NORTH SYDNEY COUNCIL

ASSET MANAGEMENT PLAN

FOOTPATHS ASSET CLASS

2025/35

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1.0 Executive Summary

In the North Sydney Council Local Government Area (LGA) there are approximately 265.9 km of footpath assets located within road reserves and parks (including walking tracks). The total replacement cost of this asset class is $155,038,554. This Asset Management Plan outlines the required actions to maintain the current level of service in the most cost-effective manner while outlining associated risks within each of the asset classes.

Footpath assets in North Sydney provide a vital service to the local community providing access to all parts of the council area in all weather conditions. Different surface treatments are specified for the North Sydney Centre, Village Centres/Activity Strips, Special Areas (St Leonards, Education Precinct and Bradfield Park) and Local/Residential Areas within Council's Public Domain Style Manual (PDSM).

The footpath surface treatment, in general, is as follows:

- North Sydney Centre and Education Precinct is granite on a reinforced concrete slab base.
- Village Centres/Activity Strips and the Special Area of St Leonards is precast concrete unit paver on a reinforced concrete slab base.
- Local/Residential Areas is concrete with a wood float finish.
- Parks and reserves are a mixture of Asphalt and Concrete.

Generally, funding for these projects is from the Footpath Program and from specific Streetscape or Park Upgrade Programs.

The Table below shows that the current cost to bring all Council's Footpath infrastructure assets to a satisfactory standard is $9.2M. This amount includes the cost to replace existing infrastructure currently in either poor or very poor condition (condition 4 or 5). This represents 5.9% of the Footpath infrastructure network in terms of Replacement Cost. This means that 94.1% of this portfolio is in very good to fair condition (1 to 3).

The Table also shows that the total current Depreciation Expense is $3.9M or 2.5% of the Total Replacement Cost of Council's assets. This assumes that all Council's assets are completely replaced every 39.7 years on average.

The Table shows that the 10-year Long Term Cost to bring all Council's infrastructure assets to a satisfactory standard as well as maintain the current standard is $48.2M over 10 years or an average annual cost of $4.8M. This includes the total Depreciation Expense over 10 years (maintaining the existing standard) and assumes that all condition 4 and 5 assets will be replaced over the next 10 years (bringing all assets to a satisfactory condition).

Table: Long Term Infrastructure Funding Required ($) 2024

Asset Class / Category	Cost to bring to assets to satisfactory Cond. (4 + 5)	Total replacement cost	Depreciation Expense (2024)	Funding required over 10 years (Depreciation x 10 + Cond 4 + 5)	Average Annual Funding Required (2024)
Footpaths	**$9,203,919**	**$155,038,554**	**$3,903,505**	**$48,238,971**	**$4,823,897**

The allocation in the current forecast capital budget (as at 30 June 2024) is insufficient to continue providing existing services at current levels for the planning period.

The main service consequences of the current forecast capital budget are:

- Assets progressively deteriorating over time
- Increasing asset failures and potential closures

- Service levels not fully meeting the needs of users

2.0 Asset Description

As shown in the Table below the Footpath network comprises of:

- Pedestrian footpath - pavers = 37.4% (combined)
- Pedestrian footpath - concrete = 33.7%
- Stairs = 25.8% (combined)

Council has an extensive stair network due to the topography of the LGA. Stairs are relatively expensive to replace. Whilst Foot Bridges and Viewing Platforms make up a low percentage of the network they represent potential areas of high risk.

Table: Asset Description

Footpath Type	Material	Length (m)	Sum of Replace Costs (2023)	% of the Network
Foot Bridge	Concrete	57	$266,187	0.2%
	Fibreglass	64	$217,916	0.1%
	Steel	67	$308,520	0.2%
	Timber	144	$378,027	0.2%
	Sub Total	**332**	**$1,170,649**	**0.8%**
Pedestrian Footpath	Asphaltic Concrete	11,695	$2,328,343	1.5%
	Brick Paver	773	$606,045	0.4%
	CNS Brick paver (Chamfered)	13,058	$14,422,610	9.3%
	CNS Brick Paver (Not Chamfered)	8,099	$7,993,832	5.2%
	Concrete	200,069	$52,295,150	33.7%
	Concrete Honed Paver	478	$688,800	0.4%
	Concrete Paver	216	$185,457	0.1%
	Ernest Place Style Honed Concrete Paver	620	$1,302,477	0.8%
	Fibreglass	89	$545,372	0.4%
	Granite Paver	6,260	$21,245,950	13.7%
	Gravel	1,212	$115,666	0.1%
	Interlocking Concrete Paver - Charcoal	65	$57,520	0.0%
	Interlocking Concrete Paver - Terracotta	601	$1,034,140	0.7%
	Mitchell St Plaza Style Pavers	1,577	$2,658,514	1.7%
	Precast Concrete Paver- Honed	5,995	$6,907,016	4.5%
	Sandstone Paver	22	$38,191	0.0%
	Soft Fall Material	59	$29,226	0.0%
	Stone	236	$329,455	0.2%
	Stone Pitchers	241	$502,924	0.3%

