NZ TRANSPORT AGENCY
WAKA KOTAHI

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NEW ZEALAND TRANSPORT AGENCY

SURVEY OF

FOOTPATHS, CYCLEWAYS & RELATED COSTS

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CONTENTS

Tables and Graphs

1 EXECUTIVE SUMMARY

1.1 Review Dates

A sample of territorial local authorities (authorities) were surveyed 30 April-30 May, 2008. This review was conducted as part of Performance Monitoring Team's business plan for 2007/08.

1.2 Scope of Survey

- To assess the contribution provided by pedestrian footpaths along public roads towards meeting the outcomes of the New Zealand Transport Strategy and key result areas for Land Transport NZ 2007/08.
- To assess the stocks, condition and costs of maintenance of pedestrian footpaths.
- To assess the stocks, condition and costs of maintenance of shared pedestrian footpaths/cycleways.
- To provide a report summarising the findings of the survey, for publication to all interested parties.

1.3 Survey Conclusions

- Footpaths and cycleways can contribute to all of the New Zealand Transport Strategy Outcomes and to half of Land Transport NZ's key result areas.
- The estimated total stock of pedestrian footpaths in 2006/07 was 24,100 kilometres and that of cycleways was 1150 km.
- The estimated total cost to territorial local authorities for the maintenance, renewals, and extensions of existing footpaths in 2006/07 was $57 millions. (This excludes the cost of new footpaths adopted with completed new subdivisions.) The equivalent cost for cycleways was $11 millions. In that same year Land Transport NZ contributed $4.8 millions towards the total cost of new footpaths and cycleways under its specific relevant work categories. More may have been spent on other Transit NZ construction projects but any such figure has not been able to be identified.
- The total stock of footpaths is slowly improving in surface condition. Renewals programmes for 79% of councils are at realistic levels, supporting this trend.
- Networks are well and responsibly managed. Managers have strong safety consciousness. Levels of service are treated as more important than purely economic considerations.
- Maintenance management systems are in place but not fully used by two-thirds of councils.
- There is no clear link between funding levels and footpaths condition trends. The age of kerb and channel and adjacent footpaths appears to be more significant in determining renewal programmes.
- General problems to asset managers include uncertainty of funding by councils between years; and slow rates of progress in providing at least one footpath to streets which do not have them.
- Mobility scooters and wheelchairs have different (stability) needs from each other and from pedestrians.

- Ideas I commend include the formation of consultative groups to manage complaints and to achieve co-ordinated action on these. The concerns of the elderly and of schools are significant in this.
- Practices that appear worth reviewing include:
    - uncertainty of funding levels decisions by councils when preparing their Estimates and Annual Plans;
    - the sometimes very slow rate of providing at least one footpath to residential street that historically have lacked these (to get one footpath on all urban streets may take up to 24 years);
    - policies for the funding and design of cycleways at difficult locations that interrupt the safe flow for cyclists, e.g., sudden constrictions of the carriageway, or major intersections and roundabouts.

2 REVIEW FINDINGS

2.1 Objective 1: Assess Contribution of Footpaths and Cycleways to Outcomes of New Zealand Transport Strategy and Key Result Areas for Land Transport NZ 2007/08.

Table 1: Footpaths and Cycleways Contribute Towards:

Key result areas LTNZ 07/08	NZ Transport Strategy Outcomes				
	Economic development	Safety and personal security	Access and mobility	Public health	Environmental sustainability
Sustainable travel patterns	Yes	Yes	Yes	Yes	Yes
Safer use of network	Yes	Yes	Yes	Yes	Yes
Vehicle standards	*No*	*No*	*No*	*No*	*No*
Driving & vehicle maintenance	*No*	*No*	*No*	*No*	*No*
Environmental impacts of transport	Yes	Yes	Yes	Yes	Yes
Sustainable revenue streams	*No*	*No*	*No*	*No*	*No*
Integrated land & transport planning	Yes	Yes	Yes	Yes	Yes
Sector coordination	*No*	*No*	*No*	*No*	*No*
Eff'cy & effect'ness of network mgmt	*No*	*No*	*No*	*No*	*No*

Key result areas LTNZ 07/08	NZ Transport Strategy Outcomes				
	Economic development	Safety and personal security	Access and mobility	Public health	Environmental sustainability
Safety & integration of networks	Yes	Yes	Yes	Yes	Yes
Management of assets	*No*	*No*	*No*	*No*	*No*
Mode choices	Yes	Yes	Yes	Yes	Yes
Reduce ACC expenditure 'Around the Home' – trips and falls in the community	Yes	Yes	Yes	Yes	Yes
Active travel recreation and health benefits (the value of recreation)	Yes	Yes	Yes	Yes	Yes
Reduced Energy use (fossil fuels) & current account savings	Yes	Yes	Yes	Yes	Yes

2.2 Objectives 2 & 3: Assess Stocks, Condition and Costs of Footpaths & Cycleways

Based on the extent, estimates of condition, and costs of work to footpaths and cycleways managed by those authorities surveyed, values extrapolated to the national level are:

Table 2: Summary of Findings:

	Footpaths	Cycleways
Length in satisfactory order(Km):	13763	393
Length needing routine maintenance (Km):	8693	728
Length in unsatisfactory condition (Km):	1690	35
Assessed total length (Km):	24147	1155
Length renewed in 2006/07 (Km):	573	2
Length of extensions (Km):	183	69
Length adopted with new subdivisions (Km):	332	11
Cost of maintenance 2006/07 ($M):	14	1
Cost of renewals 2006/07 ($M):	35	0
Cost of extensions 2006/07 ($M):	9	10

From the information summarised in Tables 7-9, the annual cost of renewals exceeds the estimates of costs to restore unsatisfactory footpaths to satisfactory condition. This suggests that overall, renewals programmes are at realistic levels for needs.

This finding is supported by information in Table 9, where estimates of the period needed to restore unsatisfactory footpaths to a satisfactory condition does not exceed 6 years for 15 authorities (79%).

Table 3 summarises the information received from user satisfaction surveys. This suggests that there is an overall slow trend of improvement in condition of footpaths networks.

Table 3: Summary of Networks Trends in Condition:

	Length	
	(Km)	%
Perceived condition improving:	997	11.8
Perceived condition steady:	4612	54.7
Perceived condition deteriorating:	769	9.1
Trend not stated:	2049	24.3

2.3 Objective 4: Report Findings

My overall finding is that footpaths and cycleways are generally well managed. Management and maintenance are carried out responsibly. A strong safety consciousness is brought to this task, tripping hazards are significant inputs to the planning of annual footpath maintenance and renewals programmes. Backlogs of needs are limited in extent for 79% of authorities.

Levels of service are considered to be more important in managing footpaths networks than are economic considerations. Much work has gone into pedestrians' needs in recent years, including the provision of low level kerb crossings at intersections, pedestrian crossings, etc, and the provision of tactile tiles. The use of electric mobility scooters is expanding quickly. These have different requirements from pedestrians and from wheelchairs. Wheelchairs generally have highest risk of tipping backwards, mobility scooters of tipping sideways.

Maintenance management systems are reported by most authorities, though only one-third use them when assessing needs for maintenance and renewals. Policies on when work should be funded as maintenance or as renewals are not consistent between councils. Councils have generally consistent policies on depreciation lives for footpaths.

A common comment made was that despite Councils having their Long Term Council Community Plan in place, funding in any one year could be very vulnerable to budgetary pressure and hence, uncertain in its amount or availability.

Cycleways are more limited in extent than are footpaths. Purpose built cycleways are newer and in better condition than are footpaths networks. Their maintenance need will grow slowly over an extended period. On-carriageway cycleways are managed as part of vehicular carriageways. Principal problems on existing cycleways have been identified as:

- Constrictions and/or lack of continuity caused by physical obstructions (e.g. narrow bridges) or at changes of road controlling authority (e.g. intersections with State highways); and
- Street or cycleway cleaning needs, especially the removal of broken glass.

Roading asset managers assessed the public's main concerns for footpaths and cycleways in priority order as:

- Poor maintenance.
- Traffic, including busy roads and lack of pedestrian and/or cyclists' facilities;
- Poor lighting.

The use of motor vehicles was assessed by roading asset managers as the highest priority of the public in choice of transport modes. After this, walking was assessed as being more important than cycling. Use of public transport was rated as the lowest priority.

3 SURVEY SAMPLE

A sample of 19 road controlling authorities was surveyed for this review. They were spread over a wide geographical area that included both Islands.

Another authority helped by assisting with and commenting on a pilot survey. Based on comments of council staff, the questionnaire was amended to the form used for the survey (see Appendix B).

Table 4 contains background data on Councils' networks and estimated vehicle travel on these, ranked by the density of traffic. Counting of pedestrian and cycle traffic is not usually carried out by councils except for project planning and design purposes.

Table 4: Physical Statistics of Authorities in the Sample

Authority	Total Network Length @30/6/07 (km)	Total Sealed Length @ 30/6/07 (km)	Total Urban Length@ 30/6/07 (km)	Vehicle Kilometres Travelled 2006/07 (M VKT)	Traffic Density (Thousand VKT/ km)	Traffic Growth: VKT Last 5 Years (% pa)
1	786	744	584	971	3382	8.9
2	289	287	184	270	2557	-2.8
3	2275	1912	1535	1974	2377	1.9
4	352	352	292	266	2230	0.9
5	469	434	318	307	1789	-1.1
6	1707	990	319	581	932	3.3
7	1622	1373	220	495	835	4.2
8	1623	1195	295	442	746	1.6
9	1752	1041	692	446	697	1.1
10	838	546	222	169	553	1.3
11	1269	1090	338	207	226	-1.4
12	1430	1045	139	216	413	1.5
13	1474	778	169	212	394	-0.3
14	2459	1332	172	271	302	11.7
15	1614	1341	137	109	185	3.0
16	1223	768	93	71	159	-0.1
17	597	360	40	32	146	0.0
18	1814	736	184	92	139	8.1
19	1957	1170	88	86	121	1.5
Totals:	25550	17494	6021	7217		
Averages:					282	3.1

Data used for the preparation of Table 4 was drawn from the file Network Conditions Trends 2006-07 prepared by Performance Monitoring Group of Land Transport New Zealand, supplemented by statements of the lengths of urban network lengths as supplied by those councils surveyed.

