5.0 ASSET DATA

5.1 Asset Summary and Valuation

Taupō District Council (TDC) is responsible for the management of road and traffic assets with a replacement value (excluding land value) of approximately $457 million (valued as at August 2017). The transport asset consists of a number of components:

- Pavements
- Footpaths
- Drainage
- Street lighting
- Bridges, culverts and other structures
- Environmental maintenance
- Traffic services (signs, markings and traffic controls)
- Cycleways
- Off-street Parking

Below are the descriptions of each asset type as described in the asset valuation report dated August 2017.

Asset Group	Asset	Asset Description
Carriageway	Formation	The formed platform upon which the road is constructed.
	Pavement	The pavement granular layers used to form the road carriageway. For Taupō this includes a much thinner pumice subbase layer, and a relatively thinker basecourse layer. Unsealed carriageways do not include a pavement layer as the unsealed top surface running course in applied directly on to the formation.
	Top surface	The surfacing materials. This includes 2nd coat or subsequent chip seal, asphalt concrete and slurry seals. The thin layers of aggregate that form the running surface on unsealed carriageways is also included as unsealed top surface.
Bridges	Bridges	Road Bridges. And foot bridges. It does not include large culverts and stock underpasses as these are part of the culvert asset.
Drainage	Kerbs & Channels	Includes dish channels, kerbs and channels, mountable kerb and channels and nib kerb (excludes sumps and sump connections).
	Culverts	All culverts and stock underpasses under pavements including inlet and outlet structures.
	Catch pits	Storm water catch pits located on rural roads.
	Manholes	Manholes on storm water disposal systems located on rural roads.
	Pipes	Storm water disposal piped systems located on rural roads including connections from catch pits to manholes.
Pedestrian Walkway	Footpaths	Roadside footpaths, pedestrian access ways, shared pedestrian / cycle ways.
Lighting	Street Lighting	Carriage and walkway lighting including poles and outreach arms, lights and cables within the pole from the isolation point to the lamp.
Parking	Off Street Parking Facilities	Includes formation, pavement, top surface and kerb & channel.
Traffic Signage	Signs & Posts	Road signs and sign posts.
Structures	Miscellaneous Road structures	Retaining walls, pedestrian refuges, pedestrian hand rails, traffic islands, traffic calming devices, bus shelters, safety barriers and cycle stands.
Traffic Facilities	Edge marker posts and permanent road markings	Edge marker posts and raised reflective pavement markers.

The following table gives a summary of the asset stock and valuation. The asset valuation report was completed in August 2017 by an external supplier, the next valuation is due in June 2020.

Asset Group	Asset Description	Unit	Quantity	Replacement Cost ($,000)
Carriageway	Formation	km	781.8	$193,631
	Pavement			$89,556
	Top Surface			$48,655
	SUBTOTAL			**$331,842**
Footpaths	Concrete	km	278	
	Asphaltic Concrete	km	2	
	Interlocking Block	km	13	
	Wood	km	0	
	Sealed FP	km	3	
	Unsealed FP	km	0	
	SUBTOTAL		297	**$31,772**
Lighting	Street Lights	No.	4169	
	Festive Lights	No.	36	
	LED lighting	No.	55	
	Verandah Lights	No.	176	
	Poles	No.	3000	
	SUBTOTAL			**$6,553**
Traffic Facilities	Regulatory General	No.	1302	
	Permanent Warning	No.	1128	
	Information	No.	396	
	Street Name	No.	1631	
	Motorist Service	No.	119	
	Regulatory Parking	No.	530	
	Bridge End Markers	No.	109	
	Edge End Markers	No.	9642	
	RRPM	No.	13209	
	Guide Signs	No.	38	
	Active warning signs	No.	9	
	40km/hr school zone signs	No.	5	
	SUBTOTAL			**$2,288**
Structures	Urban Bus Shelters	No.	9	
	Rural Bus Shelters	No.	13	
	Central Pedestrian Refuges	No.	41	
	Roundabouts (including their splitter islands)	No.	11	
	Kea Crossings	No.	8	
	Raised Walkway	No.	4	
	Cycle Rack	No.	17	
	Cycleway Barrier	No.	34	
	MH and Sock Hole	No.	1	
	Traffic Island	No.	19	

	Blister Island	No.	1	
	Retaining Walls	No.	15	
	Handrails	No.	17	
	Guard rail	No.	35	
	Rubber Speed Cushions	No.	6	
	Speed Control Humps	No.	15	
	Underpass	No.	25	
	SUBTOTAL			**$5,095**
Bridges	Road bridge (<10m long)	No.	5	
	Road bridge (≥10m long)	No.	16	
	Foot bridge	No.	4	
	SUBTOTAL			**$13,386**
Culverts (>2m dia)	Steel	m	203	
	Reinforced Concrete	m	996	
Culverts (<2m dia)	Steel	m	2566	
	Reinforced Concrete	m	30939	
	Armco	m	152	
	PVC Subsoil Drain	m	998	
	HPVC	m	20	
	HDPE	m	24	
	Flume	m	31	
Drainage	Kerb	km	9.1	
	Kerb and Channel	km	232	
	Mountable kerb and channel	km	195	
	Dished Channel	km	8.7	
	Other type	km	1.2	
	Slot drain	km	0.1	
	SWC (Shallow, <200 below seal edge)	km	2.2	
	Catchpit leads	km	42	Not included in valuation (transferred from Stormwater AMP).
	SUBTOTAL			**$60,242**
Cycle ways	Shared Cycle path (off road)	m	6,695	
	Cycle Lane (on road)	m	31,245	
	SUBTOTAL			***
Parking	Parking	m^2	97,708	
	SUBTOTAL			**$5,674**
TOTAL TRANSPORTATION ASSET VALUE				**$456,852**

Table 5.1: Summary of Asset Stock and Valuation as per August 2017 Valuation Report

Value TDC cost only, remainder funded by developer.
*** Cycle ways are valued within either pavement or footpath valuations.

The RAMM database has the capability to aggregate and/or disaggregate information and a summary is shown in Table 5.1 with the high level asset components for the Transportation Asset such as carriageway, footpaths, street lighting etc are the components which make up the asset such as material, type, size etc. The amount of data collected will depend on the asset component, some asset components such as signs data has only begun to be collected in detail.

The RAMM database is used to identify renewal and maintenance requirements. This information is then used to determine future work priorities. The Transportation team also use and manipulate the NZTA deficiency database which holds all deficiencies identified on the road network and is used to prioritise works. This database captures all customer concerns and service requests and is used to prioritise future works including minor improvement projects (capital works).

5.1.1 VALUATION PROCESS

All recorded components have been valued in terms of their replacement and depreciated replacement value. The valuation process has been performed in accordance with generally accepting accounting standards (NZ IAS16 Property, Plant and Equipment) and with NZ local authority asset valuation practices (NZ Infrastructure Valuation and Depreciation Guidelines).

The basic approach has involved:

a) Preparation of the valuation databases from the various sources of information supplied by TDC.
b) Adjustment of asset quantities, materials and techniques to reflect an optimum (least cost) modern equivalent replacement that offers the same level of service as that currently provided.
c) Calculation of optimum replacement cost (ORC) by multiplying asset quantities by appropriate unit construction cost rates and including an allowance for other costs (site establishment, professional fees and financial charges).
d) Prediction and assignment of economic and remaining lives.
e) Calculation of Optimised Depreciated Replacement Costs (ODRC) by deducting an allowance for depreciation, taking into account age, remaining life and residual value.

5.1.2 ASSET UTILISATION

The utilisation of TDC's transportation assets are measured by traffic volumes on the various roads throughout the district. TDC owns six traffic counters, five of which are able to measure and record speed data. Records date back as far as 1960's, providing a good basis for predicting traffic trends. However, regular traffic counting began in the early 1990's. Traffic volumes are measured and recorded periodically, depending on One Network Road Classification; see table below:

Arterial	1 year
Primary Collector	1 year
Secondary Collector	3 years
Access and Low volume access roads	6 years

Table 5.2: Schedule of Traffic Counts throughout the District

Counters are placed in a location generally for an eight day period to ensure the required seven complete days of data is captured. Once collected the data is recorded electronically in an Excel spreadsheet and in then entered/uploaded into the RAMM database.

Utilisation of footpaths and cycleways is measured by periodic pedestrian and cycle counts. These are completed on an as needed basis. There are some fixed pedestrian counters installed in the CBD which count the number of pedestrian passing a fixed point, these do not adequate information for where pedestrians cross or what type of pedestrian profile the are eg elderly, mobility impaired.