Footpath Type	Material	Length (m)	Sum of Replace Costs (2023)	% of the Network
	Synthetic Turf	15	$10,414	0.0%
	Unsealed	615	$0	0.0%
	Sub Total	**251,995**	**$113,297,100**	**73.1%**
Stairs	Asphaltic Concrete	151	$828,889	0.5%
	Brick Paver	33	$120,621	0.1%
	CNS Brick paver (Chamfered)	117	$1,086,694	0.7%
	CNS Brick Paver (Not Chamfered)	55	$353,266	0.2%
	Concrete	5,428	$24,147,244	15.6%
	Concrete Honed Paver	6	$24,956	0.0%
	Concrete Paver	7	$17,192	0.0%
	Fibreglass	16	$51,274	0.0%
	Granite Paver	39	$293,918	0.2%
	Metal	15	$124,645	0.1%
	Sandstone Paver	133	$938,345	0.6%
	Steel	123	$918,380	0.6%
	Stone	1,575	$8,484,199	5.5%
	Stone Pitchers	49	$293,057	0.2%
	Timber	806	$2,129,127	1.4%
	Unsealed	100	$208,521	0.1%
	Sub Total	**8,654**	**$40,020,326**	**25.8%**
Viewing Platform	Concrete	4	$2,422	0.0%
	Metal	68	$399,116	0.3%
	Timber	23	$53,682	0.0%
	Sub Total	**95**	**$455,219**	**0.3%**
Walking Track	Gravel	36	$13,626	0.0%
	Soft Fall Material	10	$6,931	0.0%
	Stone	60	$74,703	0.0%
	Unsealed	4,686	$0	0.0%
	Sub Total	**4,792**	**$95,260**	**0.1%**
	Grand Total	**265,867**	**$155,038,554**	**100.0%**

3.0 Levels of Service

Technical service measures are linked to the activities and annual budgets covering:

- Operations – the regular activities to provide services (e.g. cleansing, inspections, etc).
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. footpath repair – patching, minor works),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. footpath replacement and or footpath reconstruction),
- Upgrade – the activities to provide a higher level of service (e.g. widening a footpath or replacing an existing footpath with a different type as per Public Domain Style Manual).

- New - the activities to provide an additional level of service (e.g. constructing a footpath where none previously existed).

The Table below shows the technical levels of service expected to be provided for Footpaths. The 'Desired' position in the Table documents the position being recommended in this Asset Management Plan

Table: Footpaths – Technical Levels of Service

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance	Desired for Optimum Lifecycle Cost
Operations	Proactive inspections to monitor condition	Inspect as per MMS schedule	Inspect as per MMS schedule	Inspect as per MMS schedule
Maintenance	Service requests completed within adopted timeframes	Respond to inspection outcomes and complaints	Minor repairs undertaken in accordance with MMS intervention matrix and considering available resources	Minor repairs undertaken in accordance with MMS intervention matrix with no resource issues
Renewal	Maintain existing assets to a satisfactory condition	Percentage of Footpaths in 'poor' or 'very poor' (4, 5) Condition.	5.9% of Footpaths in 'poor' or 'very poor' (4, 5) Condition.	Improve. Replace Condition 4-5 assets
Upgrade	Footpaths meet the standard of the Public Domain Style Manual.	Area of Footpaths meet the standard of the Public Domain Style Manual.	Footpaths constructed meet the standard of the Public Domain Style Manual.	All Footpaths meet the standard of the Public Domain Style Manual.
New	Satisfactory provision of formed footpaths.	New Footpaths provided subject to needs, physical constraints, demand, and cost.	Footpath provision assessed as required.	Footpath provision assessed as required.

3.1 Future Demand

Drivers affecting demand for footpaths include things such as population change, regulation changes, new development, community expectations, public safety, technological changes, economic factors, climate change, and environmental factors. As North Sydney is a "brown field" site most footpath capital projects are either renewal or upgrade to meet Public Domain Style Manual. Generally, no new paths are built. The provision of new footpaths is assessed as required. There is an anticipated population increase due to increasing medium to high density developments, rezoning of land by the State Government and demand for active transport. This will have significant implications on demand for these assets.

