

Appendix 4: Landscape Maintenance Costs

Introduction

Approximate landscape maintenance and traffic management costs are provided below for a range of highway classifications and planting options.

The table below identifies:

- Road classifications based on traffic flow densities, and speed limits:
Level 3 = motorways, 10,000 + vpd, speed >75 km/hr
Level 2 = 10,000 + vpd, speed <75 km/hr
Level 1 = 500 –10,000 vpd
(No data is available for landscape maintenance costs on roads with <500 vpd).
- Road closure requirements: static or mobile depending on work site area and maintenance activity. Planting maintenance is generally conducted under static closure, therefore cost estimates are provided for static lane and static shoulder closure.
- Vegetation types (based on Transit's *SOMAC Specification for Vegetation Control* (SM032 VC 09))
Planting = vegetation other than mowable grass. Rejuvenation of planting has been allowed for every 7 years
Type 1 = grass mown to 20-75mm, fine lawn typically 15 cuts/year
Type 2 = grass mown to 20-150mm, verges, typically 12 cuts/year
Type 3 = grass mown 25-200mm, edges, typically 8 cuts/year
Type 4 = grass 25-300mm, reach mowing, typically 4 cuts/year

Indicative maintenance costs and rates of coverage per maintenance visits have been calculated for each situation. The net-present-value (NPV) calculation is given, based on a 20-year averaging period, and interest rate of 9%. This would normally be expressed as a negative number, but is shown as positive for simplicity.

How to use the table:

1. To determine the most cost effective option for establishing planting or grass, compare the net-present-value (NPV) figure for the equivalent level and type of maintenance.
2. Verify the relationship of costs in the table by supplementing figures in the table with those costs relevant to the site.
3. Supplement comparative figures to determine costs for planting options not included in the table, such as wildflowers, low growth grass or native plants.

Determining costs is complex and influenced by a large variety of factors. The below costs are taken from a sample of situations, and other situations may give different results. **Note: the table does not include establishment costs.**

Ongoing feedback about the comparative costs of establishing and maintaining highway landscaping is welcomed. Please email landscaping@transit.govt.nz.

Indicative costs for comparison only. Use known costs in place of figures below where possible.