5.2 Asset Type

5.2.1 PAVEMENT

5.2.1.1 Description

Taupō District Council (TDC) manage 781km of pavement valued at $331M at August 2017 (including formation, pavement and top surface), comprising 72% of the total road asset value. The valuation is broken down into sealed and unsealed on the following table (table 5.3): Sealed includes chip seal, slurry seal, asphaltic concrete and void seal.

Pavement type	Total (km)	Urban (km)	Rural (km)	Formation Value ($000)	Pavement Value ($000)	Top Surface Value ($000)	Total Value ($000)
Sealed*	708.6	234.4	474.2		89,556	48,655	
Unsealed	73.2	1.3	71.9				
TOTAL	**781.8**	**235.4**	**546.10**	**193,631**	**89,556**	**48,655**	**331,842**

Table 5.3: Length of Pavement Network (includes formation, pavement and top Surface values)

Figure 5.1: TDC CBD Area Road Assets, 2017

Figure 5.2: TDC Rural Road Assets

5.2.1.2 Capacity/Performance

The major factor in determining road construction requirements is an evaluation of the expected traffic loadings. The standard methodology applies the concept of Equivalent Design Axles (EDA). One EDA is calculated as an 8.2 tonne rear axle loading (the load applied by a laden dual rear axle truck). This means that only Heavy Commercial Vehicles (HCV's) are taken into consideration when calculating the depth of road construction required (as it takes approximately 11,000 cars to reach 1 EDA given a cars rear axle loading).

5.2.1.3 Asset Hierarchy

The Taupō DC transport network is classified in the RAMM database in the following hierarchy and based on the One Network Road Classification: Taupō District has no Regional or National roads within the district under the new classification.

Regional Arterial: These roads make a major contribution to the social and economic wellbeing of a region and connect to regionally significant places, industries, ports or airports. They are also major connectors between regions and in urban areas have substantial passenger transport movements.

Arterial: These roads make a significant contribution to social and economic wellbeing, link regionally significant places, industries, ports or airports and may be the only route available to some places within the region (i.e. they may perform a significant lifeline function). In urban areas they may have significant passenger transport movements and numbers of cyclists and pedestrians using the road.

Primary Collector: These are locally important roads that provide a primary distributor/collector function, linking significant local and economic areas or areas of population. They may be the only routes available to some places within the region and in urban areas they may have moderate passenger transport movements and numbers of cyclists and pedestrians using the road.

Secondary Collector: These are roads that provide a secondary distributor/collector function, linking local areas of population and economic sites and may be the only route available to some places within this local area.

Access: These are all other roads.

Low volume access: Access roads but with low traffic volumes of less than 200 AADT in urban and 50 AADT on rural roads.

Service Lanes: provides rear or side access only for servicing commercial or industrial land.

*Regional Arterial road hierarchy is based more on type of traffic used than traffic volume, i.e. heavier vehicles tend to use these roads.

5.2.2 ONE NETWORK ROAD CLASSIFICATION

The One Network Road Classification (ONRC) involves categorising roads based on the functions they perform as part of an integrated national network. The classification will help local government and the Transport Agency to plan, invest in, maintain and operate the road network in a more strategic, consistent and affordable way throughout the country. The Transport Agency has outlined its expectations, and for the 2018-21 RLTPs, local authorities will have to apply the ONRC to their network, identify differences in CLoS, agree appropriate Performance Measures and understand the financial implications of the ONRC.

The Transport Agency will be seeking councils to develop Activity Management Plans that outline how networks will be maintained and operated at fit-for-purpose CLoS as defined by the ONRC. This includes assessing the network in relation to the CLoS and developing business cases in response to this to address CLoS gaps. These business cases may include transition processes so that the ONRC is fully embedded in Activity Management Plan investments by the 2018 NLTP.

5.2.2.1 Pavement Hierarchy Definitions:

Pavement loadings are separated into six categories in Table 5.5 to describe the extent of loadings relative for pavement hierarchy; the classifications for Tables 5.4 and 5.5 are defined in table 5.6.

Taupo District Council ONRC (One Network Road classifications)

ONRC	Traffic Volume (vpd)		Rural (km)	Urban (km)	Total Length (km)
	Urban	Rural			
National	>25000	>15000	-	-	-
High Volume	>35000	>20000	-	-	-
Regional	>15000	>10000	-	-	-
Arterial	>5000	>3000	49	8.1	57.1
Primary Collector	>3000	>1000	56.4	22	78.4
Secondary Collector	>1000	>200	168	35	203
Access	<1000	<200	162	74	236.1
Low Volume	<200	<50	111.1	96.1	207.2
Total			546.5	235.3	781.8

Table 5.4 above lists the lengths of road within each road hierarchy category and the current indicative traffic volume ranges for each. Note that hierarchy is determined on function rather than traffic volume.

The above table shows that:

- 10% of the overall network is unsealed.
- 18% of the network is arterial (regional and district) which attract high traffic volumes and therefore higher maintenance and renewal costs.

Table 5.5: Pavement Loadings Relative to Hierarchy

		Traffic Loading													
		T1		T2		T3		T4		T5		T6		U1	
Hierarchy	Total length (km)	Length (km)	%	Length (km)	%	Length (km)	%	Length (km)	%	Length (km)	%	Length (km)	%	Length (km)	%
Arterial	56.3	-	-	-	-	28.5	15%	10.0	18%	8.8	42%	9.0	74%	-	-
Primary Collector	78.2	-	-	4.2	1%	22.0	12%	40.0	71%	11.6	56%	0.4	3%	-	-
Secondary Collector	203.8	10.8	8%	100.1	33%	87.4	47%	5.1	9%	0.4	2%	-	-	-	-
Access	212.9	45.8	36%	124.7	41%	39.6	21%	1.1	2%	-	-	1.6	13%	-	
Low Volume	157.5	71.9	56%	75.8	25%	8.3	4%	0.2	0%	-	-	1.2	10%	-	
Unsealed local	73.2	-	-	-	-	-	-	-	-	-	-	-	-	73.2	100%
Total	781.8	128.5	100%	304.9	100%	185.8	100%	56.4	100%	20.8	100%	12.2	100%	73.2	100%

Pavement Loading Category	EDA/Lane/Day	AADT
1 - Very Low	< 2	<100
2 - Low	2 - 5	100 - 500
3 - Moderate	5 - 20	500 - 2,000
4 - High	20 - 40	2,000 - 4,000
5 – Very High	40 - 100	4,000 – 10,000
6 – Extreme	100+	10,000+
U - Unsealed		
T – Thin Flexible		
C - Concrete		

Table 5.6: Classifications for Pavement Loadings by Road Hierarchy

The following conclusions may be reached from Table 5.6:

- 91% of the network experiences low traffic to moderate traffic flow (<2000vpd) volumes.
- A significant proportion (70%) of sealed roads experience low traffic (<500vpd).
- Sealed pavements make up approximately 90% of all pavements which normally require resealing every 8-22 years depending on seal type and condition.

Pavement capacity problems are generally not an issue in the district. Loadings from milk tankers and logging trucks are high, but pavements are founded on strong volcanic sub-grades which have so far required minimum rehabilitation. This can be a problem however where unforeseen sustained heavy traffic causes distress to recently laid minimum metal depth pavements. There is now a change to convert forest to dairy farms so there will be an increased number of dairy tankers and with the move to more High Productivity Motor Vehicles (HPMV) & 50 Max vehicles on our roads this will need to be monitored closely.

Classification counts are progressively being carried out on the districts roads. These help to identify high HCV routes.

5.2.2.2 Pavement Condition

Pavement condition is measured every two years by RAMM rating by external consultants. Physical faults are continuously recorded over a fixed statistically representative portion of the carriageway. Capturing condition at any one time is complex because of the constant wear, and it is more meaningful to chart the trends from year to year.

Road roughness, as defined in terms of NAASRA (National Association of Australian State Road Authority) counts, is an indicator of road condition and performance. These counts are measured by a standard vehicle driving along the road at 50km/hr (urban) or 80km/h (rural) with the vertical movement of the suspension being averaged every 100m.