4.0 Asset Condition

The condition of Council's Footpath network was surveyed in 2019 by Consultants, Rapid Map Services Pty Ltd in conjunction with Asset & Facilities Management Consulting Pty Ltd. A sample condition assessment will be carried out in 2024/25 for the purposes of valuation. The following condition criteria was used.

Table: Footpaths Condition Survey Criteria

Grade	Condition	Description
0	Not inspected	Not inspected as no footpath structure exists at segment or due to access issues.
1	Very Good	Almost new construction, with perfect alignment and excellent surface condition. Displays no defects, substantial surface blemishes, post construction patching or reinstatements. **No work required**
2	Good	Sound construction with good surface condition and no obvious distortion. May show limited surface ageing by revealing the tops of sporadic stone aggregates. Still exhibits a smooth surface profile. May include joint stepping < 10mm, successful reinstatements, isolated slight surface grinding or minor distress not exceeding 10% of inspection area. **Only minor work required**
3	Fair	Reasonable construction with serviceable surface. May show moderate surface ageing revealing substantial portions of stone aggregates. May display minor surface defects, moderate to heavy surface grinding, areas of substantial surface deterioration or distortions that consist of stepping between 10mm and 25mm vertically or reasonably obvious undulations up to 75mm, non-reinstated areas, minor defects affecting < 25% of inspection area, major defects affecting < 10% of inspection area. **Some work required**
4	Poor	Construction displays substantial surface deterioration. May show surface ageing where the majority is rough from highly exposed or missing aggregates. May display distortions that consist of stepping between 25mm and 50mm vertically or obvious undulations between 75mm and 150mm affecting pedestrian traffic, minor defects affecting between 25% and 50% of inspection area, major defects affecting < 25% of inspection area. **Some replacement or rehabilitation needed**
5	Very Poor	Construction displays extensive surface deterioration. May show extreme ageing of surface. May display distortions that consist of stepping > 50mm or undulation > 150mm within the predominant pedestrian traffic area, minor defects affecting >50% of inspection area, major defects affecting > 25% of inspection area. **Urgent replacement/rehabilitation required**

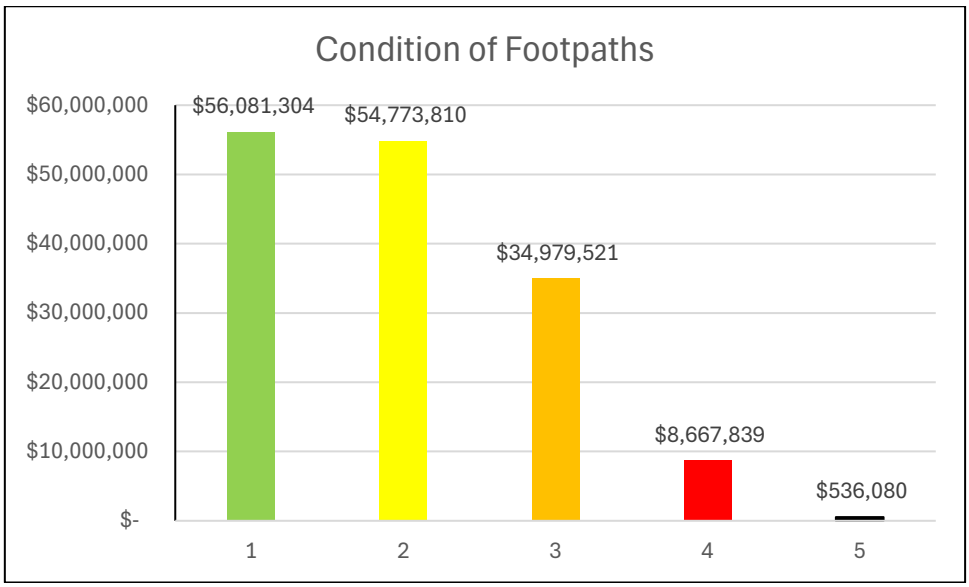
The Table below shows the Replacement Cost for each of the condition scores. It should be noted that the replacement cost is based on the condition of footpaths in a minimum of 10m segments.

Table: Footpaths Condition Survey Results - Overall

Condition	Replacement Cost	% Condition (based on cost)
1 (Very Good)	$56,081,304	36.2%
2 (Good)	$54,773,810	35.3%
3 (Fair)	$34,979,521	22.6%
4 (poor)	$8,667,839	5.6%
5 (Very Poor)	$536,080	0.3%
Total	**$155,038,554**	**100.0%**

It is important to note that replacement costs are based on “like for like” replacement only. Council has an adopted Public Domain Style Manual (PDSM) which includes, for example, replacing standard pavers on road base with granite pavers on a concrete base in the CBD. Therefore, replacing the existing footpath materials with upgraded materials will increase the replacement costs.