Changes in traffic volumes over five years should be read with caution as they are a mix of measured and estimated values for each authority's network. These are "best available" figures as currently recorded in RAMM. The quality of VKT data has been improving in accuracy with time as more systematic traffic counting has been adopted by councils. I have not found it practicable to distinguish between councils as to the reliability of counts.

Average traffic density varies widely, indicating that a range of authorities from fully urban in nature to primarily rural have been included in the review sample. Traffic density was chosen as the likeliest available indicator of the busyness of the individual networks, as a surrogate for the extent of pedestrian and cyclists' activities in the absence of specific information.

Traffic densities on the individual local roads networks ranged from 3382 to 121 thousand vehicle kilometres travelled (VKT) per kilometre of network, as set out in Table 2. The mean value across the full networks of those authorities surveyed was 282 thousand VKT/km. Overall annual traffic growth rate for the sample was 3.1%.

4 SUMMARY OF SURVEY DATA

This section of the report is based on responses received to the questionnaires that were sent to all roading asset managers visited during the survey. All data used in this report refers only to the 19 authorities visited during the survey.

For Tables 5-11, the information set out is as provided by those councils surveyed. There are a number of gaps in the Tables where information sought from councils was not able to be provided. This was more particularly so for cycleways than for footpaths. Some numbers may not match exactly between Tables, due to the rounding off of lengths to the nearest kilometre.

Tables 5 and 6 summarise the extent of footpaths and cycleways respectively, managed by respondents to the survey. The lengths of urban streets recorded in these Tables will not match the lengths of roads and streets recorded with footpaths or cycleways because of these extending along State highways, and in some cases, into rural areas (i.e. where the legal speed limit is more than 70 kilometres per hour). No total for roads not having footpaths or cycleways is stated, as respondents usually included rural roads, where footpaths are not relevant, in their totals. In Table 6 the high proportion of cycleways recorded as needing routine maintenance reflects the management of road carriageways that carry marked lanes for cycleways.

Tables 7 and 8 record the expenditure and total lengths of footpaths and cycleways respectively, renewed or added to the networks. One council was unable to provide separate expenditure figures for cycleways as a part of its total asset maintenance programme. Estimated service lives for calculation of depreciation and for actual working life are included in these Tables.

Table 9 includes councils' estimates of maintenance backlogs, intervention levels summaries, and summaries of user satisfaction levels taken from annual surveys.

Table 10 records the extent to which formal systems are used in the management of footpaths and cycleways.

Table 11 summarises users' concerns ranked according to councils' staff perceptions, assessed from all available information. Public priorities for the use of the available modes are again staff assessments, supported in some cases by 2006 census data on the modes of transport used by residents when travelling to and from work.

Table 5: Extent of Footpaths for Authorities in the Sample

Authority	Total Extent of:		Extent of Footpaths Along:			Extent of Footpaths Along:			Proportion of Footpaths in Condition That is:		
	Urban Streets	Foot paths	Both Sides	One Side	No Footpath	Urban Streets	Rural Local Roads	Rural State Highways	Satisfactory	Needs Routine Mainten-ance	Unsatisfactory
	(Km)	(Km)	(Km)	(Km)	(Km)	(Km)	(Km)	(Km)	(%)	(%)	(%)
1	584	896	388	120	288	866	25	5	96	1	3
2	184	271	72	39	187	260	2	0	95	4	1
3	1535	2381	967	467	1007	2350	22	9	0	98	2
4	292	500	na	na	na	500	0	0	80	15	5
5	318	509	214	55	47	507	2	9	50	30	20
6	319	340	88	163	1625	312	9	18	97	1	1
7	220	200	61	79	1482	190	10	0	89	10	1
8	295	426	224	71	55	420	6	0	81	9	10
9	692	911	385	214	1261	902	9	0	79	0	21
10	222	400	na	na	na	397	3	0	na	na	na
11	338	504	230	55	52	465	0	0	77	20	3
12	139	135	123	12	1293	133	3	1	94	5	1
13	169	193	62	65	1356	184	9	2	75	20	5
14	172	116	16	84	2368	102	14	0	82	16	2
15	137	180	142	16	0	178.7	1	26	80	10	10
16	93	85	21	42	30	74	1	9	65	25	10
17	40	66	31	9	4	57	1	2	45	31	24
18	184	203	na	na	na	190	14	0	80	10	10
19	88	111	34	34	2012	107	5	1	75	25	0
Totals:	6019	8425	3058	1524	[redacted]	8016	311	83	80	14	6

Table 6: Extent of Cycleways for Authorities in the Sample

Authority	Total Extent of:		Extent of Cycleways Along:			Extent of Cycleways Along:			Proportion of Cycleways in Condition That is:		
	Urban Streets	Cycle-ways	Both Sides	One Side	No Cycleway	Urban Streets	Rural Local Roads	Rural State Highways	Satisfactory	Needs Routine Mainten-ance	Unsatisfactory
	(Km)	(Km)	(Km)	(Km)	(Km)	(Km)	(Km)	(Km)	(%)	(%)	(%)
1	584	12	na	na	na	3	0	0	60	30	10
2	184	3	0	1	276	2	0	0	100	0	0
3	1535	200	na	na	na	100	0	5	0	98	2
4	292	18	0	0	na	5	0	0	98	2	0
5	318	65	30	0	380	54	1	0	85	15	0
6	319	8	0	8	1725	8	0	0	100	0	0
7	220	1	0	0	1621	1	0	0	100	0	0
8	295	13	11	0	1615	11	0	0	100	0	0
9	692	24	8	6	na	24	0	0	0	75	25
10	222	0	na	na	na	0	0	0	na	na	na
11	338	42	37	3	299	42	0	2	na	na	na
12	139	0	0	0	0	0	0	0	na	na	na
13	169	na	na	na	na	na	0	0	na	na	na
14	172	12	3	10	na	7	5	0	100	0	0
15	137	2	0	0	na	0	2	0	100	0	0
16	93	0	0	0	na	0	0	0	na	na	na
17	40	1	0	1	39	0	5	0	100	0	0
18	184	1	0	0	na	0	0	0	100	0	0
19	88	1	0	1	na	0	1	0	100	0	0
Totals:	6019	403	89	30		257	14	7	34	63	3

Table 7: Cost of Footpaths and Extent of Work in 2006/07 for Authorities in the Sample:

Authority	Cost of:			Length of Footpaths:			Depreciation Life:	Service Life
	Mainten-ance	Renewals	New Paths	Renewals	Extens-ions	Adopted	Concrete/ asphalt/ seal	(Estimated)
	($000)	($000)	($000)	(Km)	(Km)	(Km)	(Years)	(Years)
1	0	1300	500	11	2	3	80/40/-	60
2	50	150	120	na	1	3	50/-/-	55
3	1300	6000	1000	117	1	6	50/23/-	23
4	255	333	100	0	40	75	80/20/-	80
5	187	434	40	2	3	1	80/30/-	na
6	414	106	230	na	2	4	35/25/-	40
7	20	295	100	2	1	5	40/-/-	na
8	238	226	0	3	0	0	75/20/-	75
9	604	1906	361	58	1	4	20/-/-	na
10	520	(incl)	na	na	na	na	na	50
11	339	398	117	2	1	5	80/40/-	80
12	5	85	26	2	1	0	70/25/-	60
13	103	348	100	4	1	3	50/20/-	30
14	180	10	0	3	6	4	40/-/-	50
15	250	(incl)	250	3	3	0	50/25/15	na
16	124	98	36	1	1	0	50/30/-	na
17	32	38	32	1	0	1	80/20/-	40
18	65	250	0	2	0	1	20/-/-/	15
19	86	152	23	0	0	0	na	60
Totals:	4774	12127	3035	200	64	116		
Total expenditure:			19936					

The broad consensus on depreciation lives of footpaths and cycleways of different construction apparent in Tables 7 and 8 is partly a product of experience and partly arising from the commonality of procedure throughout local government.

Table 8: Cost of Cycleways and Extent of Work in 2006/07 for Authorities in the Sample:

Authority	Cost of:			Length of Cycleways:			Depreciation Life:	Service Life
	Mainten-ance	Renewals	New Paths	Renewals	Extens-ions	Adopted	Concrete/ asphalt/ chip seal	(Estimated)
	($000)	($000)	($000)	(Km)	(Km)	(Km)	(Years)	(Years)
1	20	0	150	0	6	0	80/40/-	60
2	5	0	200	0	1	2	50/-/-	55
3	266	72	1270	0.5	1	1	50/23/-	23
4	25	0	650	0	2	0	80/20/-	80
5	160	0	236	0	4	0	80/30/-	na
6	0	0	230	0	2	0	35/25/-	40
7	na	na	na	na	0	0	40/-/-	na
8	10	0	0	0	0	0	75/20/-	75
9	11	0	124	0	3	0	20/-/-	na
10	0	0	0	0	0	0	na	50
11	0	0	0	0	0	0	80/40/-	80
12	0	0	0	0	0	0	70/25/-	60
13	0	0	0	0	0	0	50/20/-	30
14	6	0	573	0	5	1	40/-/-	50
15	0	0	0	0	0	0	50/25/15	na
16	0	0	0	0	0	0	50/30/-	na
17	0	0	0	0	0	0	80/20/-	40
18	0	0	0	0	0	0	20/-/-/	15
19	0	0	0	0	0	0	na	60
Totals:	503	72	3433	0.5	24	4		
Total expenditure:			4008					

Table 9: Maintenance of Footpaths and User Satisfaction in 2006/07 for Authorities in the Sample:

Authority	Maintenance Needs to Restore "Unsatisfactory":		Intervention Levels:		User Satisfaction Levels from Surveys:	
	Period (years)	Cost ($000)	System to Define "Satisfactory", etc.	Break point: Maintenance/ Renewal	Level (%)	Trend
1	6	750	Points system used	Maintenance only to date	na	na
2	1-2	150	na	20 m length faulty	80	na
3	1	6000	<100 m defective	Maintenance if <block length	60-68	Steady
4	2	200	na	10 m length faulty	80	Steady
5	5	460	Points system used	200 m length faulty	75	Steady
6	3-5	800	<5% defective	5 m length faulty	5% of complaints received	Steady
7	3	1100	na	5 m length faulty	77	Steady
8	20+	300	Safety faults first priority	50 m length faulty or age>50 years	67	na
9	5	400	Presence of faults	20 m length faulty	57	Steady
10	15	500	na	Maintenance if <block length	61	Improving
11	na	na	Based on RAMM	20 m length faulty	74	Deteriorat-ing
12	3	100	Points system used	2 m length faulty	59	Improving
13	1	350	<10% defective	Maintenance if <10% faulty	75	Improving
14	5	200	Based on visual inspection	All are renewals	na	na
15	4	280	Based on RAMM	Maintenance if <block length	67	Deteriorat-ing
16	5	100	Safety faults first priority	Defined length faulty	61	Deteriorat-ring
17	16-26	66	na	2 m length faulty	na	Improving
18	4	250	Resurface needed, trip hazards	Depends on extent of work needed	65	Improving
19	0	0	Points system used	Maintenance if <block length	64	Steady
Totals:		12,006				

One authority, a regional centre, was unable to provide an estimate of renewals needs and related costs. Although the level of user satisfaction for footpaths in this authority was relatively high, successive ratepayer surveys showed a perceived trend of deteriorating condition. The roading asset manager stated that 3% of footpaths are rated as being in poor or very poor condition. He commented that funding can be a limitation on progress and that there is a performance problem with the present roading maintenance contractor. His council is preparing to develop a walking strategy.