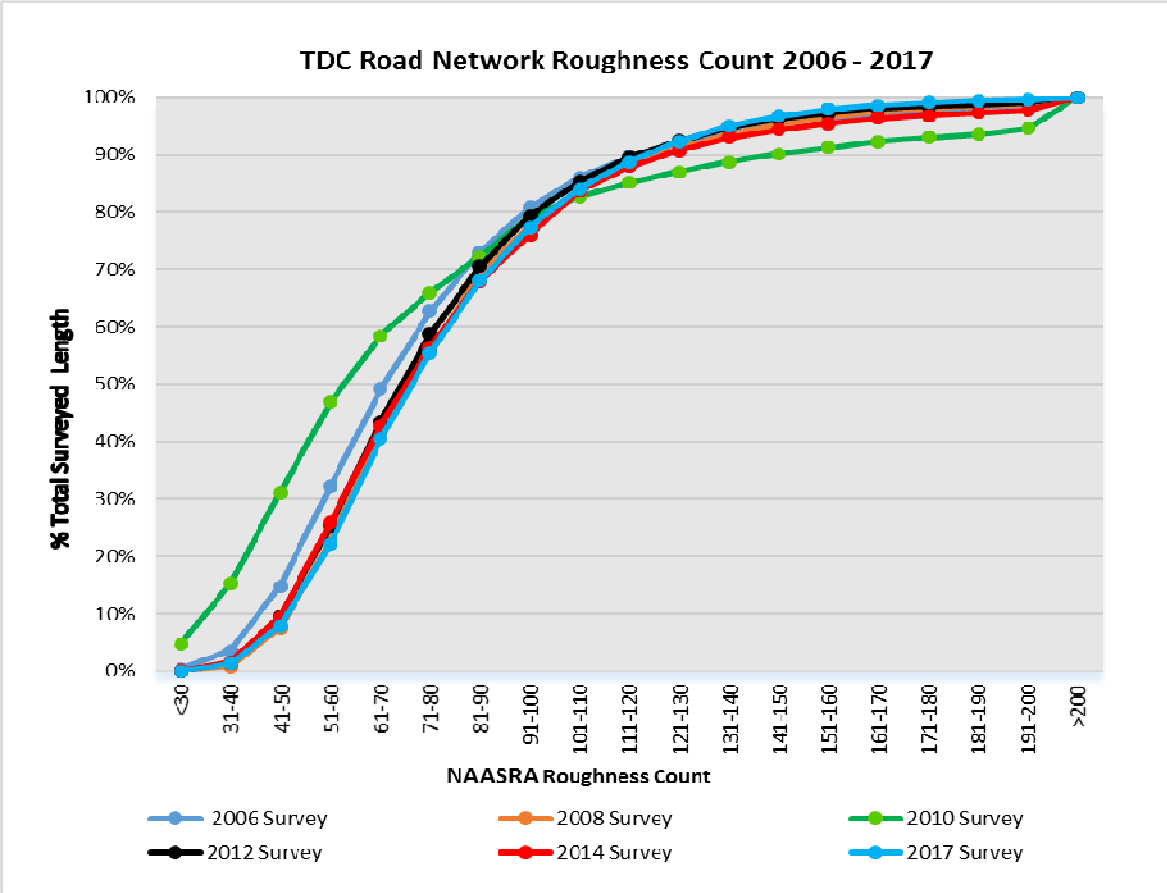

Figure 5.3: Cumulative Distribution of Roughness for the Network

The above graph shows a "snapshot "of TDC network road roughness. This data is from the surveys carried out biannually over the past eight years, 2006-2017. It can be noted that roughness is generally decreasing throughout the district. TDC's Proposed Level of Service in the current Long Term Plan (LTP) says that no more than 20% of the sealed road network will have a NAASRA roughness greater than 130, and the average of all the sealed network shall be less than 70 NAASRA. The above graph shows that less than 10% of the total network is above 130 NAASRA at present.

The last condition rating (undertaken in 2017) recorded a small percentage of faults on the network. The percentage of the inspection lengths with faults is summarised in figure 5.3:

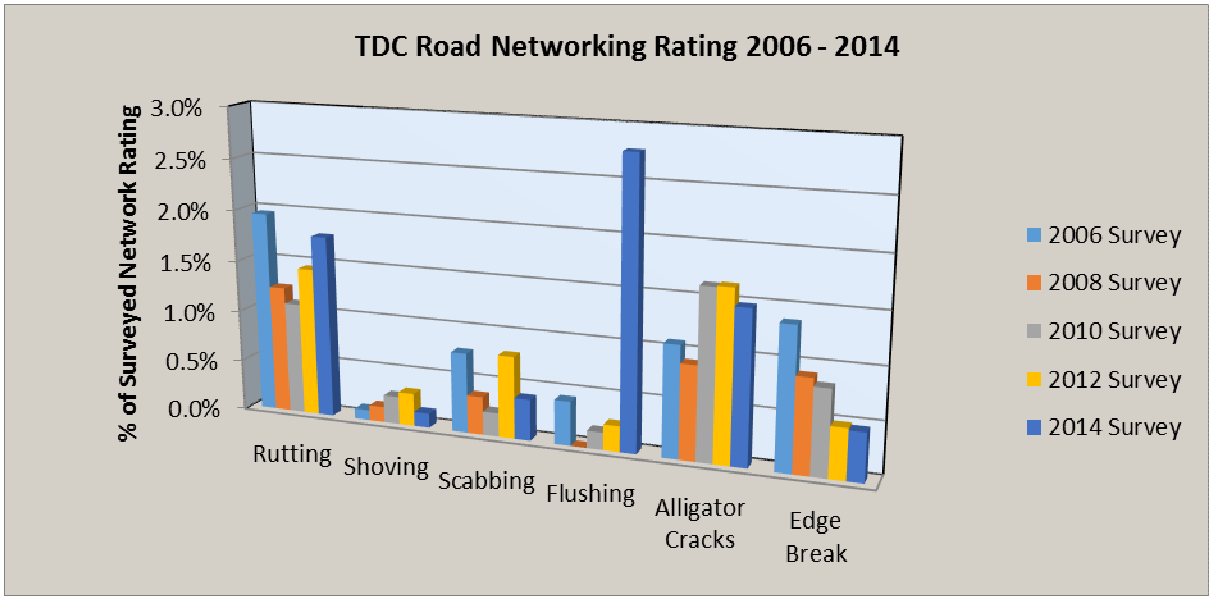

Figure 5.4: Condition Rating Survey Results of the Network

The measures of overall condition in terms of maintenance work required, is calculated by the treatment selection module of the RAMM database.

TDC has recently had a deterioration modelling (dTIMS) exercise completed, which in the long term will be more accurate in predicting reseal and rehabilitation costs and optimise timing. The suggested programme has a $3.06 to $4.00M/year funding requirement. It is higher than the existing programme based on supplied achievement length and treatment planning unit rates ($2.51 million). The increase in programme quantities is based on the model recommendations and comparing the outputs with common practice and lifecycle achievements. These recommendations do need to be verified and checked in areas such as data accuracy and quality of pavements and achievement of longer design lives.

5.2.2.3 Sealed Surface Age

The current sealed surface ages are shown below in the following figure.

