residents.

8.3.2 Needs assessment and infrastructure strategy

Council currently directly provides the following community facilities and services:

- library services;
- child services and childcare;
- community centres, halls and meeting spaces; and
- youth facilities.

Other services include providing opportunities for emerging and established local artists, professional support for volunteer boards and community grants programs.

North Sydney has a number of community facilities that vary in function, capacity and usage. Council intends to provide an additional 1,612m² of community floorspace located near Crows Nest Station. In addition Council will continue to strongly advocate for the provision of community infrastructure developments in the use of VPAs.

Council has determined that an additional 2,958m² of library floorspace is required to accommodate the needs of the North Sydney population. Fifty percent (50%) of the floorspace is proposed to be provided in St Leonards/Crows Nest and the balance (50%) at Ward Street, North Sydney.

Council will continue to levy for new library stock items to increase the capacity of available stock.

Council currently provides 370 of the total 2,686 childcare places in the North Sydney LGA. This is approximately 14% of the spaces available. Council proposes to continue to provide non-private childcare places at the current rate of provision. The additional spaces are intended to be provided in Forsyth Park Community Centre or McMahons Point Community Centre.

8.3.3 Nexus and apportionment

This plan levies s 7.11 contributions on residential accommodation and non-residential development on the basis that both residents and workers will generate demand for community facilities.

Residents demand these facilities more than workers. There is little up-to-date research on the relative demands for community facilities.²⁷ For the purposes of calculating s 7.11 contributions, Council has assumed the demand generated by each resident is the equivalent of demand generated by 5 workers. This relative demand reflects the same assumption used for open space and recreation facilities.

The provision of new community floorspace is to accommodate existing and future needs. Based on a commonly used standard of provision, new development would be accountable for 1,183m² of the additional 1,612m² of community floorspace proposed. The cost to provide community floorspace is \$4,800 per m².²⁸

The provision of new library floorspace is to accommodate existing and future needs. Based on NSW State library standards of provision²⁹ and online calculator³⁰, new development would be accountable for 1,455m² of the additional 2,958m² of library floorspace proposed.

²⁷ The relative demand varies between different types of community facilities. For example, the former Leichhardt area contributions plan in the 1990s identified a 1:10 resident/worker demand ratio for community facilities generally; the City of Sydney contributions plan (2015) identified a 1:1.6 resident/worker demand ratio for childcare centres; and the Bayside contributions plan (2018) covering the former Botany Bay area assumes 1:5 resident/worker demand ratio.

²⁸ There is no broadly-accepted planning benchmark for council-provided multi-purpose community centre floorspace. Many councils use a standard of between 80-100m² per 1,000 residents - for example, City of Sydney (100m²/1,000 people), Liverpool Council (85m²/1,000 people), Blacktown, Hills Shire and Hornsby Shire (all 80m²/1,000 people). In the interests of striking a reasonable contribution rate, Council has adopted a standard at the lower end of this range - 80m²/1,000 people - in determining the contribution rate in this plan.

²⁹ People Places - A Guide for Public Library Buildings in New South Wales, Third Edition, 2012.

³⁰ Population based calculator accessed at https://www.sl.nsw.gov.au/public-library-services/population-based-library-calculator

In the case of library stock items, new demand will be levied for its share of the new library items. Currently, library members comprise 63% residents and 37% non-residents. Current library stock is approximately 160,289 items shared between the total equivalent (resident and worker) population of 92,249. This equates to 1.7375 items per person. To continue this provision, the expected population growth of 14,782 will result in an additional demand of 25,685 items. The average cost per item is \$30 resulting in a total cost of \$770,550 over the life of the plan.

For childcare, there is currently 1 Council-run place for every 249 equivalent residents in the LGA.³¹ To continue Council's rate of provision, the expected equivalent population growth of 14,782 will result in an additional demand of approximately 60 places. Council intends to provide 66 additional childcare places of which 60 places are to be funded by contributions. The average cost of providing a place is \$42,500.