The three authorities that estimate they need more than 15 years to restore unsatisfactory footpaths are two regional centres and a smaller authority that has a number of smaller townships to serve. They are working to improve footpaths condition, but funding levels are uncertain between years. Two specifically are targeting busier routes such as those used by older residents, particularly routes serving medical centres, retirement villages, and schools. One of these authorities has a footpaths officer who regularly meets user groups to discuss needs and priorities.

Table 10: Inventory Control, Condition Rating, Treatment Selection Systems for Authorities in the Sample:

Authority	Inventory is in RAMM	Formal Condition Rating System Used	Condition Rating System	Treatment Selection System Used	Time Treatment Selection System been used (years)	Level of Satisfaction with System
1	Partly	Yes	dTIMS	No	10+	Not satisfied
2	Yes	Yes	RAMM	No	na	Wouldn't change
3	Yes	No	RAMM	Yes	3	Wouldn't change
4	Yes	Yes	RAMM	Yes	10+	Improve't needed
5	Yes	Yes	RAMM	Yes	3	Improve't needed
6	Yes	Yes	RAMM	No	na	Wouldn't change
7	Yes	Yes	Five points system	No	na	Wouldn't change
8	Yes	Yes	Spreadsheet	No	10+	Improve't needed
9	Yes	Yes	RAMM	Yes	5	Wouldn't change
10	Yes	Yes	RAMM	Yes	30	Wouldn't change

Authority	Inventory is in RAMM	Formal Condition Rating System Used	Condition Rating System	Treatment Selection System Used	Time Treatment Selection System been used (years)	Level of Satisfaction with System
11	Yes	Yes	RAMM + five points system	No	10	Improve't needed
12	Yes	Yes	na	No	<10	Improve't needed
13	Yes	Yes	RAMM	No	10+	Improve't needed
14	No	Yes	Visual + RAMM	No	10+	Wouldn't change
15	Yes	Yes	Five points system	Yes	5	Wouldn't change
16	Yes	No	na	na	3	Not satisfied
17	Yes	No	RAMM	No	10+	Uncertain
18	Yes	Yes	Five points system	No	na	Wouldn't change
19	Yes	Yes	Five points system	No	na	Wouldn't change
Totals:	16 (fully)	16		6		10 satisfied

Table 11: Assessed Priorities of Public Perceptions from Authorities in the Sample:

Authority	Concerns of Users of Footpaths and Cycleways:							Priority in Use of:			
	Traffic	Poor maintenance	Lighting	Vandalism, graffiti	Behaviour of others	Dangerous driving	Alcohol & drugs	Motor Car	Public Transport	Bicycle	Walk
1	na	na	na	na	na	na	na	na	na	na	na
2	na	na	na	na	na	na	na	na	na	na	na
3	2	1	3	5	6	4	7	1	3	2	4
4	2	1	7	7	7	7	7	1	4	2	3
5	3	1	2	6	5	4	7	1	4	3	2
6	2	1	2	2	2	2	2	na	na	na	na
7	3	1	4	2	6	7	5	1	4	4	2
8	1	3	4	6	2	5	7	1	4	3	2
9	1	3	4	6	5	2	7	na	na	na	na
10	3	1	2	7	7	7	7	1	4	4	4
11	2	1	3	6	5	4	7	1	4	3	2
12	2	1	3	6	5	4	7	1	4	2	3
13	1	2	3	7	7	7	7	1	4	4	4
14	1	2	7	7	7	6	7	1	2	4	2
15	na	na	na	na	na	na	na	1	4	4	4
16	2	1	3	5	6	4	7	1	3	2	4
17	na	na	na	na	na	na	na	1	4	3	2
18	1	2	3	5	4	6	7	1	4	3	2
19	3	1	2	7	7	7	7	1	4	4	4
Overall priorities*:	2	1	3	6	5	4	7	1	4	3	2

* As derived at Section 5.7 below.

5 ANALYSIS OF DATA

5.1 Background Information

Councils included in the survey ranged from fully urban to strongly rural with service towns. Their networks are medium to large in extent. They ranged widely in the extent of use and in the rate of growth of traffic, as measured by vehicle kilometres travelled based on traffic counts and estimates within those councils' RAMM databases.

All Tables and Graphs have responding councils ordered in sequence of descending traffic density, vehicle kilometres travelled as determined from RAMM databases, divided by network lengths. Thus, Authority 1 is strongly urban in nature, Authority 19 is strongly rural.

Data on the physical extent and condition of footpaths is taken from councils' RAMM databases and is reliable, as is cost information. Information on cycleways is less easily obtained, with more gaps caused through respondents being unable to isolate the information sought.

5.2 Expenditure on Footpaths

In order to calculate an estimate of the total annual expenditure on footpaths in 2006/07, the expenditure advised by survey respondents (see Table 7) was taken and proportionately increased in the ratio of the length of all urban streets to the total length of urban streets advised by respondents. The total length of urban streets was obtained from "Network Statistics 2007", Table 1, as published by Land Transport New Zealand.

Table 12: Estimated Cost of Footpaths Maintenance and Renewals 2006/07:

	Survey Data (Costs as Advised by Respondents)	National Values (Costs Estimated)
No of Authorities:	19	73
Extent of urban streets (km):	6019	17251
Cost of maintenance ($M):	4.8	13.7
Cost of renewals ($M):	12.1	34.8
Cost of new footpaths ($M):	3.0	8.7
Total cost, maintenance & renewals ($M):	16.9	48.5
Cost of upgrading backlogs of unsatisfactory footpaths ($M):	7.8-7.6	22.4-21.9

Uncertainties in the calculated costs are introduced through:

- How typical of the extent of streets with footpaths in authorities included in the sample are as compared with the total population;

- Similarly, variations in the extent of urban State highways (the lengths of these are not included in the calculation);
- Incompleteness of data provided by all authorities included in the survey;
- Any inconsistencies between councils in recording the extent and costs of their footpaths networks.

Table 13: Footpaths Condition and Costs 2006/07:

Authority	Condition Trend	Cost per Km	Network Length				Cost of Maintenance & Renewals			
			Impr.	Steady	Det.	Not Stated	Impr.	Steady	Det.	Not Stated
		($000/km)	(km)	(km)	(km)	(km)	($000)	($000)	($000)	($000)
1	NS	1.451				896				1300
2	NS	0.738				271				200
3	Steady	3.066		2381				7300		
4	Steady	1.176		500				588		
5	Steady	1.220		509				621		
6	NS	1.529				340				520
7	Steady	1.575		200				315		
8	NS	1.089				426				464
9	Steady	2.755		911				2510		
10	Impr.	1.300	400				520			
11	Det.	1.462			504				737	
12	Impr.	0.667	135				90			
13	Impr.	2.337	193				451			
14	NS	1.638				116				190
15	Det.	1.389			180				250	
16	Det.	2.612			85				222	
17	Impr.	1.061	66				70			
18	Impr.	1.552	203				315			
19	Steady	2.144		111				238		
Totals:			997	4612	769	2049	1446	11572	896	2674
Grand totals:			8427km				$16588K			
Proportions of totals:			12%	55%	9%	24%	9%	70%	5%	16%
Aggregated cost $000/km by condition trend:							1.450	2.509	1.165	1.849
Maintenance and Renewals cost $000/km for all authorities surveyed:							1.969			

The estimated cost of backlogs of maintenance and renewals for those authorities included in the sample are given in Table 9, $12 millions a year (M pa). When the time estimated by respondents to overcome backlogs is taken into account, this represents an expenditure of $7.8-7.6M pa, less than their annual expenditure on maintenance and renewals, $48.5 M pa. This, in conjunction with the short time periods estimated by most authorities to overcome their backlogs of unsatisfactory footpaths,

suggests that backlogs of poor condition footpaths are not a problem at the national level. Three authorities (16%) stated that they expected to need more than 15 years to overcome backlogs at their present rates of progress. The total length of footpaths in their networks is 911 km, 11% of the total included in this survey.

Table 13 above breaks down footpaths networks and their annual costs according to asset managers' assessments of condition trends. Graph 1 displays average costs of maintenance and renewals ($/km pa) and corresponding condition trends for the individual networks, ranked by traffic density, vehicle kilometres travelled per day per kilometre of local roading network. Authority 1 has the highest traffic density, Authority 19 has the lowest.