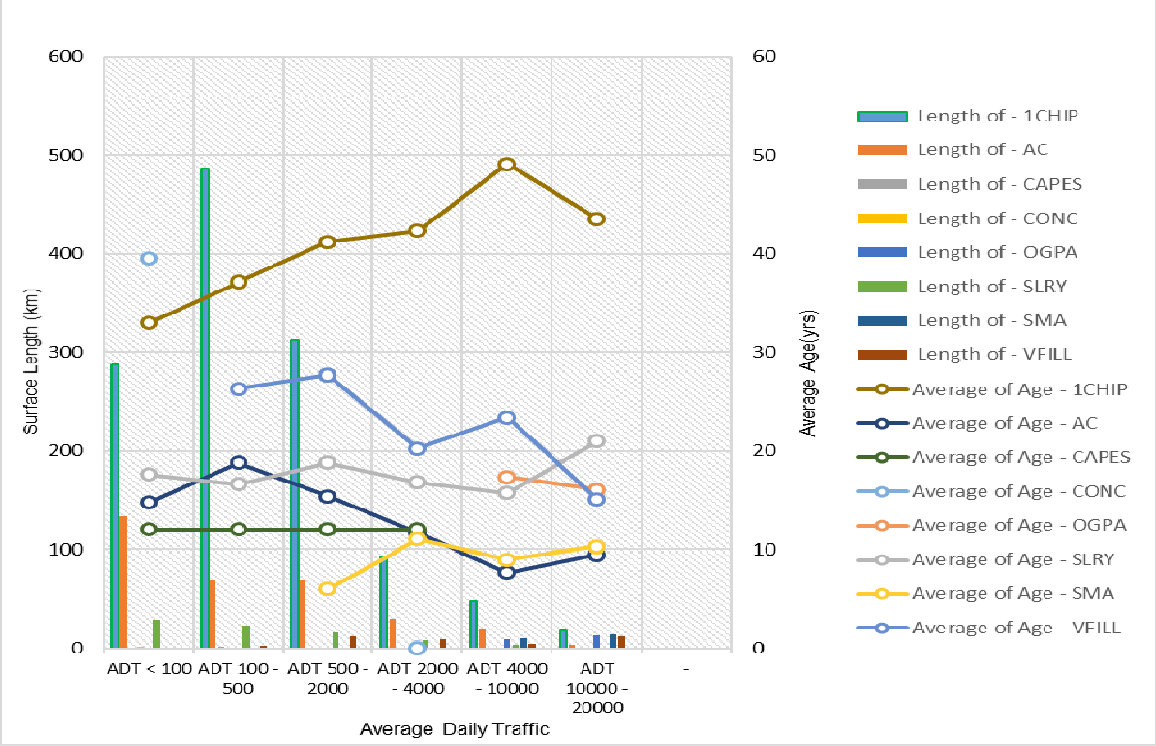

Figure 5.5: Age of Current Sealed Surfaces

The historical seal surface ages are shown in table 5.6; this is also used as the useful life for depreciation purposes. This table is based on cumulative information of roads within the district that are no longer the top surface coat.

	<100vpd		**100-500vpd**		**500-2000vpd**		**2000-4000vpd**		**4000-10000vpd**		**10000-20000vpd**	
Surface type	Age (yrs)	length (km)	Age (yrs)	length (km)	Age (yrs)	length (km)	Age (yrs)	length (km)	Age (yrs)	length (km)	Age (yrs)	length (km)
Chip seal	33	118	37	266	41	200	42	61	49	25	44	7
Void seal	-	-	26	3	28	28	20	7	23	6	15	14
Slurry seal	18	2	17	2	19	2	17	2	16	1	21	0.5
Asphaltic Concrete	15	17	19	11	15	12	12	5	11	7	13	11
Total length (km)		**137**		**282**		**242**		**75**		**39**		**32.5**

Table 5.7: Historical Seal Surface Ages

Note: The historical seal surface ages are based on reseals after 1999, as data preceding that year is incomplete.

5.2.3 FOOTPATHS

5.2.3.1 Footpath Description

TDC footpaths, including public access ways, total 297km. The total replacement value is in the order of $29.5 million (valuation as at August 2017). A full schedule of footpaths is

available from the RAMM inventory. The following table (table 5.8) summaries length and value of different types of footpath.

Type	Length (km)	$/m²	Replacement cost ($,000)
Concrete	278	66	
Asphaltic Concrete	2	52	
Interlocking Blocks	13	104	
Wood	0	983	
Seal	3	24	
Flagstone	0	425	
Unsealed	2.0	21	
Total	**297**		**31,772**

Table 5.8: Footpath and Pedestrian Access Way Lengths and Replacement Cost

5.2.3.2 Footpath Condition

Footpath condition is measured every two years by RAMM rating. Physical faults are continuously recorded over a fixed statistically representative portion of the carriageway. Capturing condition at any one time is complex because of the constant wear, and it is more meaningful to chart the trends from year to year.

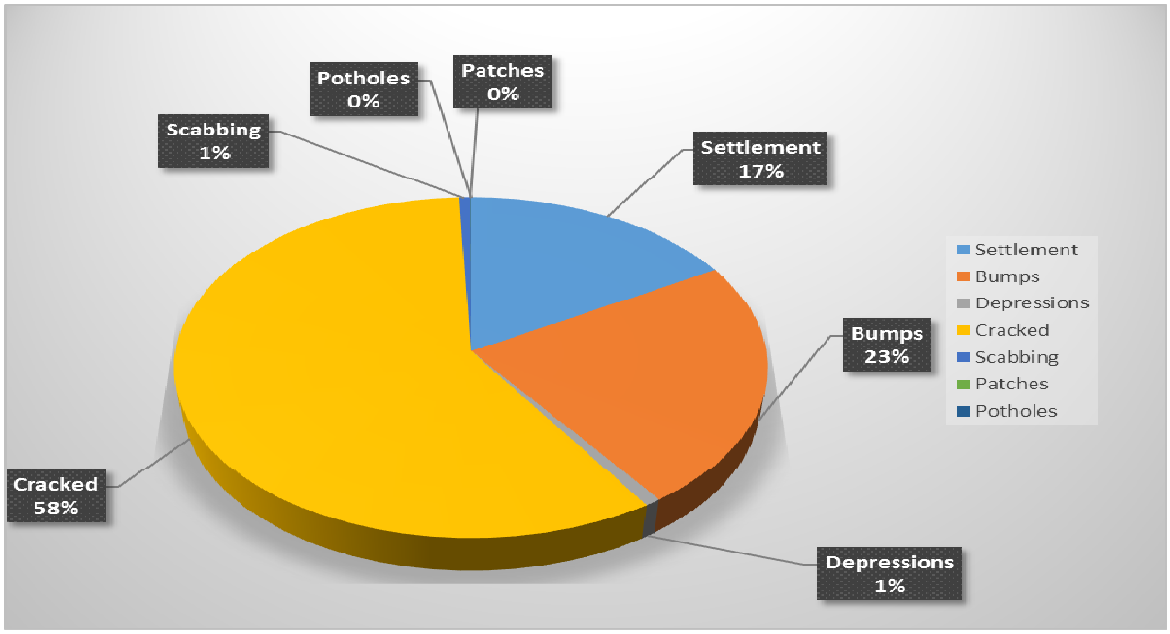

Figure 5.6: TDC 2015 Survey of Footpath Defects

Taupō District Council (TDC) inspects its footpath network in conjunction with RAMM rating. Drive-over inspections are also carried out to identify any tree root damage, overgrowing vegetation or weed control, generally in reaction to complaints.

The main causes of footpath deterioration are due to:

- Tree root damage.
- Building development or utility damage.
- A small amount of natural deterioration due to age.

5.2.3.3 Footpath Performance

Some streets in urban areas have footpaths on both sides. Others have a footpath on only one side, while some streets have no footpaths at all. TDC is working towards having a footpath on at least one side of every urban street and has nearly completed this. The only ones remain are locations which are either cul-de-sacs or where the resident community are not in support. The areas requiring footpaths are generally in the older areas of Taupō Town constructed prior to Council formulating minimum sub-divisional standards. Table 5.9 summarises the location of footpaths as taken from RAMM. This table includes some footpaths adjacent to state highway, but not footpaths in reserves.

Location	Total length of footpath (km)
Both Sides	174
One side Only	123
Total footpath length	**297**
No footpath	27

Table 5.9: Footpath and Pedestrian Access Way Lengths

Rural roads seldom have formal footpaths however there is a need to provide these as subdivisions are created and pedestrian traffic increases, particularly in the vicinity of tourist attractions.

5.2.3.4 Footpath Age

The approximate average age of footpath (district wide) surfacing is summarised in the following table.

Type	Life Expectancy (yrs)	Age/Length (yr & km)				Total
		0-5 yrs	5-10 yrs	10-30 yrs	30 yrs +	
Concrete	80	5	13	104	155	277
Interlocking blocks	60	1	2	10	1	14
AC	35	-	-	2	-	2
Wood	40	-	-	-	-	0
Seal	35	-	-	-	3	3
Unsealed	30	-	1	-	-	1
Flagstone	60	-	-	-	-	0
Total		**6**	**16**	**116**	**159**	**297**

Table 5.10: Footpath Age Profile

5.2.4 LIGHTING

5.2.4.1 Lighting Description and Age

TDC operates 4,436 street lights and has 3,000 light poles throughout the District with a total replacement cost in the order of $6.5M (valuations is at August 2017). Street lights are now included in the RAMM database. TDC is in the very early stages of considering the installation of LED lights, mainly due to the increase in energy costs. A business case has been developed to identify costs and benefits for the conversion of existing street lighting to LED lighting in 2017/2018 financial year with a funding subsidy of 85%. After June 2018 any new LED lighting will be at the existing subsidy rate of 51%.