The Graph below shows the condition of Footpath assets in terms of replacement cost.



5.0 Financial Summary

5.1 Asset Valuation

The total Replacement Value of the footpath network is shown in the Table below as at 30 June 2024.

Table: Valuation

Asset Category	Replacement Value (2024)	Accumulated Depreciation (2024)	Fair Value (2024)	Depreciation Expense (2024)
Footpaths	**$155,038,554**	**59,693,239**	**$95,345,314**	**$3,903,505**

5.2 Funding Requirements

The Table below shows that the current cost to bring all Council's infrastructure assets to a satisfactory standard is $9.2M. This amount includes the cost to replace existing infrastructure currently in either poor or very poor condition (condition 4 or 5). This represents 5.9% of the total infrastructure network in terms of Replacement Cost. In addition, 71.5% of the portfolio is in very good to good condition (1-2), 22.6% of the portfolio is in fair good (3).

The Table also shows that the total current Depreciation Expense is $3.9M or 2.5% of the Total Replacement Cost of Council's assets. This assumes that all Council's assets are completely replaced every 39.7 years on average. This is a weighted average for the network as useful lives of the individual components varies.

The Table shows that the 10-year Long Term Cost to bring all Council's infrastructure assets to a satisfactory standard as well as maintain the current standard is $48.2M over 10 years or an average annual cost of $4.8M. This includes the total Depreciation Expense over 10 years (maintaining the existing standard) and assumes that all condition 4 and 5 assets will be replaced over the next 10 years (bringing all assets to a satisfactory condition).

Historically, Council has reported a 'cost to bring to satisfactory condition' that assumed those assets in 'poor' condition (category 4) were acceptable by the community. Council's recommendation is that assets in poor condition should be brought to a satisfactory condition, and therefore we have included these in our backlog estimates.

The Local Government Code of Accounting Practice outlines the requirements for both Council's financial statements and the special schedules. Under this Code, where Councils haven't developed an 'agreed' level of service, a standard of 'good' (category 2) should be used for the 'Estimated cost to bring to satisfactory condition'. This would mean including within our backlog figures category 3, 4 and 5 assets.

North Sydney Council has not undertaken the exercise with the community to determine the 'agreed level of service'. However, Council did not think it was reasonable to inflate the backlog to this extent. Instead, Council has opted to use the standard of 'satisfactory/fair' (category 3) as the condition to aspire to, rather than 'good' (category 2).

At a recent demographically selected workshop in 2024 (involving a group of residents, representative of the demographics of the North Sydney local government area), feedback suggested that infrastructure in a 'poor' or 'very poor' condition would not be acceptable to the community. Based on Council's review, it is recommended that all infrastructure currently classified as 'poor' or 'very poor' are required to be addressed.

Table: Long Term Infrastructure Funding Required ($)2024

Asset Class / Category	Cost to bring to assets to satisfactory Cond. (4 + 5)	Total replacement cost	Depreciation Expense (2024)	Funding required over 10 years (Depreciation x 10 + Cond 4 + 5)	Average Annual Funding Required (2024)
Footpaths	**$9,203,919**	**$155,038,554**	**$3,903,505**	**$48,238,971**	**$4,823,897**

5.3 Useful Lives

The useful lives of all types of Footpath assets were reviewed by Australis Pty Ltd and are shown in the following Table. The Weighted Average useful life is 39.7 years. It should be noted that approximately 40% of Council's footpath network is within the vicinity of tree roots. This is significant and reduces the typical life of footpath assets.

Table: Useful Lives

Type – Material	Useful Life
Foot Bridge - Concrete	60
Foot Bridge - Fibreglass	30
Foot Bridge - Steel	60
Foot Bridge - Timber	30
Pedestrian Footpath - Asphaltic Concrete	20
Pedestrian Footpath - Brick Paver	30
Pedestrian Footpath - CNS Brick paver (Chamfered)	30
Pedestrian Footpath - CNS Brick Paver (Not Chamfered)	30
Pedestrian Footpath - Concrete	40
Pedestrian Footpath - Concrete Honed Paver	40
Pedestrian Footpath - Concrete Paver	30