Graph 1: Footpaths Maintenance and Renewals Costs 2006/07:

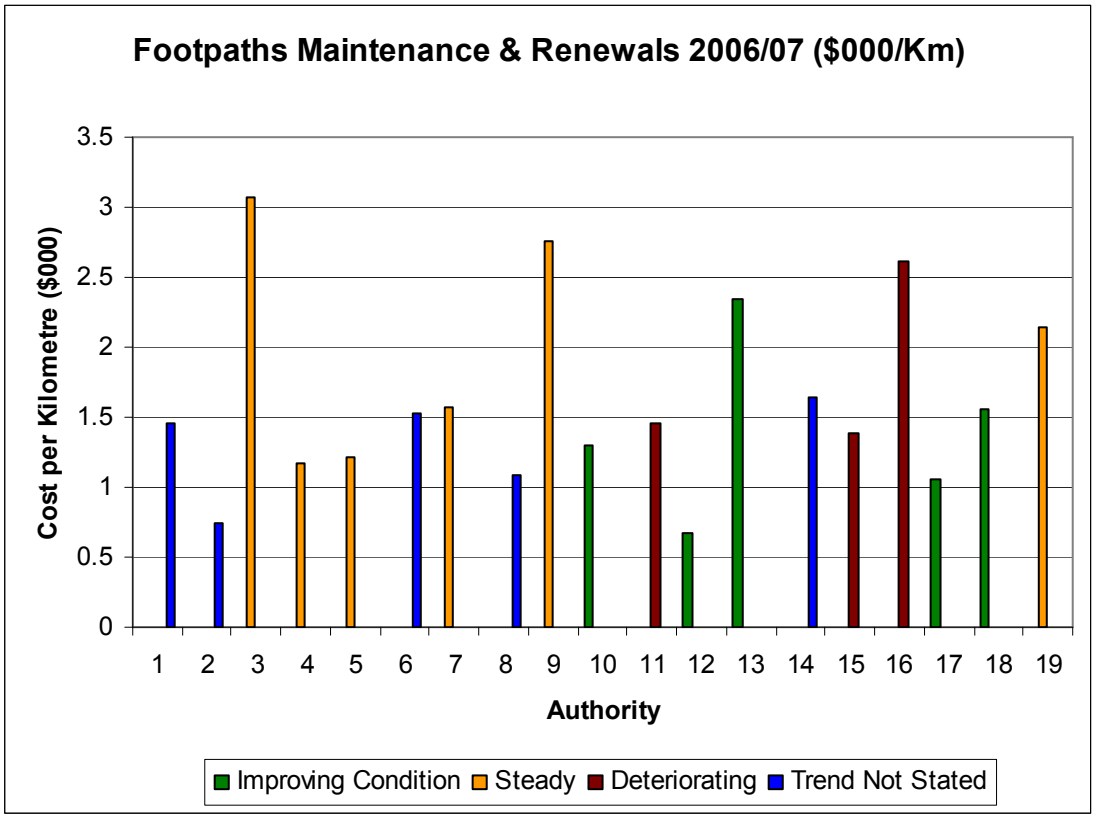


Table 14 and Graph 2 (over leaf) relate the unit cost of maintenance and renewals in 2006/07 to traffic density on the roading network of each council surveyed. No obvious pattern relating condition trends to expenditure levels shows in this graph.

Table 15 and Graph 3 following similarly relate the proportion by length of the network renewed in the same year. All authorities except two are renewing 3% of their footpaths network or less a year. Both of the authorities replacing 5% or more of their footpath networks have extensive lengths of old, concrete deep-dish channels with minimal grades in low-lying, poorly drained areas. Their rates of footpath renewal are being driven by programmes of kerb and channel renewal.

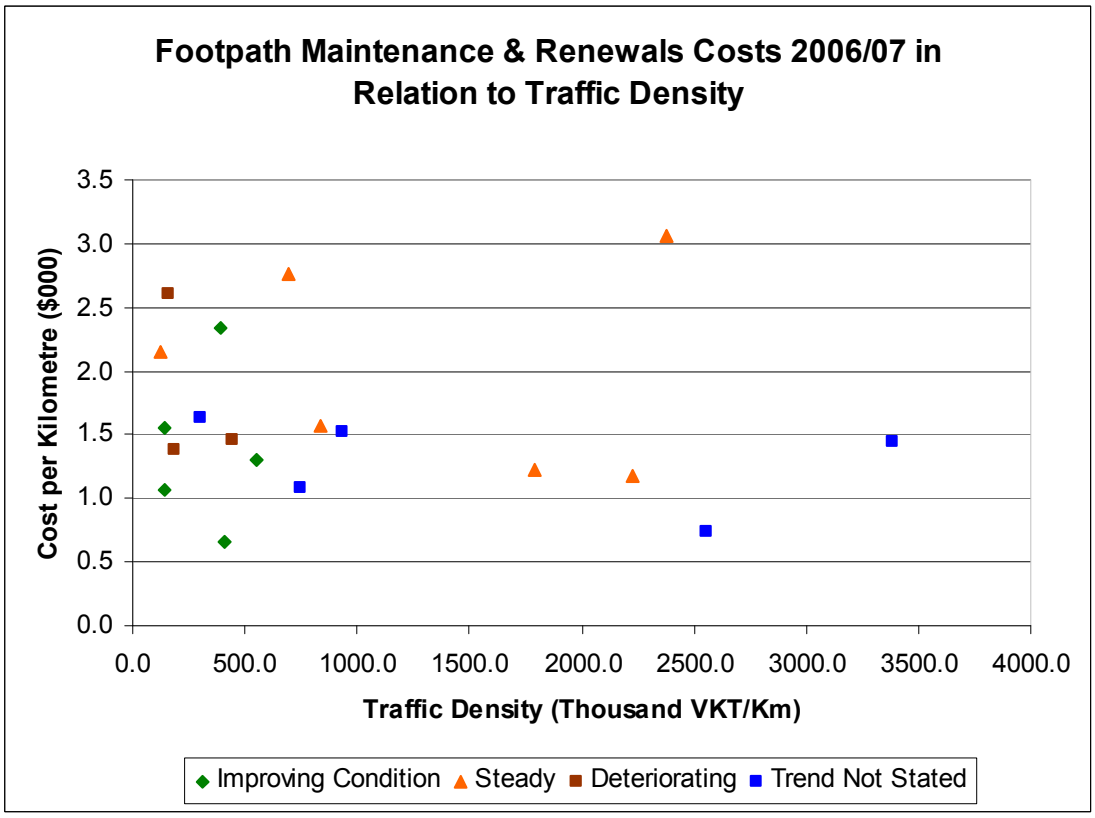
Table 14: Footpaths Maintenance and Renewals Costs 2006/07:

Authority	Network Length	Total Cost	Traffic Density	Cost $000/Km for Network Condition Trend			
	(Km)	($000)	(000VKT /Km)	Improving	Steady	Deteriorating	Not Stated
1	896	1300	3382				1.5
2	271	200	2557				0.7
3	2381	7300	2377		3.1		
4	500	588	2230		1.2		
5	509	621	1789		1.2		
6	340	520	932				1.5
7	200	315	835		1.6		
8	426	464	746				1.1
9	911	2510	697		2.8		
10	400	520	553	1.3			
11	504	737	446			1.5	
12	135	90	413	0.7			
13	193	451	394	2.3			
14	116	190	302				1.6
15	180	250	185			1.4	
16	85	222	159			2.6	
17	66	70	146	1.1			
18	203	315	139	1.6			
19	111	238	121		2.1		

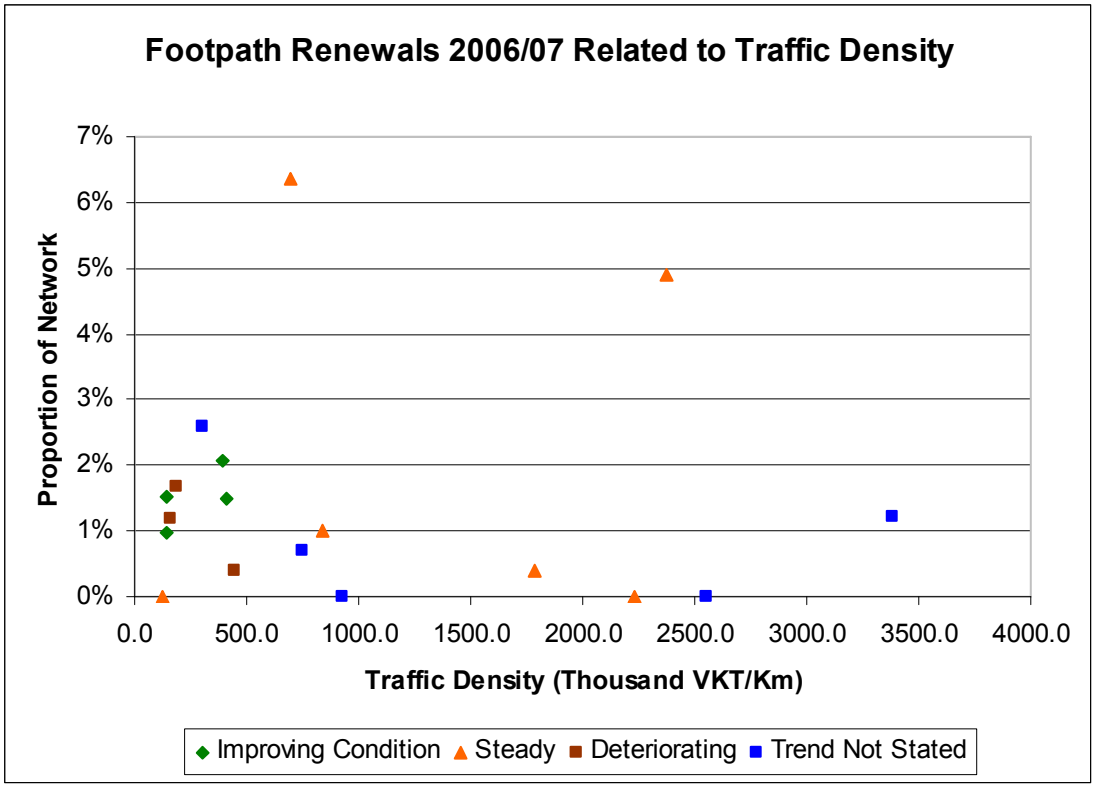
Table 15: Footpaths: Extent Renewed 2006/07:

Authority	Network Length	Length renewed	Traffic Density	Proportion Renewed (%) for Network Condition Trend			
	(Km)	(Km)	(000VKT /Km)	Improving	Steady	Deteriorating	Not Stated
1	896	11	3382				1.2
2	271	na	2557				na
3	2381	117	2377		4.9		
4	500	0	2230		0.0		
5	509	2	1789		0.4		
6	340		932				na
7	200	2	835		1.0		
8	426	3	746				0.7
9	911	58	697		6.4		
10	400	na	553	na			
11	504	2	446			0.4	
12	135	2	413	1.5			
13	193	4	394	2.1			
14	116	3	302				2.6
15	180	3	185			1.7	
16	85	1	159			1.2	
17	66	1	146	1.5			
18	203	2	139	1.0			
19	111	0	121		0.0		

Graph 2: Footpaths Maintenance and Renewals Costs 2006/07:



Graph 3: Footpaths Renewals 2006/07:



The graphs show no obvious relationship between the trend in condition of footpath networks and the amount of use made of networks as measured by traffic density. It is more likely that the age of the footpath, kerb and channel network is the significant factor. Authorities having a high proportion of old streets in their networks tend to be those with high maintenance and renewals costs. This is the case for the high cost authorities in the sample chosen, whether they are large city councils or rural district councils meeting the needs of smaller townships.