Asset type components and location are documented in council's RAMM database. Description of approximate numbers of lights and average age has been estimated by the network operators and transport staff and included in table 5.11.

Taupo District Council Street Lights

Type	Number	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
100W HPS (SON T)	1	2	25	0.6
150W HPS (SON)	1	2	25	0.3
250W HPS (SON I)	1	7	25	0.5
250W HPS (SON T)	1	3	25	0.4
250W HPS (SON)	2	4	25	0.8
60W Cosmo WHITE	1	8	25	2.5
70W HPS (SON)	13	13	25	4.5
70W HPS (SON-E)	23	12	25	2.6
70W HPS (SON-I)	8	11	25	0.9
70W HPS (SON-T)	1	10	25	0.3
Beta LED (265watts)	6	6	25	21.1
Beta LED (95watts)	1	8	25	10.6
CREE	3	1	25	2.9
CREE (XSP1, 29 watts)	11	1	25	13.0
CREE (XSP2, 29 watts)	1	2	25	1.4
EDGE (DALI, 150 watts)	3	2	25	1.0
FL (26 watts)	7	4	25	8.2
GEC (100T, 100 watts)	3	7	25	0.7
GEC (150E, 150 watts)	23	13	25	9.6
GEC (150S, 150 watts)	1	13	25	0.5
GEC (150T, 150 watts)	5	11	25	1.5
GEC (250E, 250 watts)	1	11	25	0.8
GEC (250T, 250 watts)	1	7	25	0.8
GEC (50E, 50 watts)	2	18	25	1.0
GEC (50S, 50 watts)	1	19	25	0.5
GEC (70E, 70 watts)	113	14	25	43.8
GEC (70I, 70 watts)	5	13	25	1.7
GEC (70S, 70 watts)	7	12	25	1.7
GEC (70T, 70 watts)	6	12	25	7.7
GEC (80M, 80 watts)	6	16	25	2.1
KEND	2	3	25	0.8
KEND (AU70, 70 watts)	1	4	25	0.4
LED (XR E, 33 watts)	2	7	25	9.4

Type	Number	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
PH	4	3	25	0.6
PH (100E, 100 watts)	5	14	25	1.9
PH (100M, 100 watts)	2	9	25	3.3
PH (100S, 100 watts)	16	9	25	5.7
PH (100T, 100 watts)	34	10	25	21.8
PH (150E, 150 watts)	79	12	25	29.1
PH (150I, 150 watts)	1	2	25	0.4
PH (150S, 150 watts)	24	11	25	14.0
PH (150T, 150 watts)	254	11	25	92.3
PH (250B, 250 watts)	2	2	25	2.3
PH (250E, 250 watts)	22	11	25	10.8
PH (250M, 250 watts)	3	2	25	4.7
PH (250S, 250 watts)	8	8	25	6.9
PH (250T, 250 watts)	77	7	25	36.0
PH (30TL, 60 watts)	1	9	25	0.3
PH (400M, 400 watts)	7	4	25	2.1
PH (400S, 400 watts)	2	10	25	1.0
PH (45W, 45 watts)	4	2	25	1.4
PH (50 SON, 50 watts)	1	7	25	0.4
PH (500F, 500 watts)	1	28	25	0.5
PH (50E, 50 watts)	6	9	25	1.9
PH (50I, 50 watts)	1	8	25	0.3
PH (50S, 50 watts)	37	10	25	11.1
PH (50T, 50 watts)	10	11	25	14.3
PH (60C, 60 watts)	31	8	25	55.0
PH (70E, 70 watts)	2149	14	25	835.5
PH (70I, 70 watts)	217	13	25	88.7
PH (70MH, 70 watts)	5	8	25	7.6
PH (70S, 70 watts)	389	12	25	289.4
PH (70T, 70 watts)	43	11	25	28.1
PH (80M, 80 watts)	80	19	25	27.9
SYLV (150T, 150 watts)	20	8	25	10.3
SYLV (160M, 160 watts)	1	5	25	0.5
SYLV (50S, 50 watts)	4	3	25	1.3
SYLV (70E, 70 watts)	4	8	25	1.0
SYLV (70S, 70 watts)	1	14	25	0.3
THOR (LED, 49 watts)	9	1	25	16.4
UNK (100S, 100 watts)	2	15	25	0.7

Type	Number	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
UNK (100T, 100 watts)	1	15	25	0.3
UNK (150E, 150 watts)	1	14	25	0.5
UNK (150H, 150 watts)	20	15	25	35.2
UNK (150S, 150 watts)	18	13	25	25.2
UNK (150T, 150 watts)	40	13	25	12.9
UNK (160M, 160 watts)	2	20	25	1.0
UNK (250S, 250 watts)	16	12	25	23.6
UNK (250T, 250 watts)	7	5	25	0.8
UNK (400M, 400 watts)	13	14	25	10.9
UNK (50E, 50 watts)	9	16	25	3.1
UNK (50S, 50 watts)	7	13	25	2.2
UNK (60TW, 60 watts)	1	10	25	1.3
UNK (70, 80 watts)	1	5	25	0.3
UNK (70E, 70 watts)	66	14	25	26.4
UNK (70I, 70 watts)	34	14	25	38.9
UNK (70MH, 70 watts)	9	15	25	9.5
UNK (70S, 70 watts)	114	15	25	59.7
UNK (70T, 70 watts)	5	11	25	2.6
UNK (80M, 80 watts)	26	25	25	9.0
UNK (UNK, 0 watts)	13	2	25	14.6
UNK (UNK, 0 watts)	2	3	25	0.8
Festive Lights Steel	18	16	30	84.4
Festive Lights LED RIBBON	18	7	15	23.2
Verandah Lights (60W)	31	8	25	9.1
Verandah Lights (130W)	145	27	25	42.5
Sub Total	**4436**			**2,219**

Table 5.11 showing different types of street lighting.

Taupo District Council Street Light poles

Type	Number	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
Composite Circular	3	12	60	7.177
Concrete Circular 5.5	2	12	60	4.815
Concrete Circular 6.1	1	12	60	1.226
Concrete Circular 7	202	19	60	439.462
Concrete Circular 7.3	32	15	60	43.779
Concrete Circular 10	1	20	60	2.135
Concrete Circular 10.5	1	26	60	1.226

Type	Number	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
Concrete Circular (UKN Height)	31	19	60	63.733
Concrete Hexagonal	1	26	60	1.611
Concrete Octaganol 7	1	2	60	1.226
Concrete Octaganol 7.3	4	11	60	4.905
Concrete Rectangular 6	27	18	60	68.713
Concrete Rectangular 6.5	3	26	60	3.754
Concrete Rectangular 7	326	16	60	451.433
Concrete Rectangular 7.2	5	26	60	6.256
Concrete Rectangular 7.3	1	17	60	1.251
Concrete Rectangular 8	10	20	60	18.334
Concrete Rectangular 10	9	16	60	12.717
Concrete Rectangular 11.5	9	22	60	11.261
Concrete Rectr (UKN height)	15	12	60	20.104
Extruded Aluminum Decorative Circular	3	13	60	3.678
Fibreglass Circular 5	8	20	60	11.451
Fibreglass Circular 5.2	1	19	60	1.468
Fibreglass Circular 6	2	15	60	2.911
Fibreglass Circular 7	1	17	60	1.468
Fibreglass Circular (UKN height)	1	3	60	1.455
Spun Concrete Circular 7	17	19	60	24.193
Spun Concrete Circular 7.3	2	10	60	2.406
Spun Concrete Circular 8	1	16	60	1.226
Spun Concrete Circular 9	19	17	60	23.296
Spun Concrete Circular 10	4	2	60	9.01
Spun Concrete Circular 10.5	2	15	60	2.871
Spun Concrete Circular 11	2	20	60	2.871
Spun Concrete Circular 11.5	43	16	60	61.073
Spun Concrete Circular (UKN height)	2	2	60	4.505
Spun Concrete Octaganol	2	15	60	1.975
Circular Hollow Steel	4	26	60	4.904
Steel Circular 0.7-0.9	41	11	60	90.735
Steel Circular 1.2	7	24	60	11.934
Steel Circular 3	1	26	60	2.392
Steel Circular 4	8	16	60	14.519
Steel Circular 4.5	1	9	60	2.392
Steel Circular 5	27	16	60	34.131
Steel Circular 5.5	3	22	60	3.678
Steel Circular 6	3	18	60	3.708
Steel Circular 6.3	1	26	60	2.392
Steel Circular 6.5	19	9	60	23.581