Type – Material	Useful Life
Pedestrian Footpath - Ernest Place Style Honed Concrete Paver	40
Pedestrian Footpath - Fibreglass	30
Pedestrian Footpath - Granite Paver	50
Pedestrian Footpath - Gravel	10
Pedestrian Footpath - Interlocking Concrete Paver - Charcoal	40
Pedestrian Footpath - Interlocking Concrete Paver - Terracotta	40
Pedestrian Footpath - Mitchell St Plaza Style Pavers	40
Pedestrian Footpath - Precast Concrete Paver- Honed	40
Pedestrian Footpath - Sandstone Paver	20
Pedestrian Footpath - Soft Fall Material	10
Pedestrian Footpath - Stone	20
Pedestrian Footpath - Stone Pitchers	20
Pedestrian Footpath - Synthetic Turf	10
Pedestrian Footpath - Unsealed	10
Stairs - Asphaltic Concrete	20
Stairs - Brick Paver	40
Stairs - CNS Brick paver (Chamfered)	40
Stairs - CNS Brick Paver (Not Chamfered)	40
Stairs - Concrete	40
Stairs - Concrete Honed Paver	40
Stairs - Concrete Paver	40
Stairs - Fibreglass	30
Stairs - Granite Paver	40
Stairs - Metal	60
Stairs - Sandstone Paver	40
Stairs - Steel	60
Stairs - Stone	40
Stairs - Stone Pitchers	40
Stairs - Timber	30
Stairs - Unsealed	10
Viewing Platform - Concrete	50
Viewing Platform - Metal	60
Viewing Platform - Timber	30
Viewing Platform - Timber, Concrete	30
Walking Track - Gravel	10
Walking Track - Soft Fall Material	10
Walking Track - Stone	20
Walking Track - Unsealed	10

The useful lives are consistent with industry standards. The Table below shows the ranges of useful lives from the IPWEA 2017 Practice Note – “Useful Life of Infrastructure” from detailed studies in South Australia, Tasmania, as well as an IPWEA Workshop.

INDUSTRY COMPARISION - USEFUL LIVES OF FOOTPATHS			
Primary Material	**IPWEA**	**South Aust.**	**Tasmania**
Asphaltic Concrete	25 to 30	40 to 80 aver 54	Lower 20 upper 30
CNS Brick paver	40 to 60	30 to 60 aver 46	Lower 10 upper 50
Concrete	50	40 to 80 aver 54	Lower 50 upper 80
Gravel		5 to 40 aver 16	

6.0 Managing the Risks

Councils present budget levels (as at 30 June 2024) are insufficient to continue to manage risks in the medium term (4 years).

The main risk consequences are:

- Increase in trip hazards which may result in personal injury
- Closing and barricading assets off such as stairways and restricting public access where required and if possible
- Footpath failure caused by tree roots resulting in displacement, cracking or loose underfoot sections of pavement
- Damage by vehicles travelling, e.g. footpath sweepers or standing, e.g. utility services vehicles, delivery vehicles on the footpath causing collapse, cracking or loose underfoot sections of paving
- Utility Services damage caused when Utility Authorities install new infrastructure or undertake maintenance on existing infrastructure
- Premature footpath failure due to poor initial construction by either Developer or Council contractors

We will endeavour to manage these risks within available funding by:

- Prioritising higher risk works within the planned budget where possible
- Re-allocating budgets from other sources if required and where possible
- Seeking emergency funding if required and where possible
- Partial or full closure where necessary

The Risk Matrix used to prioritise works is shown in the Table below.

Table: Risk Matrix – Footpaths

Risk Matrix - Footpaths					
Condition	Footpath Hierarchy		All Other Areas	Medium Traffic	High Traffic
	Road Hierarchy	Lane	Local	Collector	Regional / State
	Park Hierarchy	Local	District	Regional	
	Score	1	2	3	4
Condition 1 – Very Good	1	L	L	L	L
Condition 2 - Good	2	L	L	L	M
Condition 3 – Fair	3	M	M	M	H
Condition 4 – Poor	4	H	H	H	VH
Condition 5 – Very Poor	5	H	VH	VH	VH

6.1 Examples of footpath risks in the North Sydney LGA.

Asphaltic concrete footpath in poor condition

Utility services restorations/reinstatements

Stairs in poor condition

Concrete footpath in poor condition

Tree root affected pavers and tree site infill

Tree root affected concrete footpath including ponding

Footpath collapse due to base course wash out

7.0 Funding Programs

7.1 Maintenance Program

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again, e.g. trip hazard repair. Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating.

The current maintenance expenditure levels are adequate to meet projected service levels.

Over the longer term, future operations and maintenance expenditure is forecast to increase as the asset stock increases and asset type changes to meet the requirements of the Public Domain Style Manual.

7.2 Capital Works – Prioritised list based on risk

The list of prioritised capital works for this asset category are based on the Risk Matrix. The extent of the program depends on the final adopted Council budget. The Program is prioritised in the following order:

1. Risk sorting score (descending order)
2. Risk rating score (descending order)
3. % Condition 5 (descending order)
4. % Condition 4 (descending order)

The following Table shows the prioritised list of capital works. Only projects with a Very High or High (with a Rating score 12 or higher) are shown. The Capital Works Program is based on data collected by consultants engaged to undertake condition assessments of the asset network. Prior to any Capital Works Program being finalised a detailed inspection, project scoping, and project estimate is undertaken. Program priorities may change as a result. In practice, and where funds permit, assets in condition 3 are replaced at the same time as assets in condition 4 or 5 generally, if they are adjacent if there are potential risks and if it is cost effective.