5.3 Expenditure on Cycleways

Similar considerations and uncertainties apply in the aggregating up of assessed costs for cycleways as for footpaths in Section 5.2 above.

Table 16: Estimated Cost of Cycleways Maintenance and Renewals 2006/07:

	Survey Data (Costs as Advised)	**National Values (Costs Estimated)**
No of Authorities:	19	73
Extent of urban streets (km):	6019	17251
Cost of maintenance ($M):	0.5	1.4
Cost of renewals ($M):	0.1	0.2
Cost of new cycleways ($M):	3.4	9.8
Total cost ($M):	4.0	11.5

Maintenance and renewals costs are at low levels because:

- Cycleways are mostly new;
- Cycleways are mostly in good condition with minimal maintenance needs; and
- The costs of shared facilities are not separated between uses (cycleway versus footpath or carriageway).

It is likely that maintenance costs will rise in time through the normal ageing process. The dominant cause of deterioration of surfacings will be environmental if off-carriageway; weather related or disruption caused by work on underground services for on-street cycleways.

5.4 Condition of Footpaths

Data received from respondents for footpaths is collected in Table 5. As with costs estimates, I have estimated national network condition according to the ratio of lengths of urban streets for those authorities included in the survey to the total length of urban streets in New Zealand.

Table 17: Condition of Footpaths 2006/07:

	Survey Data (Lengths as Advised)	National Values (Footpath Lengths Estimated)
No of Authorities:	19	73
Extent of urban streets (km):	6019	17251
Length of footpaths in satisfactory condition (km):	6740	19318
Length needing routine maintenance (km):	1180	3381
Length in unsatisfactory condition (km):	505	14491
Total length of footpaths (km):	8425	24147

5.5 Condition of Cycleways

The extent of cycleways at the national level is estimated as for footpaths in the above section of this report.

Table 18: Condition of Cycleways 2006/07:

	Survey Data (Lengths as Advised)	National Values (Cycleways Lengths Estimated)
No of Authorities:	19	73
Extent of urban streets (km):	6019	17251
Length of cycleways in satisfactory condition (km):	137	393
Length needing routine maintenance (km):	254	728
Length in unsatisfactory condition (km):	12	34
Total length of cycleways (km):	403	1155

Some of the large urban authorities have significant off-road cycleway networks they list in their inventories and rate for condition separately from footpaths. Most authorities list and condition rate cycleways with the footpaths and carriageways that share the road space with them.

5.6 Management of Footpaths and Cycleways

As shown in Table 10, section 4 above, 89% of authorities have inventories of footpaths and cycleways in their RAMM databases. A smaller proportion, 79%, have formal condition rating systems to assess footpaths and cycleways for the need for maintenance.

Table 19: Maintenance Management Systems:

System	Number		Proportion	
	Used	Not Used	Used	Not Used
dTIMS	-	1	-	5%
RAMM	6	5	32%	26
Five Point Assess.	1	3	5	16
Spreadsheet	-	1	-	5
None	-	2	-	11
Totals:	7	12	37%	63%

Table 20: Intentions for Future Use of Maintenance Management Systems:

System	System is Used	Wouldn't Change	Impr. Needed	Not Satisfied	Uncertain
dTIMS	No	-	-	-	-
RAMM	Yes	3	2	-	-
	No	2	3	-	1
Five Point assess't.	Yes	2	-	-	-
	No	3	-	-	-
Spreadsheet	No	-	1	-	-
None		-	-	2	-
Totals:		10	6	2	1
		53%	32%	10%	5%

Tables 19 and 20 reveal a curious situation. Two-thirds of authorities have asset or maintenance management systems that could be applied to footpaths and cycleways, but state they don't use them. My interpretation is that dTIMS and the RAMM treatment selection process are used in the management of carriageways that include defined cycleways, but are not used for off-carriageway footpaths and cycleways.

The five point visual inspection system, which was developed specifically for assessing footpaths condition and maintenance needs, appears to be under-used in favour of less formal systems of assessment for the need for work.

Table 21: Condition, User Satisfaction, and Management of Footpaths:

Authority	Proportion of Footpaths That:		Estimated Time To Restore (Years)	User Satisfaction Levels:		Condition Rating System:	
	Need Routine Maint. (%)	Are Unsatisfactory (%)		Level (%)	Trend	System	System is Used (Yes/No)
1	1	3	6	na	na	dTIMS	N
2	4	1	1-2	80	na	RAMM	N
3	98	2	1	60-68	Steady	RAMM	Y
4	15	5	2	80	Steady	RAMM	Y
5	30	20	5	75	Steady	RAMM	Y
6	1	1	3-5	5% of complaints	na	na	N
7	10	1	11	77	Steady	Five Points	N
8	9	10	20+	67	na	Spreadsheet	N
9	0	21	5	57	Steady	RAMM	Y
10	na	na	15	61	Improving	RAMM	Y
11	20	3	na	74	Deteriorating	RAMM	N
12	5	1	3	59	Improving	na	N
13	20	5	1	75	Improving	RAMM	N
14	15	5	5	na	na	Visual + RAMM	N
15	10	10	4	67	Deteriorating	Five Points	Y
16	25	10	5	61	Deteriorating	na	na
17	31	24	16-26	na	Improving	RAMM	N
18	10	10	4	65	Improving	Five Points	N
19	25	0	0	64	Steady	Five Points	N
Totals:	36	7					

When information from Tables 5, 9, and 10 is collated in Table 21, four authorities stand out as potentially having significant problems in the future management of existing footpaths.

- Authority 8 contains a significant regional centre. It is uncertain whether routine maintenance needs are being met and the Council has only a simple condition rating system that is not being used. The asset manager has recognised that improved systems, at least, are needed. It seems likely that the footpaths maintenance and renewals programme is not meeting needs.

- Authority 10 lacks data in its inventory of footpaths. Although the estimated time needed to restore unsatisfactory footpaths to good condition appears long (15 years), a formal RAMM-based condition rating system is in use. Successive ratepayer satisfaction surveys show a trend of improving perceptions of the condition of the network.
- Authority 11, by contrast, has a low proportion of its network in unsatisfactory condition, and successive ratepayer surveys show a trend of perceived deterioration of the network. The roading asset manager was unable to estimate what period would be needed to renew unsatisfactory pavements.
- Authority 17 is a primarily rural authority that includes a number of smaller towns. The footpaths network is thought to be improving in condition with time, but clearly the council has a significant backlog of poorer condition footpaths. It is likely that many of these have chip sealed surfaces laid up to 40 years ago using local gasworks tar. Despite Council only having a relatively small network of footpaths, the estimated time needed to restore unsatisfactory surfacings appears excessive for the likely needs of the network.

5.7 Roading Asset Managers' Assessments of the Public's Priorities

Roading asset managers were asked their perceptions of the concerns of road users and priorities for these. The list of headings was taken from road safety literature. The full list of headings is:

- Traffic, including busy roads and lack of pedestrian and/or cyclists' facilities.
- Poor maintenance of footpaths and cycleways.
- Lighting of footpaths and cycleways.
- Vandalism and graffiti.
- Threatening or dangerous behaviour of other people.
- Dangerous driving.
- Alcohol and drugs problems.

Table 22: Assessment of User Concerns:

Priority	Traffic	Poor Maint.	Lighting	Vandalism, Graffiti	Behaviour Of Others	Dangerous Driving	Alcohol & Drugs
1	5	9	-	-	-	-	-
2	5	3	3	1	1	1	-
3	4	2	6	-	-	-	-
4	-	-	3	-	1	5	-
5	-	-	-	3	4	1	1
6	-	-	-	5	3	2	-
7	-	-	2	5	5	5	13
na	5	5	5	5	5	5	5
Totals:	19	19	19	19	19	19	19

Table 23: User Concerns: Ranking:

Priority	Weighting	Weighted Scores:						
		Traffic	Poor Maint.	Lighting	Vandalism, Graffiti	Behaviour Of Others	Dangerous Driving	Alcohol & Drugs
1	7	35	63	-	-	-	-	-
2	6	30	18	18	6	6	6	-
3	5	20	10	30	-	-	-	-
4	4	-	-	12	-	5	20	-
5	3	-	-	-	9	12	3	3
6	2	-	-	-	10	6	10	-
7	1	-	-	2	5	5	5	13
na	0	-	-	-	-	-	-	-
Totals:		85	91	62	30	34	44	16
Ranking:		2	1	3	6	5	4	7

Collated responses in priority order are:

1. Poor maintenance.
2. Traffic.
3. Lighting.
4. Dangerous driving.
5. Threatening and dangerous behaviour of others.
6. Vandalism and graffiti.
7. Alcohol and drug problems.