Type	Number	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
Steel Circular 7	34	16	60	49.273
Steel Circular 7.3	38	16	60	61.784
Steel Circular 8	13	21	60	16.014
Steel Circular 9	3	26	60	7.177
Steel Circular 10	6	26	60	14.354
Steel Circular 10.5	15	9	60	18.602
Steel Circular (UKN Height)	47	11	60	92.931
Steel Decorative Circular 3	16	18	60	38.327
Steel Decorative Circular 5	1	26	60	2.395
Steel Decorative Circular 6	18	25	60	22.07
Steel Decorative Circular 6.5	157	20	60	192.498
Steel Decorative Circular 7.0	34	20	60	41.688
Steel Decorative Circular 7.3	12	21	60	14.713
Steel Decorative Circular 7.5	6	22	60	7.471
Steel Decorative Circular 8	57	25	60	71.057
Steel Decorative Circular 10.5	2	8	60	2.452
Steel Decorative Circular (UKN Height)	22	7	60	36.872
Steel Hexagonal 7	3	15	60	3.678
Steel Hexagonal 7.3	2	18	60	2.712
Steel Hexagonal (UKN Height)	4	17	60	4.904
Steel Octaganol 4	1	26	60	1.226
Steel Octaganol 5	17	15	60	20.884
Steel Octaganol 5.5	2	14	60	2.452
Steel Octaganol 6	5	13	60	6.131
Steel Octaganol 6.5	14	3	60	17.973
Steel Octaganol 7	92	17	60	117.347
Steel Octaganol 7.2	2	19	60	2.452
Steel Octaganol 7.3	620	17	60	771.639
Steel Octaganol 8	309	17	60	370.822
Steel Octaganol 8.3	1	26	60	1.226
Steel Octaganol 8.6	13	15	60	15.939
Steel Octaganol 9	15	14	60	19.558
Steel Octaganol 9.1	20	10	60	25.688
Steel Octaganol 10	18	9	60	23.206
Steel Octaganol 10.1	3	10	60	7.177
Steel Octaganol 10.2	1	26	60	1.226
Steel Octaganol 10.5	135	12	60	165.614
Steel Octaganol 11.5	1	11	60	1.226
Steel Octaganol 12	4	20	60	4.904
Steel Octaganol (UKN Height)	275	13	60	364.901

Type	Number	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
Steel Rectangular 7	1	8	60	1.226
Steel Rectangular 7.3	12	13	60	14.713
Steel Rectangular 7.5	1	28	60	2.392
Steel Rectangular (UKN Height)	9	11	60	20.365
Wood Rectangular	1	9	60	3.589
Wood Hexagonal	1	9	60	1.331
Wood Circular	7	15	60	8.99
Wood (UKN Height)	7	15	60	9.414
UKN	14	8	60	114.278
Sub Total	**3000**			**4,334**
Total				**6,553**

Table 5.4: Street Lighting Asset Value and Age

5.2.4.2 Lighting Condition

Street lighting condition rating may be incorporated within the next lighting contract. This becomes more accurate as new assets are created.

The main causes of lantern deterioration are:

- Blown filaments
- Oxidisation and embrittlement of lamp coverings due to UV damage.
- Corrosion of casings/fittings.

5.2.4.3 Lighting Performance

Newer subdivisions often contain different styles of poles and lanterns from the traditional styles used throughout the district. There is sometimes an extraordinarily long wait for replacement parts if damaged.

For driver and pedestrian safety, we are looking throughout the district at the placement of streetlights and slowly adding additional streetlights in areas with insufficient lighting or distances between two streetlights greatly exceeding length set in NZ Standards. Lights are being added both along roads and walkways.

5.2.5 TRAFFIC SERVICES

5.2.5.1 Traffic Services Description and Age

The road marking asset is not currently valued. It comprises;
Non intersection markings;

- centre lines and lane lines
- edge lines and shoulder markings
- no overtaking lines/passing lines
- median markings
- cycle lanes
- parking areas
- passing bays
- no stopping lines

Intersection markings;

- centre lines/edge lines/lane lines
- lane arrows
- wait lines/continuity lines
- cycle lanes
- border lines/diagonal lines
- right turn bays

Miscellaneous markings;

- messages and symbols
- pedestrian crossings
- fire hydrants
- raised pavement markers
- one-lane bridge

5.2.5.2 Traffic Signs

TDC manages 28,118 street signs with a total replacement value of $2.3M (valuation as at August 2017). Table 5.13 below, summarises the type, number, the average age and the value of street signs from the RAMM database.

Type	Quantity	Average age (yr)	Est. Life (yr)	Value($000)
Regulatory General	1302	9	15	491
Permanent Warning	1128	8	15	378
Information	302	12	15	155
Street Name	1631	12	15	479
Motorist Service	119	9	15	37
Regulatory incl. Regulatory Parking	530	11	15	145
Bridge End Markers	109	7	15	35
Marker Posts	9,642	5	10	286.3
RRPM	1,3209	4	6	120.7
Guide signs	38	5	15	31
Active warning signs	9	2	15	55
40km/hr school zone signs	5	2	15	75
Total	**28,118**			**2,288**

Table 5.5: Street Sign Asset Value and Age

5.2.5.3 Traffic Structures

TDC has a number of traffic control devices with a total replace value of $5.1M (valuation as at August 2017). The traffic control types, numbers and values are summarised in Table 5.14. Note that a number of these are not currently included in the asset valuation. These will be included as a part of the on-going updating process.

Type	Number	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
Urban Bus Shelters	9	9	30	225
Rural Bus Shelters	13	10	30	65
Central Pedestrian Refuges	41	6	50	401
Roundabouts (including their splitter islands)	11	21	60	504
Kea Crossings	8	12	50	176
Raised Walkway	4	14	50	78
Cycle Rack	17	9	50	17
Cycle way Barrier	34	13	50	121
MH & Soak hole	1	7	30	8
Traffic Island	19	8	60	223
Blister Island	1	14	50	10
Retaining walls	15	5	50	1474
Handrails	17	5	40	51
Guard Rail	35	6	50	876
Rubber Speed Cushions	6	8	30	30
Speed Control Humps	16	7	60	35
Underpass	25	20	60	262
Total	**245**			**5,095**

Table 5.6: Traffic Structure Asset Value

5.2.5.4 Traffic Services Condition

Condition data for road marking relates to quality of materials and application. TDC has currently not adopted a condition rating system for road marking but is investigating introducing reflectivity assessment methods.

There is no condition rating system for signs. The maintenance contractor current reports on all faults, including condition requiring replacement, vandalism and accidents. There is also no condition rating system for traffic controls.

5.2.6 CULVERTS, STRUCTURES AND BRIDGES

5.2.6.1 Culverts, Structures and Bridges Description and Age

The scope and total value of these assets are summarised below. This is from the August 2017 valuation. The RAMM database contains an inventory of all structures in the district. The age of the structure is shown in tables 5.15, 5.16 and 5.17.

	Length (m)	Average age (yr)	Est. Life (yr)	Replacement Value ($,000)
Steel culvert	2,566	27	60	2,412
Concrete culvert	30,939	49	80	14,547
PVC Subsoil drain	998	9	55	222
UPVC	20	8	80	1.4
HDPE	24	9	80	4.5
Other	182	18	80	
Total	**31,716**			**17,187**

Table 5.7: Culvert and Structure Asset Value

	Length (m)	Average age (yr)	Est. Life (yr)	Replacement value ($,000)
Culverts (>2m dia.)				
Steel	300	34	60	
Reinforced Concrete	1174	38	80	
Total	**1474**			**4,110**

Table 5.8: Large Culverts and Stock Underpass Asset Value

	Number	Average age (yr)	Est. Life (yr)	Replacement value ($,000)
Road Bridges				
<10m long	5	53	90	
>10m long	16	35	90	
Foot Bridges	4	45	60	
Total	**25**			**13,386**

Table 5.9: Road and Foot Bridge Asset Value

5.2.6.2 Culverts, Structures and Bridges Condition

Condition data or bridges, culverts and other structures is conducted two yearly. Key issue relating to road bridges, culverts and structures is that Bridge inspections are outsourced to a consultant that completes inspections and reports on required maintenance and renewal. This Contract is included in the Transit New Zealand regional bridge contract to optimise costs. Refer to TDC 2015-2016 Bridge Inspection Report.