It should be noted that footpaths may also be replaced based on other criteria including:

- Damage.
- Restorations.

- Works in association with other projects such as kerb & guttering or drainage works.
- Streetscape projects.
- Professional judgement in cases where the risk matrix score does not accurately reflect the actual risk on site.

7.3 Capital Works – Prioritised list based on risk – Footpaths

Location	Risk Rating	Risk Rating Score	Cost Estimate
Brook St (PSID 116)	Very High	20	$87,961
Rangers Rd (PSID 457)	Very High	16	$52,058
Military Rd (PSID 366)	Very High	16	$10,203
Miller St (PSID 380)	Very High	16	$30,354
Ennis Rd (PSID 678)	Very High	16	$321,772
Murdoch St (PSID 410)	Very High	16	$59,841
Falcon St (PSID 231)	Very High	16	$121,599
Chandos St (Westbound) (PSID 156)	Very High	16	$27,482
Ernest St (PSID 218)	Very High	16	$54,990
Miller St (PSID 383)	Very High	16	$22,322
Shirley Rd (PSID 496)	Very High	16	$45,283
Blues Point Reserve	Very High	15	$471,874
Shirley La (PSID 494)	Very High	15	$5,407
Brightmore Reserve	Very High	10	$52,458
Middlemiss St (PSID 362)	Very High	10	$6,826
Robertson La (PSID 984)	Very High	10	$2,543
Hayberry La (PSID 269)	Very High	10	$2,313
Smoothey Park	Very High	10	$33,133
Samora Ave (PSID 488)	Very High	10	$5,221
Lloyd Ave (PSID 341)	Very High	10	$2,423
Berry Island Reserve	High	12	$71,631
Blues Point Rd (PSID 106)	High	12	$84,329
Blues Point Rd (PSID 861)	High	12	$22,625
Bent St (PSID 92)	High	12	$13,291
Milson Rd (PSID 395)	High	12	$9,735
Cremorne Reserve	High	12	$96,502
Bent St (PSID 93)	High	12	$14,742
Milson Rd (PSID 394)	High	12	$36,065
Gillies St (PSID 246)	High	12	$6,654
Balls Head Reserve	High	12	$1,903,737
St Leonards Park	High	12	$49,076
West St (PSID 566)	High	12	$11,551
West St (PSID 567)	High	12	$23,034
Carr St (PSID 145)	High	12	$15,940
Nicholson St (PSID 419)	High	12	$10,290
Bay Rd (PSID 60)	High	12	$7,883

Location	Risk Rating	Risk Rating Score	Cost Estimate
Ernest St (PSID 217)	High	12	$52,603
Shirley La (PSID 495)	High	12	$9,487
Henry Lawson Ave (PSID 275)	High	12	$105,046
Alfred St North (Southbound) (PSID 891)	High	12	$90,681
Young St (PSID 801)	High	12	$5,485
Rocklands Rd (PSID 477)	High	12	$36,075
Blues Point Rd (PSID 104)	High	12	$5,234
Bay Rd (PSID 58)	High	12	$8,924
Miller St (PSID 378)	High	12	$76,516
Rangers Rd (PSID 458)	High	12	$34,154
Macpherson St (Northbound) (PSID 347)	High	12	$34,854
Amherst St (PSID 23)	High	12	$84,168
Bay Rd (PSID 61)	High	12	$69,469
Belgrave St (PSID 67)	High	12	$63,473
Burton St (PSID 998)	High	12	$21,174
Pacific Hwy (PSID 816)	High	12	$72,743
Chandos St (PSID 154)	High	12	$20,782
Chandos St (Westbound) (PSID 157)	High	12	$29,586
Clark Rd (PSID 164)	High	12	$32,333
Miller St (PSID 376)	High	12	$218,229
Clark Rd (PSID 165)	High	12	$24,663
Belgrave St (PSID 66)	High	12	$45,642
Crows Nest Rd (PSID 186)	High	12	$70,622
River Rd (PSID 474)	High	12	$145,583
Yeo St (PSID 609)	High	12	$25,631
Atchison St (PSID 35)	High	12	$24,232
Ernest St (PSID 220)	High	12	$22,696
Ernest St (PSID 221)	High	12	$40,219
Military Rd (PSID 365)	High	12	$23,938
Falcon St (PSID 229)	High	12	$82,838
Military Rd (PSID 368)	High	12	$85,738
Falcon St (PSID 230)	High	12	$21,208
Miller St (PSID 377)	High	12	$61,547
Miller St (PSID 379)	High	12	$79,332
Falcon St (PSID 232)	High	12	$47,228
Miller St (PSID 382)	High	12	$25,252
Falcon St (PSID 874)	High	12	$13,684
Gerard St (PSID 244)	High	12	$9,231
Belgrave St (PSID 68)	High	12	$19,921
Gerard St (PSID 245)	High	12	$2,038
Pacific Hwy (PSID 817)	High	12	$21,396
Grosvenor St (PSID 259)	High	12	$12,472
Harriette St (PSID 265)	High	12	$66,304
Ben Boyd Rd (PSID 80)	High	12	$9,657