Perceived public priorities in use of transport modes were assessed similarly:

Table 24: Assessment of User Priorities in Use of Modes:

Priority	Motor Car	Public Transport	Cycle	Walk
1	15	-	-	-
2	-	1	4	7
3	-	2	5	2
4	-	12	6	6
na	4	4	4	4
Totals:	19	19	19	19

Table 25: User Priorities in Use of Modes: Ranking:

Priority	Weighting	Weighted Scores:			
		Motor Car	Public Transport	Cycle	Walk
1	4	60	-	-	-
2	3	-	3	12	21
3	2	-	6	10	4
4	1	-	12	6	6
na	0	-	-	-	-
Totals:		60	21	28	31
Ranking:		1	4	3	2

Collated rankings in priority order were:

1. Motor vehicle.
2. Walking.
3. Cycling.
4. Public transport.

6 NZ TRANSPORT AGENCY POLICY AND FUNDING INPUTS

6.1 Policy

Work categories 432, *Community Programmes*, 451, *Pedestrian Facilities*, and 452, *Cycle Facilities*, as set out in NZ Transport Agency's Planning, Programming and Funding Manual define those activities that are eligible for financial assistance.

6.2 Funding Inputs

During 2006/07 Land Transport New Zealand contributed $4.8 millions towards the total cost of new footpaths and cycleways. Of this sum, $1.0 million was spent on State highway projects managed by Transit New Zealand. Other Transit NZ construction projects may have included expenditure on the construction of associated facilities for pedestrians and cyclists, but at the time of completing this report, no further information was available.

7 FINDINGS

7.1 Background Information

Councils selected for inclusion in this review ranged from a major City Councils to strongly rural District Councils. I believe the findings of this report are representative of the state of the art throughout New Zealand.

7.2 Councils' Policies for Footpaths

Councils are maintaining their footpaths to a level of service that is generally acceptable to ratepayers, as is shown by the findings of annual ratepayer satisfaction surveys (see Tables 9, 21). Councils' target levels for these surveys are either being met, or progress is being achieved towards meeting targets. Three authorities (16%) reported from successive ratepayer satisfaction surveys a perceived trend of deterioration in the condition of footpaths and cycleways.

Some asset managers interviewed during fieldwork for this survey commented that they had found the results of successive ratepayer opinion surveys to be adversely skewed through rising public expectations, or because attention has been drawn to council activities that formerly had been accepted. In some cases this skewing has been identified as being caused by individuals who are serial complainers that periodically move to new council activities as foci for their attention.

Most councils carry out maintenance according to the incidence of faults, with priority being given to the remedy of tripping hazards. These are commonly caused by faults:

- Potholes in chip sealed or asphalt footpaths;
- Broken and tipped concrete slabs;
- Vertical displacement of concrete slabs at joints; and
- Uplift caused by the growth of tree roots.

Policy on whether to identify work as "Maintenance", or as "Renewals", varies widely. The break point between the two ranges from "Renewal" being only full block lengths from intersection to intersection at a time, to any length needing work that is greater than two metres long. Those councils with the most restrictive policies have long term programmes of upgrading old, deep dish channels, kerbs and footpaths. Their policy is as far as possible to upgrade footpaths, kerb and channel, and associated stormwater drainage as a package.

Table 26: Extent of Footpaths 2006/07:

	Survey Data (Lengths as Advised)	National Values (Footpath Lengths Estimated)
No of Authorities:	19	73
Extent of urban streets (km):	6019	17251
Length of urban streets with two footpaths (km):	3058	8765
Length of urban streets with one footpath (km):	1524	4368
Length of urban streets with no footpaths (km):	1437	4119
Extensions of footpaths on existing streets (km):	64	183

There continues to be a significant length of urban streets that do not have formed footpaths (see Table 5). Typically, these streets are ones intermediate in location and age between town centres and more modern subdivisions for which footpaths are provide at developers' cost. At the rate of extensions reported for 2006/07, to provide at least one footpath along all these streets is likely to take more than 20 years (see also section 7.5.1 below).

7.3 Cycleways

Cycleways are mostly relatively new. Hence, maintenance costs are still low.

On-carriageway cycleways are maintained as a part of the carriageway. The only issues arising here are related to the differing textures preferred by cyclists from those that would normally be specified for the maintenance of carriageways used by motor vehicles. Cycleway markings are stated by nine authorities (47%) to be as recommended in the Ministry of Transport Signs and Markings Manual. Two (11%) stated they apply the Austroads Guide Part 14, or the "new national guidelines". One regional variation of markings is that those respondents in Canterbury use red to indicate on-carriageway cycle lanes instead of the green colour that is used in all other provinces.

Off-street cycleways and shared facilities are maintained with footpaths. Condition assessments tend to be more favourable than for footpaths because of the newness of the cycleways. Public perceptions of cycleways are not specifically included in ratepayer satisfaction surveys.

7.4 Funding of Maintenance and Renewals of Footpaths and Cycleways

Section 5.2 analyses expenditure on footpaths in 2006/07and section 5.3 does the same for cycleways. My assessment of the national cost of these assets is:

Table 27: Assessed National Expenditure on Footpaths and Cycleways 2006/07:

	Footpaths ($M)	Cycleways ($M)
Cost of Maintenance:	14	1
Cost of Renewals:	35	0
Cost of Extensions:	9	10
Total cost:	57	11

7.5 Key Deficiencies

7.5.1 Lack of Facilities: Footpaths

Most townships have central areas with old footpaths on both sides of the road. Since at least the 1960s, developers have been required to build all necessary footpaths before any new subdivision is adopted by councils. Outside of these locations, there are areas where traditionally no footpath has been provided. Councils are working at widely varying but generally slow rates to provide footpaths where there are none at present.

From examination of the costs and lengths of renewals and of extensions of footpaths included in Table 8, it is reasonable to assess the cost of new footpaths at $50,000 per kilometre. Therefore, the estimated cost of providing one footpath along those urban streets that presently have none, is likely to be some $206 millions. At present rates of expenditure this would take some 24 years to achieve.

7.5.2 Lack of Continuity: Cycleways

Common hazards along on-carriageway cycleways include:

- Drivers of vehicles parked between cycle lanes and kerbs opening their door without having noticed the approach of a cyclist;
- Abrupt changes in cycleway geometrics; and
- Lack of continuity of cycleways.

The latter two hazards are related, in that they result from the addition of a cycling facility where there is insufficient room or not an adequate route available for cyclists.

Abrupt changes of road geometrics are likely to be caused by a constriction of the available carriageway width, caused by a bridge or a tunnel, for instance. Lack of continuity is more likely to occur at major intersections, such as roundabouts. In both cases, deficiencies are critical to the fullest use of any cycleway and are likely to make the difference between success and failure of the route.

Off-carriageway cycleways need careful attention to road crossings, again to manage conflict and to ensure adequate inter-visibility between cyclists and the drivers of vehicles whose paths the cyclist must cross.

7.5.3 Lack of Certainty of Funding

Asset managers interviewed in the course of this survey have commented that budgets for footpaths maintenance, renewal, and extension are commonly re-assessed by councils during their annual budget setting meetings as a result of seeking to minimise budget and rates increases. This may occur despite the inclusion of estimated funding for footpaths works in councils' Long Term Council Community Plans.

7.6 Best Practice Identified in Review

A number of asset managers commented that the requirements for the use of footpaths by pedestrians, mobility scooters, and wheelchairs are different between uses.

Wheelchairs can have fore and aft stability problems, as at kerbs and their crossings.

Mobility scooters were originally designed for indoor use, have a relatively high centre of gravity, and are susceptible to excessive crossfall.

One authority, having a relatively high aged population in its townships, has found the use of mobility scooters on its streets to be increasing. Users of these are more sensitive to obstacles, crossfall and surface problems than are pedestrians. In conjunction with two elderly peoples' communities, a mobility scooter users' group has been established to manage complaints and remedial work programmes for the routes between those communities and the town business district.

8 METHODOLOGY

8.1 Scope of Review

A survey of a sample of territorial local authorities' (authorities) footpaths and cycleways was carried out 30 April – 30 May, 2008. This review was conducted as part of Performance Monitoring Group's business plan for 2007/08.

The objectives of the review were as detailed in the Review Plan 2007/08: survey of Footpaths, Cycleways and Related Costs (refer Appendix A).

8.2 Authority to Review (Land Transport NZ Requirement to Audit)

The Land Transport Management Amendment Act 2004, Section 69(1) (k), requires Land Transport NZ to "audit the performance of approved organisations in relation to activities approved by Land Transport NZ ….." The Land Transport NZ Performance Monitoring Group's Charter describes the way this statutory requirement will be performed. The charter refers to regular procedural audits and regular technical reviews of local authorities. This report is of a technical review.

The Land Transport Management Amendment Act 2004, Section 69(1)(l), requires Land Transport NZ to "assist and advise approved organisations in relation to Land Transport NZ's functions, duties, and powers under this Act and the Land Transport Act 1998". Technical reviews provide one opportunity for this.

8.3 Review Team

The survey was carried out by Rob. Merrifield, Contractor.

8.4 Fieldwork

Nineteen territorial local authorities were visited and a previously forwarded questionnaire was discussed with the answers being recorded for later analysis.

8.5 Consultation on the Draft Report

All road controlling authorities whose footpaths and cycleways were reviewed were sent the draft report together with an invitation to comment on it before it being adopted by NZ Transport Agency.

E-mails of comment received in response to the final draft report are attached at Appendix E. Ten authorities of the 19 visited have responded with their comments on the final draft report after two reminders. Corrections have been made consequent upon the comment received.

9 ACKNOWLEDGEMENTS

I am grateful for the time and effort spent by staff working for the territorial local authorities interviewed, in preparing for and taking part in the review. The time they spent in discussion and in obtaining information for me is appreciated.

I also wish to thank those Auckland Regional Transport Authority and Land Transport NZ Regional and other staff for who helped with the fieldwork for this review and for their contributions to discussions.

Rob. Merrifield
Contractor

APPENDIX A

Review Plan 2007/08: Survey of Footpaths and Related Costs

Sponsor: Performance Monitoring Manager

Project Manager: Rob. Merrifield, Contractor

Intended Outputs of the Review: A report to the Land Transport NZ Chief Executive assessing the findings of the review.

Commentary Footpath maintenance is (and has always been) a non-subsidised activity. With the increased focus on active modes, there is increased pressure on already tight Council budgets to improve levels of service.

This review aims to identify the potential level of financial risk to Land Transport NZ and to quantify the additional funding required from Government to financially assist this activity. It is purely a fact-finding survey.