5.2.6.3 Culvert, Structures and Bridge Performance

Some culverts do not have adequate capacity and will be programmed to be replaced. All bridges currently perform satisfactorily. Bridge Loading Ratio is required to be checked before any heavy vehicle passes over structures and this is done via the overweight permit process/application.

5.2.7 DRAINAGE

5.2.7.1 Drainage Description

The scope, age and total value of the carriageway drainage assets are summarised in Table 5.18.

Type	Length (km)	Ave. age (yr)	Design life (yr)	Replacement value ($,000)
Kerb	8.88	17	80	694
Kerb & channel	230	36	80	17,980
Mountable kerb & channel	193.24	43	80	15,107
Dished channel	8.7	31	80	679
Concrete	4.33	2	80	334
Other type	1.24	29	80	97
Slot drain	0.113	6	80	9
SWC (Shallow, <200 below seal edge)	2.22	39	80	174
Total	**448.7**			**35,074**

Table 5.10: Kerb and Channel Assets

Note: 1360 Catch pits are included in Stormwater Valuation

5.2.7.2 Drainage Condition

Considerable mountable kerb exists within Taupō Township. This encourages berm parking and erosion problems on pumice sub-grade especially during summer months.

Many kerbs are showing signs of minor damage due to spalling of concrete and scrapes from poor vehicle parking. Care should be taken to ensure new kerb and channel in the commercial area has sufficient strength.

5.2.7.4 Formation

The valuation for formation is in the formation component of pavements, the age of this asset is not applicable and there currently is no condition rating system in place for formation.

Cycle Facilities. The following table indicates the locations of the existing cycle facilities. Definitions of types of facilities are given below, table 5.19.

Location	Length of facility (m)	Type of facility
Acacia Bay Road (west side)	2500	Shared path (off road)
Centennial Drive (both sides) *old Spa Road – Campground entrance*	700*	Cycle lane
Centennial Drive (west side) *campground entrance – Fletchers entrance*	1100	Shared path (off road)
Rauhoto St	260	Shared path (off road)
S.H. 1 / Lake Terrace (town side) *Ruapehu Street – Tharepa Road*	1450	Cycle lane
S.H. 1 / Lake Terrace (lake side) *Tongariro Street – Ruapehu Street*	275	Cycle lane
S.H. 1 / Lake Terrace (lake side) *Ruapehu Street – Pataka Road*	1100	Cycle lane/car parking
S.H. 1 / Lake Terrace (lake side) *Pataka Road – Tharepa Road*	310	Cycle lane
S.H. 1 / Lake Terrace (both side) *Tharepa Road – Napier Taupō Road*	1350*	Cycle lane
S.H. 1 / Lake Terrace (both sides) *Napier Taupō Road – Richmond Avenue*	3200*	Cycle lane/car parking
S.H. 1 / Lake Terrace (East Side) *Spa Road – Norman Smith Street*	500	Shared path (off road)
S.H. 1 *Control gates – Kahurangi Dr (East side)*	520	Shared path (off road)
Broadlands Road (northbound lane)	3310	Road widening
Kiddle Drive (east side)	850	Shared path (off road)
Heuheu Street (both sides)	1360*	Cycle lane

Location	Length of facility (m)	Type of facility
Kaimanawa St – Tongariro St		
Tamamutu St (both sides) Tongariro St – Rifle Range Road	1900	Cycle lane
Titiraupenga St (both sides) Spa Road – Lake Terrace	970	Cycle lane
Kaimanawa St (both sides) Spa Road – Lake Terrace	1200	Cycle lane
Taharepa Road (both sides) Tahara Road – Lake Terrace	2600	Cycle lane
Mere Street (both sides)	1000	Cycle lane
AC Baths Ave (east side)	370	Cycle lane
Spa Road (both sides) *Tongariro Street – old Spa Road*	4400*	Cycle lane
Tauhara Road (north side) *AC Baths Avenue – Miro Street*	1400	Cycle lane
Kimberley Reserve *Taharepa Rd – Henry Hill Rd*	600	Shared path (off road)
Centennial Drive (south side)	4350	Road widening
Gillies Reserve *Taupō View Rd – Gillies Ave*	205	Shared path (off road)
Puriri Street (Taupō Intermediate School accessway)	160	Shared path (off road)
Rifle Range Road (both sides)		Cycle lane/car parking
Off road cycle facilities	**6,695**	
On road cycle facilities	**31,245**	
Total	**37,940**	

Table 5.11: Cycle Facilities

* Both sides of road have a cycle lane and their lengths have been combined to produce this total

Definitions of types of cycle facilities:

Cycle lane – a part of the carriageway (road) to be used by bicycles only. Cycle lanes are identified by cycle pavement marking symbols and may have other distinguishing features such as different coloured surfaces. Cycle lane signs are optional.

Cycle lane / car parking – a part of the carriageway (road) to be used by bicycles and parked cars. Designation is by road markings and signs.

Cycle way / cycle-path – pathways which are physically separated from the carriageway. Pedestrians may have access, but motor vehicles do not. They may be one of three types:
Exclusive Use Paths: - path for exclusive use of bicycles.

Shared Paths: - path shared with other users such as pedestrians, scooters, skateboards etc, without any segregation.

Separated Paths: - path on which cyclists and pedestrians are required to use separate designated areas of the path. This designation is by means of pavement markings, signs and/or different surfaces/levels.

Figure 5.7: Cycle lane installation at Lake Terrace, Mere Road and Tahārepa

Determining the age of this asset is difficult as it is generally incorporated into the pavement asset group. Currently there is no condition rating system in place for cycleways.

5.2.8 PARKING

5.2.8.1 Parking Description

The location of off street car parks, the number of parking spaces, their approximate age and valuation is summarised in Table 5.20. (The valuations are taken from August 2017). This table includes parking maintained on behalf of Parks and Reserves. The highlighted car parks are transport assets.

Location	Address	Area (m²)	Year of construction	Age (yr)	Surface type	Life (yr)	Replacement cost (Top surface)	Total replacement costs
Waipahihi Hall	96 Richmond Avenue, Taupo	775	30/06/1996	21	Slurry	17	4960	39,449
Waipahihi Hall	98 Richmond Avenue, Taupo	1366	30/06/1993	24	Chip seal	20	7171.5	74,202
Waipahihi Hall	92 Richmond Avenue, Taupo	715	30/06/1996	21	Chip seal	20	3753.75	36,757
Soccer Park	115 Crown Road, Taupo	298	30/10/2008	8	AC	25	7748	11,795
Touch Parks	Crown Road, Taupo	823	1/07/2004	13	AC	25	21398	51,217
Touch Parks	Invergarry Rd	370	1/01/2007	11	AC	25	9620	23,379
Events Centre	21 A C Baths Avenue, Taupo	8200	30/06/1999	18	AC	25	213200	572,414
AC Baths Reserve	A C Baths Avenue, Taupo	4375	30/06/1991	26	Chip seal	22	22968.75	232,003
Hickling Park	A C Baths Avenue, Taupo	2420	1/07/2006	11	AC	25	62920	162,521
Bungy	208 Spa Road, Taupo	2050	30/06/1997	20	Chip seal	18	10762.5	100,631
OD Park (Velodrome)	62Delany Drive, Taupo	950	1/03/2006	11	Chip seal	18	4987.5	36,273
OD Park (Rugby)	62 Delany Drive, Taupo	1980	1/03/2006	11	Chip seal	18	10395	93,746
opposite Rainbow Dr shops near SH1	3 Rainbow Drive, Taupo	848	20/06/2008	9	AC	25	22048	55,238
Skate board bowl carpark	Tauhara Road	1520	1/09/2005	12	Chip seal	18	7980	70,360
Cemetery	136 Rickit Street, Taupo	350	1/12/2007	10	Chip seal	18	1837.5	20,829