Road type and traffic control

Vegetation Type		No Traffic Control	Level 3: Static Closure	Level 3: Mobile Closure	Level 2: Static Closure	Level 2: Mobile Closure	Level 1: Static Closure	Level 1: Mobile Closure
Planting 2 visits/yr**	Maintenance	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800
	Traffic control		\$ 2,000	\$ 450	\$ 1,800	\$ 450	\$ 1,000	\$ 450
	Total \$ / visit	\$ 800	\$ 2,800	\$ 1,250	\$ 2,600	\$ 1,250	\$ 1,800	\$ 1,250
	area m2	3,000	2,200	2,200	2,600	2,600	3,000	3,000
	Cost/m2/visit	\$ 0.27	\$ 1.27	\$ 0.57	\$ 1.00	\$ 0.48	\$ 0.60	\$ 0.42
	visits per year	2	2	2	2	2	2	2
	cost/m2/yr	\$ 0.53	\$ 2.55	\$ 1.14	\$ 2.00	\$ 0.96	\$ 1.20	\$ 0.83
	NPV (20 yrs, 9% interest)	\$ 7.78	\$ 26.67	13.79*	\$ 21.64	12.15*	\$ 14.34	10.96*
Type 1 vegetation mown 15/yr	Maintenance	\$ 1,000	\$ 800	\$ 1,000	\$ 800	\$ 1,000	\$ 800	\$ 1,000
	Traffic control		\$ 2,000	\$ 1,500	\$ 1,800	\$ 1,200	\$ 1,000	\$ 700
	Total \$ / visit	\$ 1,000	\$ 2,800	\$ 2,500	\$ 2,600	\$ 2,200	\$ 1,800	\$ 1,700
	area m2	30,000	8,000	30,000	8,000	30,000	8,000	30,000
	Cost/m2/cut	\$ 0.03	\$ 0.35	\$ 0.08	\$ 0.33	\$ 0.07	\$ 0.23	\$ 0.06
	cuts per year	15	15	15	15	15	15	15
	cost/m2/yr	\$ 0.50	\$ 5.25	\$ 1.25	\$ 4.88	\$ 1.10	\$ 3.38	\$ 0.85
	NPV (20 yrs, 9% interest)	4.56	47.93	11.41	44.55	10.04	30.86	7.76
Type 2 vegetation mown 12/yr	Maintenance	\$ 1,000	\$ 800	\$ 1,000	\$ 800	\$ 1,000	\$ 800	\$ 1,000
	Traffic control		\$ 8,000	\$ 1,500	\$ 1,800	\$ 1,200	\$ 1,000	\$ 700
	Total \$ / visit	\$ 1,000	\$ 8,800	\$ 2,500	\$ 2,600	\$ 2,200	\$ 1,800	\$ 1,700
	area m2	30,000	8,000	30,000	8,000	30,000	8,000	30,000
	Cost/m2/cut	\$ 0.03	\$ 1.10	\$ 0.08	\$ 0.33	\$ 0.07	\$ 0.23	\$ 0.06
	cuts per year	12	12	12	12	12	12	12
	cost/m2/yr	\$ 0.40	\$ 13.20	\$ 1.00	\$ 3.90	\$ 0.88	\$ 2.70	\$ 0.68
	NPV (20 yrs, 9% interest)	3.65	38.35	9.13	35.691	8.03	24.65	6.21
Type 3 vegetation mown 8/yr	Maintenance	\$ 1,000	\$ 800	\$ 1,000	\$ 800	\$ 1,000	\$ 800	\$ 1,000
	Traffic control		\$ 2,000	\$ 1,500	\$ 1,800	\$ 1,200	\$ 1,000	\$ 700
	Total \$ / visit	\$ 1,000	\$ 2,800	\$ 2,500	\$ 2,600	\$ 2,200	\$ 1,800	\$ 1,700
	area m2	30,000	8,000	30,000	8,000	30,000	8,000	30,000
	Cost/m2/cut	\$ 0.03	\$ 0.35	\$ 0.08	\$ 0.33	\$ 0.07	\$ 0.23	\$ 0.06
	cuts per year	8	8	8	8	8	8	8
	cost/m2/yr	\$ 0.27	\$ 2.80	\$ 0.67	\$ 2.60	\$ 0.59	\$ 1.80	\$ 0.45
	NPV (20 yrs, 9% interest)	2.47	25.56	6.12	23.74	5.39	16.43	4.11
Type 4 vegetation mown 5/yr	Maintenance	\$ 1,000	\$ 1,000	\$ 1,300	\$ 1,000	\$ 1,300	\$ 1,000	\$ 1,300
	Traffic control		\$ 2,000	\$ 1,500	\$ 1,800	\$ 1,200	\$ 1,000	\$ 700
	Total \$ / visit	\$ 1,000	\$ 3,000	\$ 2,800	\$ 2,800	\$ 2,500	\$ 2,000	\$ 2,000
	area m2	30,000	8,000	20,000	8,000	20,000	8,000	20,000
	Cost/m2/cut	\$ 0.03	\$ 0.38	\$ 0.14	\$ 0.35	\$ 0.13	\$ 0.25	\$ 0.10
	cuts per year	5	5	5	5	5	5	5
	cost/m2/yr	\$ 0.17	\$ 1.88	\$ 0.70	\$ 1.75	\$ 0.63	\$ 1.25	\$ 0.50
	NPV (20 yrs, 9% interest)	1.55	17.16	6.39	15.98	5.75	11.41	4.56

*Static Shoulder

** Planting NPV calculation allows for regeneration planting every 7 years @ \$4.00m2