8.3.4 Contribution rates calculation

The contribution formula for community facilities infrastructure can be expressed as follows:

Contribution per equivalent resident (\$ER) =
$$\sum_{ER}$$
 ($\frac{\$INF}{ER}$

Contribution per worker = \$ER x WDW x NRW%

Where:

\$INF = the apportioned estimated cost of providing each of the community facilities (refer works schedule in Appendix B).

ER = The expected equivalent residents that will generate the demand for the community facilities infrastructure (refer to 'Demand' column in Appendix B for values).

WDW = The worker demand weighting for this infrastructure type, being that one resident generates demand that is equivalent to 5 workers – the WDW is therefore 0.2.

NRW% = The average percentage of workers in the North Sydney LGA that did not live in the North Sydney LGA at the 2016 census - i.e. 86%.

To determine the total contribution that would apply to a proposed development, multiply the contribution rate by the proposed net additional residents or workers in the proposed development.

To determine the contribution rate per dwelling, multiply the contribution rate by the relevant assumed occupancy rate shown in Table 9.

Contribution calculations should also account for any demand credits pertaining to the existing development on the site.

³¹ Calculation: 75,021 residents (2018) + (86,138 non-resident workers (projected 2021) x 0.2 worker use weighting) = 92,249 equivalent residents / 370 existing Council child care places = 1 space for every 249 equivalent residents.

8.4 Active transport

8.4.1 Objectives

Provide improvements to active transport to meet the demands of the future resident and worker population.

8.4.2 Needs assessment and infrastructure strategy

North Sydney's local and regional road network needs to be managed effectively to improve pedestrian, cyclist and public transport user safety and amenity; facilitate access for local deliveries; and minimise the negative impacts of private vehicle traffic on priority mode groups.

There is currently a high reliance on private vehicles despite the existence of reliable train, bus and ferry services. A focus of this plan is to invest in active transport to help shift travel behaviour away from private vehicles. Council is committed to extend both on-road and off-road facilities within North Sydney, to provide a comprehensive and connected network that meets the needs of pedestrian and cyclists of all abilities and ages and links with the wider metropolitan network.

The North Sydney Transport Strategy (2017) is Council's principal transport planning and management policy. Council is working with stakeholders to improve public transport connections either directly and or through seeking grant funding through Federal and State government programs. Council's Traffic and Parking Management Strategy (2015) establishes a coordinated program of works and projects to manage traffic, parking, pedestrians and cyclists across the LGA.³²

The North Sydney Integrated Cycling Strategy (2014) supports the delivery of new cycleways to help make cycling a safe, enjoyable and convenient everyday transport option for North Sydney residents, workers and visitors. This strategy identifies several new cycleway routes and shared pathways to augment the existing network. These projects focus on the installation of fully separated cycleways.³³ Council has also been delivering regional cycleway links in a co-funding partnership with the State Government. These cycleways identified as Routes 3, 4 and 5 will continue to be delivered.

Increasing road capacity to handle the extra trips generated by the additional populations has a very high cost relative to the benefits. Shifting travel behaviour away from dependence on private vehicles and towards public transport, cycling and walking is an appropriate and sustainable strategy for the future. Making it more attractive for residents and workers to use active transport modes for shorter trips encourages a healthier lifestyle.

8.4.3 Nexus and apportionment

This plan levies s 7.11 contributions on residential accommodation and non-residential (per worker) development.

Council's focus will be to make the best use of the street environment to accommodate the new growth by increasing the options for walking and cycling. As the network is well used by workers, the weighting of workers and residents is considered equal for active transport. Thus 1 worker

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³² North Sydney Local Strategic Planning Statement p41

³³ Ibid [41].

demand = 1 resident demand. The equivalent resident populations that are used to calculate contributions for active transport are shown in the works schedule in Appendix B.

