

# appendix 3

## City Streets: An approach to Allocating Costs

### Wear and Tear Outputs

The LTSA has provided the following figures for annual vehicle kilometres for Christchurch:

	V-KM	Car Equivs	Equiv V-KM	Share	
Car	1,923,000	1	1,923,000	0.39%	
Trailer Combination	35,000	1.6	56,000	0.01%	0.40% Residential
Light Commercial	30,000	1	30,000	0.01%	
Rigid Truck	41,000	5,000	205,000,000	41.25%	
Articulated Truck	29,000	10,000	290,000,000	58.35%	99.60% Cml/Rural
	2,058,000		497,009,000		

The figure for Car Equivalents has been arrived at as follows:

Trailer Combination	It has been assumed that a trailer does only 60% of the damage as a car
Light Commercial	Same as for a car
Rigid Truck	Half of an articulated truck
Articulated Truck	An articulated truck can do up to 13,000 times the damage to a road as a private automobile. The figure of 10,000 is used as a realistic conservative weighting factor.

### Allocation among Residential, Commercial or Rural ratepayers

The number of rateable properties in each sector has been used as a surrogate for the number of vehicles owned by each sector.

Cars, Trailers etc	No. of Properties	Unweighted Share	Distance Weighting	Equivalents	Weighted Share
Residential	119,104	90.7%	1	119,104	88.3%
Commercial	10,546	8.0%	1	10,546	7.8%
Rural	1,723	1.3%	3	5,169	3.8%
	131,373	100.0%		134,819	100.0%

  

Trucks	No. of Properties	Use	Distance	Equivalents	Weighted Share
Residential	119,104	0	0	0	0
Commercial	10,546	1	1	10,546	99.76%
Rural	1,723	0.005	3	26	0.24%
	131,373			10,572	100.00%

A distance weighting factor of 3 is used to compensate for the fact that a greater length of road must be maintained to provide access to rural properties. A use weighting of 0.005 is used because rural truck owners do not use their vehicles as often as commercial operators. The number of properties is as at 30 June 2000.

### Overall Allocation

	Cars Trailers	Share of Damage	Cmls Trucks	Share of Damage	Overall Share
Total Damage Share		0.4%		99.6%	
Residential	88.3%	0.4%			0.35%
Commercial	7.8%	0.0%	99.76%	99.1%	99.39%
Rural	3.8%	0.0%	0.24%	0.5%	0.26%
	100.0%		100.00%		100.00%

### Non Wear and Tear Outputs

The LTSA figures can be used unweighted to give the following results:

	V-KM	Share	
Car	1,923,000	93.4%	
Trailer Combination	35,000	1.7%	95.14%
Light Commercial	30,000	1.5%	
Rigid Truck	41,000	2.0%	
Articulated Truck	29,000	1.4%	4.96%
	2,058,000	100.0%	100.00%

### Overall Allocation

	Cars Trailers		Cmls Trucks	Share
Share of Direct Benefits		95.14%		4.86%
	No. of Properties		Dist. Equiv't Weighted	
Residential	90.7%	86.3%	0.0%	86.26%
Commercial	8.0%	7.6%	99.5%	12.47%
Rural	1.3%	1.2%	0.5%	1.27%
	(Unweighted)		(Count)	100.00%