Assistance will be sought from Ian Appleton and Gerry Dance.

No commitment will be given to the provision of funding for activities enquired into during the review process.

Review Objectives:

1. To assess the contribution provided by pedestrian footpaths along public roads towards meeting the outcomes of the New Zealand Transport Strategy and key result areas for Land Transport NZ 2007/08.
2. To assess the stocks, condition and costs of maintenance of pedestrian footpaths.
3. To assess the stocks, condition and costs of maintenance of shared pedestrian footpaths/cycleways.
4. To provide a report summarising the findings of the survey, for publication to all interested parties.

Target Audience: Land Transport NZ Chief Executive and Approved Organisations.

Review Team: Rob. Merrifield, Contractor.

Methodology:

1. Send questionnaire to a sample of Approved Organisations in advance.
2. Visit the sample of Approved Organisations to discuss questions with asset managers and record answers.
3. Assess findings, including draw comparisons between Approved Organisations.
4. Prepare findings and report.

Projected timing:

Stage/task	Begin	End
Define objectives, methodology	Immediate	Immediate
Arrangement of fieldwork	Immediate	Immediate
Fieldwork	April/June, 2008	April/June, 2008
Prepare draft report for comment by Council	After fieldwork	July, 2008
Preparation of final report after Council comment	After receipt of Council comment	

APPENDIX B

Field Questionnaire

Land Transport New Zealand

Survey of Footpaths and Related Costs

Section A: Footpaths

Definition: Footpaths: That portion of the road reserve set aside for the use of pedestrians only.(Land Transport NZ's Programme and funding manual, 3rd edition, effective from 1 August, 2006.)

Council:_____Compiled by:_____

1 What is the total length of council's urban streets?
2 What is the total length of pedestrian footpaths managed by Council?
3 What is the total length of pedestrian footpaths along Council's rural roads (Speed limit 70kph or more.)?
4 What is the total length of pedestrian footpaths along Council's urban streets?
5 What is the total length of pedestrian footpaths along rural State highways?
6 What length of highways, roads and streets has footpaths on both sides?
7 What length of highways, roads and streets has a footpath on one side?

8 What length of highways, roads and streets has no footpath?

9 What proportion of pedestrian footpaths are rated as being in "satisfactory" condition?
10 What proportion of pedestrian footpaths are rated as being in need of routine maintenance?
11 What proportion of pedestrian footpaths are rated as being in "unsatisfactory" conditionr?

12 What was the total annual cost in 2006/07 of maintenance of existing footpaths?
13 What was the total annual cost in 2006/07 of renewing existing footpaths?
14 What length of existing footpaths was renewed in 2006/07?
15 Please summarise Council's policy for distinguishing between maintenance and renewal of footpaths.

16 What was the total annual cost in 2006/07 of extending existing footpaths on urban streets?
17 What length of new footpaths was built in 2006/07?
18 What length of new footpaths was adopted as part of new subdivisions in 2006/07?

19 What period do you consider is needed to restore unsatisfactory footpaths to "satisfactory"?
20 What is your estimated cost per annum to achieve this upgrading programme?
21 Please summarise Council's definitions of "satisfactory" condition and "unsatisfactory" condition of footpaths.
22 What time do you assume for the depreciation life of footpaths?
23 What is the estimated actual service life of Council's footpaths?

24 What is the level of user satisfaction with footpaths on highways, roads and streets as determined from ratepayer satisfaction surveys?

25 What is the trend of user satisfaction with footpaths on highways, roads and streets as determined from ratepayer satisfaction surveys?

26 Please summarise Council's policy for surveying or counting the use of footpaths.

27 Are Council's footpaths included in its RAMM inventory?

28 Is the condition of Council's footpaths rated using a formal system?

29 If so, please summarise the system used for condition rating footpaths.

30 Do you use a treatment selection for a first trial of setting priorities and deciding remedial treatment?

31 If so, please summarise the treatment selection system you use.

32 How long has this system of condition rating and/or treatment selection been in use?

33 How satisfied are you with the system you use?

Land Transport New Zealand

Survey of Footpaths and Related Costs

Section B: Cycleways

Definition: Cycleways: That portion of the carriageway devoted to the use of cycles only (cycle lane) or a separately formed path designed specifically for the use of cycles, to which motor vehicles do not have access (cycle path).(From Land Transport NZ's Programme and funding manual, 3rd edition, effective from 1 August, 2006.)

Council:_____Compiled by:_____

1 What is the total length of cycleways managed by Council?

2 What is the total length of cycleways along Council's urban streets?

3 What is the total length of cycleways along Council's rural roads (Speed limit 70kph or more.)?

4 What is the total length of cycleways along rural State highways?

5 What is the total length of shared use footpaths/cycleways along highways, roads and streets?

6 What length of highways, roads and streets has cycleways on both sides?

7 What length of highways, roads and streets has a cycleway on one side?

8 What length of highways, roads and streets has no cycleway?

9 What proportion of cycleways are rated as being in "satisfactory" condition?

10 What proportion of cycleways are rated as being in need of routine maintenance?

11 What proportion of cycleways are rated as being in "unsatisfactory" conditionr?

12 What was the total annual cost in 2006/07 of maintenance of existing cycleways?

13 What was the total annual cost in 2006/07 of renewing of existing cycleways?

14 What length of existing cycleways was renewed in 2006/07?

15 Please summarise Council's policy for distinguishing between maintenance and renewal of cycleways.

What was the total annual cost in 2006/07 of extending of existing cycleways on
16 urban streets?
17 What length of new cycleways was built in 2006/07?
18 What length of new cycleways was built as part of new subdivisions in 2006/07?

What period do you consider is needed to restore unsatisfactory cycleways to
19 "satisfactory"?
20 What is your estimated cost per annum to achieve this upgrading programme?
21 Please summarise Council's definitionss of "satisfactory" condition and "unsatisfactory" condition of cycleways.

22 What is the level of user satisfaction with cycleways on urban streets as determined from ratepayer satisfaction surveys?
23 What is the trend of user satisfaction with cycleways on urban streets as determined from ratepayer satisfaction surveys?
24 Please summarise Council's policy for surveying or counting the use of cycleways.

What system do you follow in marking cycleways:
25 on road carriageways?
26 on combined cycleways and footpaths?
27 on separate routes?

28 Are Council's cycleways included in its RAMM inventory?
29 Is the condition of Council's cycleways rated using a formal system?
30 If so, please summarise the system used for condition rating cycleways.
31 Do you use a treatment selection for a first trial of setting priorities and deciding remedial treatment?
32 If so, please summarise the treatment selection system you use.
33 How long has this system of condition rating and/or treatment selection been in use?
34 How satisfied are you with the system you use?

Land Transport New Zealand

Survey of Footpaths, Cycleways and Related Costs

Section C: Public Perceptions

Council:_____Compiled by:_____

What is of most concern to users of footpaths and cycleways as determined from ratepayer satisfaction surveys? *Please place in priority order 1-7 with 1 = most important.*

1 Traffic, including busy roads and lack of pedestrian and/or cyclists' facilities?
2 Poor maintenance of footpaths and cycleways?
3 Lighting of footpaths and cycleways?
4 Vandalism and graffiti?

5 Threatening and/or dangerous behaviour of other people?
6 Dangerous driving?
7 Alcohol and drugs problems?

8 What is the level of public satisfaction with achieved levels for the standard of maintenance of footpaths as determined from ratepayer satisfaction surveys?
9 What is the level of public satisfaction with achieved levels for the standard of maintenance of cycleways as determined from ratepayer satisfaction surveys?
10 What is the level of public satisfaction with achieved levels for the safe use of footpaths as determined from ratepayer satisfaction surveys?
11 What is the level of public satisfaction with achieved levels for the safe use of cycleways as determined from ratepayer satisfaction surveys?

12 What is the level of public satisfaction with the easiness of use of footpaths in moving around their City/District as determined from ratepayer satisfaction surveys?
13 What is the level of public satisfaction with the easiness of use of cycleways in moving around their City/District as determined from ratepayer satisfaction surveys?

What is the principal means of moving around the City/District as determined from ratepayer surveys or by other means (please specify)?
14 Motor car
15 Public transport
16 Bicycle

APPENDIX C

COMMENTS ON THE FINAL DRAFT REPORT

RECEIVED FROM

ROAD CONTROLLING AUTHORITIES

INCLUDED IN THE SURVEY

From: Dawn Inglis [Dawn_Inglis@franklin.govt.nz]
Sent: Thursday, 25 September 2008 4:00 p.m.
To: Rob Merrifield
Subject: RE: Final draft report on survey of footpaths and cycleways

Hi Rob

I am afraid that I am probably going to run out of time in preparing a letter of response so I hope that this informal feedback is adequate.

I have spotted one minor reference to section 6.7 on Table 11 that I think should in fact refer to 5.7.

My other query refers to 21 where the figure of three years is quoted for Authority 7 (which I think I have deduced correctly is Franklin District Council) but doesn't include that this figure of three years is based on a significantly higher annual spend than is currently being made (ie an annual spend of $1.1M against an actual spend of $300k). Therefore it may be more appropriate to extend this to a eleven year period given our current spend?

I will pass the copy to Tom Kiddle who assisted me in collating the data to see if there are any further comments that we may have. However I cannot foresee any reason that we would have for you to withhold any of the information provided if so requested.

Regards,

Dawn Inglis
Land Transport Manager
Franklin District Council

From: Rob Merrifield [mailto:Rob.Merrifield@nzta.govt.nz]
Sent: Wednesday, 17 September 2008 11:02 a.m.
Subject: Final draft report on survey of footpaths and cycleways

Dear

I attach a copy of the final draft of my report on my recent survey of footpaths and cycleways.

Please confirm or comment on the following:

- The facts disclosed have been stated correctly;
- No facts material to an issue have been omitted; and

- No unfair inference has been conveyed, either generally or in particular.

Contact me if you have any questions or concerns about the report.

Any points you raise or comments you make will be given full consideration and your letter will be appended to the report. Apart from this, the final decision as to the contents of the report rests with the auditor. If you have serious concerns, I will be willing to return to discuss those matters of concern with Council.