The existing population of North Sydney enjoys the existing cycleway and pedestrian network provision shown below:

- On-road cycleways current provision is 6.649 km, which equates to 41 m per 1,000 residents and non-resident workers.
- Off-road cycleways current provision is 2.33 km, which equates to 14.5 m per 1,000 residents and non-resident workers.
- Shared paths current provision is 1.57 km, which equate to 9.7 m per 1,000 residents and nonresident workers

If the existing benchmarks are applied to the new equivalent resident demand of 26,304 people, then the resulting need to meet the demand is a total of approximately 1.71 km made up of:

- 1,078 m of on-road cycleway,
- 381 m of off-road cycleway, and
- 255 m of shared paths.

The cost of the 1.71 km is required for the new demand created by the future equivalent residents in the North Sydney area. It is reasonable that, for the purposes of determining the contribution rate, the costs of the infrastructure works are apportioned to the future equivalent demand population of 26,304 equivalent residents.

For cycleways being co-funded by State Government, it is reasonable that, for the purposes of determining the contribution rate, the costs of the infrastructure works are apportioned to the total existing and future population of 179,232 equivalent residents.

Contribution rates calculation

The contribution formula for active transport infrastructure can be expressed as follows:

Contribution per equivalent resident (\$ER) =
$$\sum_{ER}$$
 ($\frac{\$INF}{ER}$

Contribution per worker = \$ER x WDW x NRW%

Where:

\$INF = the apportioned estimated cost of providing each of the active transport facilities (refer works schedule in Appendix B).

ER = The expected equivalent residents that will generate the demand for the active transport facilities infrastructure (refer to 'Demand' column in Appendix B for values).

WDW = The worker demand weighting for this infrastructure type, being that one resident generates demand is equivalent to one worker – the WDW is therefore 1.

NRW% = The average percentage of workers in the North Sydney LGA that did not live in the North Sydney LGA at the 2016 census - i.e. 86%.

To determine the total contribution that would apply to a proposed development, multiply the contribution rate by the proposed net additional residents or workers in the proposed development.

To determine the contribution rate per dwelling, multiply the contribution rate by the relevant assumed occupancy rate shown in Table 9.

Contribution calculations should also account for any demand credits pertaining to the existing development on the site.

8.5 Public domain

8.5.1 Objectives

Provide upgrades to public domain facilities to meet the demands created by future residents.

8.5.2 Needs assessment and infrastructure strategy

The anticipated completion of the new Metro Stations at Crows Nest and Victoria Cross will have a transformative impact on North Sydney as it will dramatically improve the accessibility of the area to the rest of Sydney. This key infrastructure project is likely to drive jobs growth, particularly in North Sydney CBD and Crows Nest/St Leonards.

Station locations themselves will be destinations with a 'strong place focus' and high pedestrian activity which will require improvements to the surrounding walking network. Currently many footpaths are too narrow and waiting times at intersections are too long. Council will work collaboratively with the State Government to invest in projects that improve walking and cycling infrastructure in and around centres that provide access to high quality public transport.³⁴

The quality of the public domain in North Sydney LGA is reasonably high. The anticipated increase in resident and worker populations will create demand for public domain improvements in and around centres due to the increased levels of pedestrian activity. Additional works will be required to provide a higher standard to improve the level of comfort, convenience, usability and amenity of public spaces.

Council intends to increase the level of pedestrian amenity in the public domain areas of all centres, but particularly in the places where additional populations are expected to be concentrated (i.e. in North Sydney CBD, and in Crows Nest/St Leonards).

The proposed works include improvement of pedestrian pavements, the widening of pedestrian areas (where possible), provision of street furniture, lighting, public art, signage and landscaping.

³⁴ North Sydney Local Strategic Planning Statement p26

8.5.3 Nexus and apportionment

North Sydney CBD is the main centre and a significant employment destination in the North Sydney LGA. Council has identified a range of improvements to North Sydney CBD, Crows Nest and St Leonards to accommodate the increased population that is expected to reside and work in future. As the public domain is highly used by workers during the week it is considered that the relative demand for these facilities between residents and workers is the same. The equivalent resident populations that are used to calculate contributions for public domain improvements are shown in Appendix B.