Location	Address	Area (m²)	Year of construction	Age (yr)	Surface type	Life (yr)	Replacement cost (Top surface)	Total replacement costs
Taupo Cemetery	136 Rickit Street, Taupo	1815	1/12/2007	10	Chip seal	18	9528.75	61,000
Heuheu St	60 & 72 Heuheu Street, Taupo	3310	30/06/1985	32	AC	28	86060	232,204
MacDonalds	61 & 67 Tuwharetoa Street, Taupo	3540	30/06/1992	25	AC	25	92040	248,326
Rauhoto St rec reserve	Rauhoto Street on left	900	1/03/2007	10	AC	25	23400	80,598
Boat Harbour	1 Rauhoto Street, Taupo	5200	1/03/2007	10	AC	25	135200	309,835
Boat Harbour	1 Rauhoto Street, Taupo	615	1/03/2007	10	Concrete	50	0	20,653
Acacia Bay Hall	8 Wakeman Road, Acacia Bay	608	30/06/1992	25	Chip seal	25	3192	37,815
Domain and Superloo	34 Tongariro Street, Taupo	672	30/06/1992	25	Chip seal	21	3528	37,127
GLC/Library	22-30 Tongariro Street, Taupo	2663	30/06/1993	24	AC	25	69238	260,726
GLC/Library	22-30 Tongariro Street, Taupo	1374	1/01/2010	8	AC	25	35724	35,724
GLC/Library	22-30 Tongariro Street, Taupo	1379	26/02/2009	8	AC	25	35854	82,165
TDC Carpark	7 Rifle Range Road, Taupo	1070	30/06/1994	23	Chip seal	19	5617.5	51,751
Farmers	29 Tuwharetoa Street, Taupo	990	30/06/1986	31	Chip seal	26	5197.5	50,383
2 mile bay	15 Mapou Road, Taupo	2700	1/05/2005	12	Slurry	15	17280	127,978
Bowling Club (Main)	Lake Terrace	840	30/06/1997	20	Slurry	15	5376	43,710
Spa Gate	Gascoigne St	1800	30/06/1999	18	Slurry	15	11520	85,343

Location	Address	Area (m²)	Year of construction	Age (yr)	Surface type	Life (yr)	Replacement cost (Top surface)	Total replacement costs
Shopping Centre								
Baden Powell Reserve	Lake Terrace	1180	30/06/1998	19	AC	25	30680	97,508
Baden Powell Reserve	Lake Terrace	220	1/12/2007	10	Chip seal	18	1155	8,543
Landing Reserve	Lake Terrace	2400	30/06/1997	20	Slurry	15	15360	83,422
Arts Society Car Park	Redoubt St	686	1/12/2007	10	Chip seal	18	3601.5	30,644
Roberts St Car Park	66 Roberts St	847	30/06/1997	20	AC	25	22022	54,849
Roberts St Car Park	72 Roberts St	1110	12/12/2008	9	AC	25	28860	83,436
Senior Citizens/Museum	Story Place	1202	30/06/1993	24	Slurry	20	7692.8	79,869
Cherry Island Carpark	Waikato St	1657	30/06/1997	20	Slurry	15	10604.8	89,901
Waitahanui River Nth	SH1, Waitahanui	630	30/06/1993	24	Chip seal	20	3307.5	35,118
Waitahanui River Sth	SH1, Waitahanui	1010	30/06/1993	24	Chip seal	20	5302.5	73,675
3 Mile Bay boat ramp	3 Mile Bay	1100	1/03/2006	11	Chip seal	18	5775	42,717
3 Mile Bay boat ramp	3 Mile Bay	3770	1/03/2006	11	Chip seal	18	19792.5	146,403
3 Mile Bay boat ramp	3 Mile Bay	2470	1/09/2005	12	Chip seal	18	12967.5	81,724
Lake Rd Reserve car park	Lake Reserve Mangakino	750	30/06/2002	15	Chip seal	18	3937.5	29,125
Waikato River Lookout	County Ave	900	30/06/2001	16	Chip seal	18	4725	34,950

Location	Address	Area (m²)	Year of construction	Age (yr)	Surface type	Life (yr)	Replacement cost (Top surface)	Total replacement costs
Tirohanga Community Hall	Tirohanga Road	1550	15/02/2011	6	Chip seal	18	8137.5	60,192
Mahoe St Depot staff carpark	Mahoe St Taupo	450	30/06/2001	16	Chip seal	18	2362.5	17,475
Oruanui Saleyards	Oruanui Rd	900	30/06/2001	16	AC	25	23400	53,625
Taniwha St Carpark	16 Taniwha Street, Taupo	1937	30/10/2002	15	AC	25	50362	140,724
Te Moenga Bay boat ramp car park	Alberta St/Winston St	560	1/04/2005	12	Chip seal	18	2940	21,746
Te Moenga Bay boat ramp access	Winston St to lake edge	570	1/04/2005	12	Slurry	15	3648	22,790
Turangi Town Centre	Ohuanga Road	1380	1/01/2006	12	Slurry	15	8832	55,177
Adjacent to Rainbow Dr shops near SH1	3 Rainbow Drive, Taupo	390	1/12/2011	6	AC	25	21732.20	29,532
In front of Rainbow Dr shops near SH1	3 Rainbow Drive, Taupo	370	30/06/1985	27	AC	30	9620	40,297
Soccer Park	115 Crown Road, Taupo	5177	17/04/2012	5	Chip seal	20	27179.25	97,502
OD Park (Netball)	62 Delany Drive, Taupo	3930	13/02/2013	4	Chip seal	18	20632.5	20,632
Titiraupenga shops	77 Spa Road	170	28/08/2014	3	AC	17	5100.00	11,263
Bantry's restaurant	1 Kaka Street	70	19/11/2014	3	AC	17	2940.00	10,175
Taupo Medical Centre	118 Tuwharetoa Street	27	29/06/2015	2	AC	17	3240.00	8,733

Location	Address	Area (m²)	Year of construction	Age (yr)	Surface type	Life (yr)	Replacement cost (Top surface)	Total replacement costs
Wharerangi Rest Home	23-27 Kaimanawa Street	80	30/06/2015	2	AC	17	1594.99	8,673
Suncourt motel	Kaimanawa Street	425	01/07/2016	1	AC	18	10850.25	31,424
Prince motor lodge	Titiraupenga Street	156	28/02/2017	0.5	AC	18	7239.96	17,921
Ferry Road carpark	Ferry Road	1278	31/03/2017	0.5	Chip seal	18	6914.89	6,914
Ferry Road carpark	Ferry Road	573	1/07/1975	42	Slurry	15	3099.93	34,899
Ferry Road carpark	Ferry Road	1278	1/07/1985	32	Chip seal	18	0	64,955
Ferry Road carpark	Ferry Road	907	1/07/1985	32	Chip seal	18	4906.87	53,316
Total		**97,708**						**5,674,**

Note: Ferry Road wasn't listed in the prior AMP and has now been included following the latest valuation.

Table 5.20: Off Street Parking Assets

There currently is no condition rating system in place for parking.

5.3 Asset Confidence Rating

The asset valuation assigns confidence ratings to the source data and unit cost rates and to other items as appropriate. Site inspections for previous valuation confirmed that the asset register and level of componentisation is of good quality with a confidence rating A-B. Cost information and remaining life estimates have a lower rating of B-C. The overall confidence rating for Transportation asset, as noted in latest valuation report is **B**.

Grade	Label	Description	Accuracy
A	Accurate	Data based on reliable documents	±5%
B	Minor inaccuracies	Data based on some supporting documentation	±15%
C	Significant data estimated	Data based on local knowledge	±30%
D	All data estimated	Data based on best estimate of experienced person	±40%

Table 5.21: Key to Asset Confidence Rating

Asset Group	Component	ORC			ODRC		
		Quantity	Unit Cost	Value	Life	R/Life	Value
Carriageway	Formation	A	B	B	*	*	*
	Pavement	A	B	B	B	B	B
	Top surface	A	A	A	B	B	B
Bridges	Bridges	A	B	B	C	C	C
Drainage	Kerbs & Channels	A	B	B	B-C	B-C	B-C
	Culverts	B	C	C	B-C	B-C	B-C
	Catch pits	A	B	B	C	C	C
	Manholes	B-C	B	B-C	C	C	C
	Piped systems	B-C	B	B-C	C	C	C
Footpaths	Footpaths	A	B	B	B-C	B-C	B-C
Lighting	Street Lights	A	A	A	B	B	B
	Street Lights Columns	A	A	A	B	B	B
Parking	Off street car parks	B	B	B	B-C	B-C	B-C
Traffic Signs	Signs	A	A	B	B-C	B-C	B-C
	Sign posts	A	A	B	B-C	B-C	B-C
Structures	Retaining walls, guard rails, traffic islands, bus shelters.	C	C	C	C	C	C
Traffic Facilities	Edge marker posts raised pavement markers	C	A	C	C	C	C

Table 5.22: Summary of Assets Confidence Ratings

* Formation is not depreciated
ORC = Optimised Replacement Cost
ODRC = Optimised Depreciated Replacement Cost