In addition, please identify any material that Council would reasonably be able to withhold if the report was requested under the Official Information Act. Should either Council or New Zealand Transport Agency identify none, the final report may be submitted to the Board in an open meeting (although most of our reports are presented to the Chief Executive).

I would be grateful to have your response by 3 October, so that the final report can be passed, to the Chief Executive of Land Transport New Zealand, for adoption. Please call me to discuss or confirm a timeframe if that presents you with a problem.

I also attach a simple feedback assessment form. I would be grateful for you complete the form and to send it back to the Performance Monitoring Manager, e-mail address doug.miller@nzta.govt.nz.

Thank you for your help in commenting on the survey.

Rob.

Rob. Merrifield
Contractor
DDI 64 4 894 6230
M 021 577 418 (by arrangement)
E rob.merrifield@nzta.govt.nz

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Please consider the environment before printing this email

On 1 August 2008, Land Transport New Zealand and Transit New Zealand became the NZ Transport Agency. The NZ Transport Agency (NZTA) brings together the functions of Land Transport NZ and Transit to provide an integrated approach to transport planning, funding and delivery.

From this date, our email addresses changed to: <firstname>.<lastname>@nzta.govt.nz, e.g Jo.Bloggs@nzta.govt.nz.

Please update your contact information.

From: Robert McSpadden [rmcspadden@papakura.govt.nz]
Sent: Wednesday, 8 October 2008 4:04 p.m.
To: Rob Merrifield
Subject: RE: Your Opportunity to Comment on Draft Footpaths Report
Rob

I have read through your draft report. There was nothing in it that I had a problem with.

Since I meet with you we are using RAMM condition rating of footpaths in business case to increase funding levels for footpath maintenance/renewal as part of 2009-2019 LTCCP process and intend to make more use of RAMM data in developing footpath renewal programme.

Regards
Robert McSpadden

From: Barry George [barry.george@rodney.govt.nz]
Sent: Friday, 3 October 2008 2:05 p.m.
To: Rob Merrifield
Cc: Doug Miller
Subject: RE: Comments on draft report plus feedback form

Attachments: PMTP16A - Auditee Feedback Form1.doc
Performance Manager
Doug miller
Some minor comments re the survey.

1. In Table 9,column 7, the trend of user satisfaction could be changed from n/a to steady.
   (Our answer to Q24 of the survey states that < 5% of all customers requests are related to Footpath maintenance and we feel that the ratepayers are" fairly satisfied" with the maintenance.)
2. In Table 10,Column 3&4, formal condition rating system should be changed from n/a to yes. Condition rating system should be changed from n/a to RAMM.
   (Answer to Q29 of the survey states that RAMM is used for condition rating of footpaths but that RAMM is not used for treatment selection, for this a visual inspection is carried out.).
3. In Table 11,Columns 2-12,Answers were provided for all these fields in the questionnaire, the table in the report could be amended to suit these answers.

   Thanks

   Barry George, Infrastructure Manager

From: Jon Schwass [JONS@napier.govt.nz]
Sent: Thursday, 9 October 2008 9:53 a.m.
To: Rob Merrifield
Subject: RE: Survey of footpaths and cycleways
Sorry Rob

It has been quite hectic lately.

I have read through your draft report and I am happy with what you have written particularly with regard to the Napier City Council's current position

Thanks

Jon Schwass
Road Asset Manager

From: AVES, Max [avesm@npdc.govt.nz]
Sent: Friday, 3 October 2008 10:45 a.m.
To: Rob Merrifield
Subject: Survey of Footpaths and Cycleways
Rob,
In response to your email dated 17 September 2008 with respect to the final draft report on the survey of footpaths and cycleways.

Thanks for the opportunity to provide feedback on the information and analysis within the report. We have a few items that we would like to provide feedback on and some suggested corrections to data that we think need to be made. I will reference the pages numbers sequentially through the report below:

Page 7 Table 4. Throughout the rest of the report it appears that we are Local Authority (LA) 11 by matching the data provided. In this table it appears that we are LA 14 by matching our network statistics. There appears to be an inconsistency. We also have a difficulty with the Traffic Density calculation as we have trouble relating it to VKT and Network length.

Page 12 Table 7. Our data lines up with that of LA 11, except for the cost of renewals, which we have as $398,000 in our original survey form.

Page 15 and Page 28. The comments in the paragraph at the top of page 15 and referencing LA 11 differ in several ways from how we perceive the situation. We run a formal RAMM footpath rating system which also includes giving each footpath a 1-5 rating. Our last rating put 3% of our footpath length in the poor or very poor category (unsatisfactory). Our thoughts are that at this condition level the years and dollars required to make all footpaths satisfactory

or better is indeterminate as in any network of long life assets such as this a distribution of conditions will continue to occur. Whilst we continue to focus attention on the footpaths needing attention, deterioration will always occur over time, leaving the asset owner with other assets in a poor condition. We agree with the statement that safety hazards (service level) are a primary driver for footpath maintenance and we will be observing the trend in unsatisfactory footpaths (the 3%) and maintenance costs as a business case for increased operations and renewal funding within our LTCCP process.

Page 16 Table 10. Our condition rating system is the RAMM footpath system plus a 1-5 overall condition rating system for each inspection length.

Page 19 Table 13. This table will be affected by the change in cost of maintenance and renewals as mentioned above. It is also worth noting that although the user satisfaction surveys indicate that we are deteriorating (your survey was for the 06/07 year), our user satisfaction rose to 78% in 07/08, demonstrating the variance of such data (up and down) from year to year. We agree with the comment about the increasing public expectation with regards to footpath condition and level of service. We are actively looking at ways to improve levels of service and recently introduced a concrete grinding machine as a trial to remove trip hazards and continue to battle broken glass through the use of a CBD style street cleaner in the suburbs.

Page 21 Table 14 The total cost is affected by the different renewals figure as mentioned above.

If you wish to clarify any of the above comments, please don't hesitate to contact Carl Whittleston (in the first instance) or myself.

In respect of the remainder of the draft report, I can confirm that:
- the facts disclosed have been stated correctly
- no facts material to an issue have been omitted
- no unfair inference has been conveyed, either generally or in particular

I also confirm that there is no material that this council would reasonably be able to withhold if the report was requested under the Official Information Act.

Regards

Max Aves
Manager Roading Assets
New Plymouth District Council
Private Bag 2025
New Plymouth
Ph (06) 759 6060

DDI (06) 759 6078
Mobile 0274 976 378

From: Barry J Jagersma [bJagersma@stratford.govt.nz]
Sent: Tuesday, 23 September 2008 2:42 p.m.
To: Rob Merrifield
Subject: RE: Final draft report on survey of footpaths and cycleways

Attachments: PMTP16A - Auditee Feedback Form - Footpath Survey.doc
Rob,

I can confirm:

- The facts disclosed have been stated correctly;
- No facts material to an issue have been omitted; and
- No unfair inference has been conveyed, either generally or in particular.

There is not material that Council would reasonably be able to withhold if the report was requested under the Official Information Act.

I have attached a completed survey form.

Barry Jagersma

STRATFORD DISTRICT COUNCIL
Roading Asset Manager
Ph (06) 765 6099
Fax (06) 765 7500
Email: bjagersma@stratford.govt.nz
Stratford - In the heart of Taranaki

From: Vincent Lim [vincent.lim@STDC.govt.nz]
Sent: Wednesday, 24 September 2008 3:09 p.m.
To: Rob Merrifield
Subject: RE: Final draft report on survey of footpaths and cycleways
Hi Rob, I can confirm that the information in the report is fine.

There are no materials identified that Council would need to withheld under the Official Information Act.

Regards

T C Lim

Roading Manager
South Taranaki District Council

From: Colin Giles [colin.giles@rangitikei.govt.nz]
Sent: Thursday, 18 September 2008 4:56 p.m.
To: Rob Merrifield
Subject: FW: Final draft report on survey of footpaths and cycleways

Dear Rob

Thanks for the copy of the final draft of your report on the recent survey of footpaths and cycleways.

I confirm the following:

- The facts disclosed have been stated correctly;
- No facts material to an issue have been omitted; and
- No unfair inference has been conveyed, either generally or in particular.

I am not aware of any material that Council would reasonably be able to withhold if the report was requested under the Official Information Act.

I have completed the simple feedback assessment form and send it back to the Performance Monitoring Manager, e-mail address doug.miller@nzta.govt.nz.

I hope this response by e-mail is satisfactory.

Regards
Colin Giles
Roading Manager
Rangitikei District Council

From: Trevor Bennett [TrevorB@TararuaDC.Govt.NZ]
Sent: Wednesday, 17 September 2008 3:59 p.m.
To: Rob Merrifield
Subject: RE: Final draft report on survey of footpaths and cycleways

Good afternoon Rob. As far as our authority is concerned I believe:

The facts disclosed have been stated fairly.

No facts material to an issue have been omitted.

No unfair inference has been conveyed, either generally or in particular.

I have no issues. Regards

Trevor

From: Ken Stevenson [ken.stevenson@wmk.govt.nz]
Sent: Wednesday, 1 October 2008 4:25 p.m.
To: Rob Merrifield
Subject: RE: Survey of footpaths and cycleways
Hi Rob, a good comprehensive report.

I note that our authority appears to be number 12 on Table 4 but number 13 on the other tables. I think authority 14 on table 4 has become authority 11 on the other tables, which has caused the mis alignment.

Otherwise I can confirm that:

the facts disclosed have been stated correctly;
no facts material to an issue have been omitted; and
that no unfair inference has been conveyed, either generally or in particular

Cheers
Ken

From: Warren Tweedie [wtweedie@dcc.govt.nz]
Sent: Thursday, 2 October 2008 10:25 a.m.
To: Rob Merrifield
Subject: RE: Survey of footpaths and cycleways
Rob:

Sorry for delay in responding. Both myself and Jim McQueen have reviewed the document and we can confirm that:

- the facts disclosed have been stated correctly .
- no facts material to an issue have been omitted .
- that no unfair inference has been conveyed, either generally or in particular.

Warren Tweedie
Transportation Operations Programme Engineer
Transportation Operations Department
Dunedin City Council
50 The Octagon, Dunedin 9058:
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