Location	Risk Rating	Risk Rating Score	Cost Estimate
River Rd (Westbound) (PSID 846)	High	12	$32,354
Ben Boyd Rd (PSID 958)	High	12	$16,977
Shirley Rd (PSID 500)	High	12	$24,433
High St (PSID 278)	High	12	$112,252
High St (PSID 882)	High	12	$21,413
Telopea St (PSID 520)	High	12	$38,857
Waters Rd (PSID 557)	High	12	$24,613
Kurraba Rd (PSID 320)	High	12	$31,346
Kurraba Rd (PSID 321)	High	12	$25,883
Albany St (PSID 7)	High	12	$14,580

7.4 Examples of completed Capital Works Projects

Morton Street, Waverton

Walker Street, North Sydney

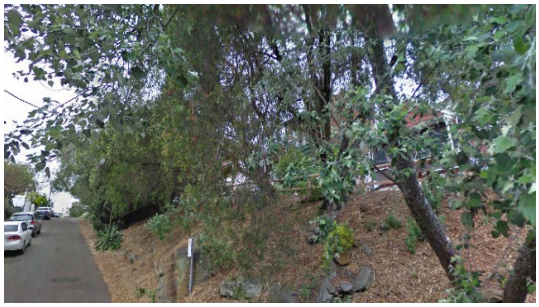
Pacific Highway, North Sydney – Mount Street to Walker Street

Alexander Street, Crows Nest – Pebblecrete

Grosvenor Street, Neutral Bay - Pebblecrete

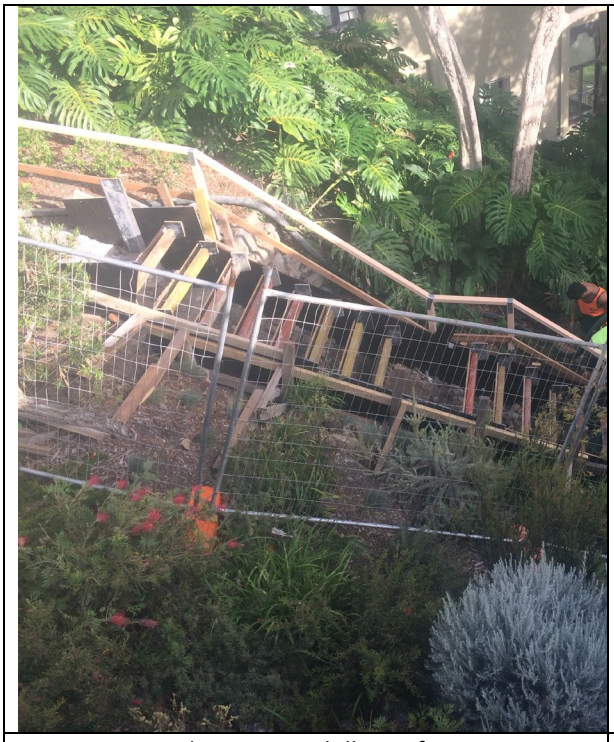
Grosvenor Street, Neutral Bay – Before and After