As the improvement works in the North Sydney CBD, Crows Nest and St Leonards are primarily needed to meet the demand arising from new residents and workers, it is reasonable that the contribution rate assumes that the costs are met entirely by the future resident and worker growth populations.

Public domain works have also been identified for those other centres in the North Sydney LGA where much more modest population growth is expected. The centres include the Education Precinct, Milson's Point, Cremorne, Blue Point Rd Activity strip, Neutral Bay, Cammeray, Eden Neighbourhood, Kirribilli, Waverton, Bradfield Park precinct and Wollstonecraft. In addition, allocation has been made to the undergrounding of powerlines. Access to better public domain spaces will be important to the growth population to offset the lack of private open space available in the higher density residential complexes. However, it is considered that the improvements in these locations are not primarily driven by growth (which is anticipated to be limited) but by the entire population.

8.5.4 Contributions rate calculation

The contribution formula for public domain infrastructure can be expressed as follows:

Contribution per equivalent resident (\$ER)=
$$\sum$$
 ($\frac{\$INF}{ER}$)

Contribution per worker = \$ER x WDW x NRW%

Where:

\$INF = the apportioned estimated cost of providing each of the public domain works (refer works schedule in Appendix B).

ER = The expected equivalent residents that will generate the demand for the public domain infrastructure (refer to 'Demand' column in Appendix B for values).

WDW = The worker demand weighting for this infrastructure type, being that one resident generates demand is equivalent to one worker – the WDW is therefore 1.

NRW% = The average percentage of workers in the North Sydney LGA that did not live in the North Sydney LGA at the 2016 census - i.e. 86%.

To determine the total contribution that would apply to a proposed development, multiply the contribution rate by the proposed net additional residents or workers in the proposed development.

To determine the contribution rate per dwelling, multiply the contribution rate by the relevant assumed occupancy rate shown in Table 9.

Contribution calculations should also account for any demand credits pertaining to the existing development on the site.

8.6 Plan administration

8.6.1 Objectives

Implement and manage this plan so that the contributions remain reasonable over the life of the plan, and that the infrastructure is provided in a reasonable time.

8.6.2 Strategy

Council is required to manage, monitor and maintain the contributions plan. This plan has been prepared in order to allow contributions to be levied on development so that infrastructure demands can be satisfied. The costs that Council has incurred in this regard include the commissioning of external experts to prepare the plan text and works schedules. The effective coordination and administration of the plan will involve many tasks, some of which include the following:

- Monitoring the receipt of contributions.
- Recommending to Council the appropriate management and expenditure of funds in accordance with the adopted works schedules.
- Monitoring and programming works identified in the works schedules including design works and land acquisition.
- Determining the appropriate time for provision of public facilities having regard to the works schedule, the availability of funds, demand generated by development, the time funds have been held, expected additional funds, alternative and supplementary funding sources and maintenance implications.
- Assessing whether a credit or reassessment of the contribution may be appropriate and how that may be determined.
- Reviewing and determining the suitability of any works in kind and material public benefits proposed by a developer.
- Preparing and making available the accountability information as required by the EP&A Regulation.
- Providing advice to applicants and the general public regarding the operation of the plan.
- Commissioning of consultant studies and advice in relation to the efficacy of the development and demand assumptions of the contributions plan.
- Plan reviews.

These activities will be undertaken by both in-house staff and external consultants.

8.6.3 Nexus, apportionment and calculation of contribution rates

Plan administration costs arise directly as a result of future development. Therefore, it is reasonable that the costs associated with preparing and administering this plan be recouped through contributions from development in the area.

Costs associated with the ongoing administration and management of the contributions plan will be levied on all applications that are required to make a financial contribution under this plan.

Costs included in this plan for management and administration are determined based on the IPART benchmark³⁵ of an allowance equivalent to 1.5% of the cost of construction works that are to be met by development approved under this plan.

³⁵ Independent Pricing and Regulatory Tribunal of New South Wales (2014), Local Infrastructure Benchmark Costs, p63