Pacific Highway, North Sydney – Granite



Doris Street, North Sydney – Before

Doris Street, North Sydney – After

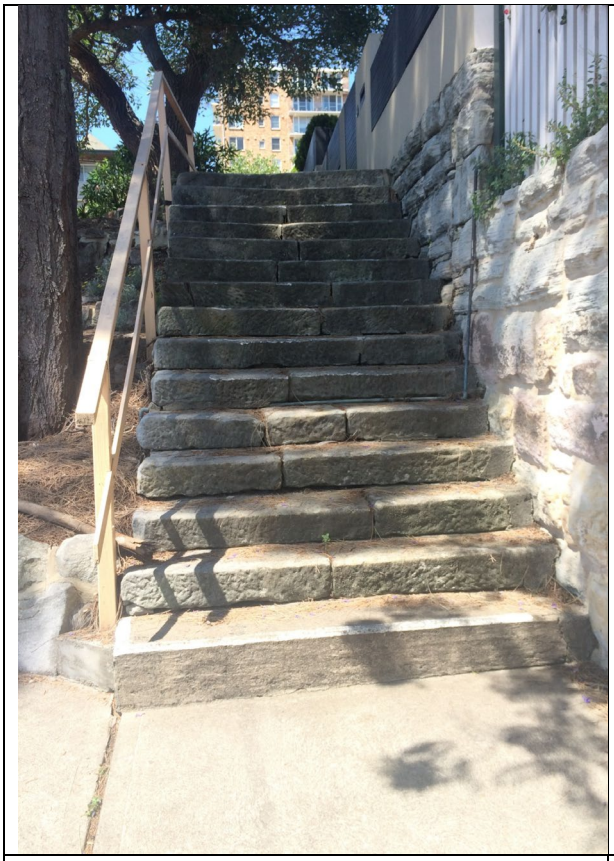


Peel Street, Kirribilli – Before

Peel Street, Kirribilli – After

Carr Street, Waverton – Before

Carr Street, Waverton – After

	
Stratford Road, Cammeray – Before	Stratford Road, Cammeray – After

8.0 Monitoring and Improvement Program

A whole of organisation approach is essential for continuous asset management practices to continue to improve. Council's Asset Management Plans AMPs need to be based on accurate data and require detailed Valuations to be done on a periodic basis. Accurate Valuations in turn require detailed condition assessments of infrastructure assets. The following Improvement Plan summarises the areas for improvement within AMPs.

Table: Improvement Plan

Asset	Last Comprehensive Valuation (Year)	Comprehensive Valuation to be performed
Footpaths	2020	Planned for 2025
Community Consultation to determine and adopt Level of Service		No later than 2029

9.0 References

- Footpaths Data Collection & Condition Survey Audit by Consultants, Rapid Map Services Pty Ltd in conjunction with Asset & Facilities Management Consulting Pty Ltd.
- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney,
- IPWEA, 2014, Version 2, 'Condition Assessment & Asset Performance Guidelines Practice Note 1: Footpaths & Cycleways', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2015, 2nd edition, 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2015, 3rd edition, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2012 LTFP Practice Note 6 PN Long Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney

10.0 Appendix A: Maintenance Management System

Defect Management Inspection – Footpaths

Inspection areas have been defined in accordance with their usage – high **(red)**, medium **(blue)** or low **(white)**.

Inspection frequencies are based on these areas as defined by the reference maps and the resources currently available to undertake the inspections. The results of inspections are downloaded into the MMDS database

Red – 2 times per year; **Blue** – Once each year; **White** – Once every 2 years

There are 5 categories in which a defect may be placed.

Cat 5		Will be completed or **made safe** no later than 2 working days after allocation of defect to work crew. If made safe defect will then be re-categorised as Cat 4 or Cat 3.
Cat 4		Will be repaired no later than 10 working days after allocation of defect to work crew.
Cat 3		Will be repaired no later than 40 working days after allocation of defect to work crew.
Cat 2		Will be repaired no later than 160 working days after allocation of defect to work crew.
Cat 1		As new. Surface displaying no defects. May have aesthetic issues such as gum, stains, services mark-up, etc.

Intervention Matrix – Footpaths

DISPLACEMENT (mm)	DISTORTION GRADE (mm) > 1 in 5	SLIPPERINESS	SEVERITY	RISK ADJUSTED FOR PEDESTRIAN VOLUME AND AGE		
				WHITE	BLUE	RED
< 10	< 20			LOW	LOW	LOW
10 to 25	20 to 50		Slight	MEDIUM	HIGH	HIGH
25 to 50	50 to 100		Moderate	HIGH	HIGH	VERY HIGH
> 50	> 100	Yes	Extreme	HIGH	VERY HIGH	VERY HIGH

NOTES:
1. Appearance defects (gum, stains, surface marks etc) are not safety issues. Response time TBA. Record in "Category" as "A".
2. Slipperiness includes loose under foot.
3. Displacement may be height or width.
4. Distortion is uneven or undulating surface with gradient greater than 1 in 5.
5. "Red" footpaths have high pedestrian traffic and high usage by older pedestrians.
6. "Blue" footpaths have medium pedestrian traffic.
7. "White" footpaths have low pedestrian traffic.

The focus of footpath inspections is the hard surface areas - concrete, asphalt, or paving - between the building line and the kerb. Areas identified for repairs assume whole panel replacement unless otherwise specified by inspector.

Scheduled Maintenance

Paver cleaning undertaken as per Paving Cleaning Program.