

APPENDIX 2
COST & PRIORITY RANKING DETAILS

CYCLEWAY INFRASTRUCTURE - COST ESTIMATE UNIT RATES			
	ITEM	RATE	UNIT
1	Concrete Path (long lengths)	65	sq m
2	Concrete Path (short lengths)	80	sq m
3	Asphalt Path (long lengths)	40	sq m
4	Asphalt Path (short lengths)	50	sq m
5	Asphalt Path - in situ rehabilitation	10	sq m
6	Sealed shoulder widening	30	sq m
7	Earthworks widening - minor cuts	20	m
8	Earthworks widening - medium	40	m
9	Cycle ramp	1000	each
10	Holding rail/Bike rack	700	each
10	New sign	80	each
11	New sign + post	130	each
12	Linemarking	2	m
13	Bicycle pavement symbol	30	each
14	Chevron pavement marking	8	sq m
15	Parking bay linemarking	15	each
16	Tree removal (medium)	200	each

8. Surface treatments, linemarking and the finishing of bicycle routes

Table 8.1: Scope of Section 8.

Type of facility	Coverage in <i>Austrroads - Part 14</i>	Coverage in these Guidelines
Surface treatments	8.5.2 Pavements for bicycle paths	8.1.1 Off-road path surface treatments
	8.2 Construction and maintenance of roads	8.1.2 On-road bicycle lane surface treatments
	9.7 Pavement surface colour	8.1.3 Use of coloured pavements
Linemarking and pavement symbols	9.6 Pavement markings	8.2 Linemarking bicycle facilities
Landscaping adjacent to bicycle facilities		8.3 Landscaping adjacent to bicycle facilities
Drainage of roads with bicycle facilities	6.3.8 Superelevation, crossfall and drainage	8.4 Drainage of bicycle paths and on-road bicycle lanes
Barrier fencing and railings	7.6.2 Fences and batters	8.5.1 Barrier fencing for off-road bicycle paths
	6.7.3.2 Holding rails	8.5.2 Use of holding rails
Lighting	6.9 Public lighting of paths	

This section deals with issues relating to the quality of the physical riding environment. Bicycles as vehicles need a very good quality surface to operate safely and efficiently. They are much lighter, have narrower tyres and little or no suspension compared to motor vehicles. Small details such as cracks, concrete road joints and the smoothness and cleanness of the kerbside lane may not much affect the handling of a motor vehicle, but can cause great difficulties for the bike rider. If a bicycle path or bicycle lane has a poor quality, badly maintained or glass-strewn surface, riders will often prefer to ride in the adjacent road lanes, rather than negotiating the hazards of the bicycle facility.

8.1 Surface treatments for bicycles

The provision of a good riding surface for bicycle riders is a critical factor in ensuring safe and comfortable riding conditions. This requirement applies equally for on-road as well as off-road bicycle facilities.

8.1.1 Surfaces for off-road paths not in road reserves

Technical advice on suitable surface treatments for off-road

paths is provided in *Austrroads Guide to Traffic Engineering Practice, Part 14 – Bicycles*, (Section 8.2, Construction and Maintenance of Paths and Section 8.5.2, Pavements for Bicycle Paths). The information and recommendation provided below are additional to that advice.

Table 8.2 provides an overview of path materials and their relative costs, both in the short term and long term. However, local variations need to be taken into account when considering the Table. In urban situations asphalt or concrete are the preferred path surface materials because of their proven performance and resistance to slipping and skidding in wet conditions. If a path is to be surfaced in any other material it should be tested using a Standard Pendulum Test for slip and skid resistance.

Asphalt surfaces

Asphaltic concrete pavement material is the riding surface most preferred by regular bike riders as it provides a smooth, comfortable and jolt-free riding surface. As asphalt is a flexible pavement material, the riding surface can rapidly deteriorate if not properly prepared and laid. Spreading and subsequent cracking of the pavement surface due to the lack

Table 8.2: Life cycle costs for path surface materials.

Material	Construction cost ¹	Annual maintenance costs ²	Life cycle costs ³	Environmental impacts
Decomposed granite	\$105,000	\$27,000	\$391,000	Reduced run-off and visual intrusion
Asphalt/ bitumen	\$120,000	\$3,000	\$152,000	Visual intrusion due to path width
Concrete	\$195,000	\$1,500	\$210,000	Visual intrusion due to path width and colour
Boardwalk ⁴	\$1,200,000	\$2,000	\$1,221,000	Visual intrusion varies depending on location
Fibreglass reinforced plastics ⁵	\$900,000	\$2,000	\$921,000	Reduced visual intrusion depending on colour and width, minimal run-off

Notes

¹ Assuming a 20 year period, 3.0m wide path, 1 km, no structures.

² Assuming regular periods of significant rain or flooding requiring 30% replacement of surface annually.

³ Alternatives such as bluestone and limestone were also considered but there were concerns about leaching effects; shellgrit is widely used in the Netherlands as a surface material for pathways through forested areas but is not commonly used in Australia.

⁴ For use in special areas where constraints exist.

⁵ For an example of this material used as decking over disused rail tracks on the Meadowbank Rail Trail bridge see Photo 8.3 in these Guidelines.

BICYCLE TRUNK ROUTES - SUMMARY AND PRIORITY RANKINGS

ROUTE	ROAD	SECTION	LOCATION	STATUS	COMMENTS	COST (\$)	LENGTH (km)	COST/LENGTH	SCORE - \$/KM	SCORE - POPUL'N	SCORE - SAFETY	TOTAL SCORE	AADT	85% SPEED	SPEED LIMIT	
R1	Thornton to Greta	Total Length 31.5 km														
	New England Highway	LGA Bdy - Thornton Rd	On-road	Incomplete	Refer to RTA	RTA	0.5	RTA	N/A	1	1	N/A	N/A	N/A	90	
		Thornton Rd - Mitchell Dr	On-road	Incomplete	Refer to RTA	RTA	5.3	RTA	N/A	1	1	N/A	32,868	101.9	90/80	
	Mitchell Drive	Traffic Signals	Crossing	Complete	Optimal crossing point for cyclists to detour from Hwy & use parallel route	0	0.0	0	N/A	3	3	N/A	N/A	N/A	80	
		New England Hwy - Molly Morgan Dr	Off-road	Proposed	Concrete shared path - 2.5m wide, east side	10,000	0.1	100,000	1	3	4	8	19,289	40.7	50	
	Reserve/Lawes Streets	Blaxland St - Quarry St Bridge	Off-road	Proposed	Concrete shared path - 2.5m wide, reserve	59,000	0.4	147,500	1	3	4	8	2,318	46.0	50	
	Lawes Street	Quarry St Bridge - Melbourne St	On-road	Proposed	Bike lanes - linemarking, signs & ramp	15,000	1.6	9,375	3	3	3	9	5,506	58.7	50	
	Melbourne Street *	Lawes St - Riley St	On-road	Incomplete	Linemarking & signs	1,000	0.1	10,000	3	3	1	7	N/A	N/A	60	
	Riley/Old High Streets	Melbourne St - High St	On-road	Incomplete	Linemarking, signs & ramp	15,000	1.6	9,375	3	3	3	9	2,713	60.5	50	
	High Street & Reserve	Old High St - James St	Off-road	Incomplete	Asphalt shared path - 2.5m wide through reserve	49,000	1.0	49,000	2	3	4	9	10,516	50.8	60	
	James/Hunter Street	Reserve - Hunter River Levee	On-road	Incomplete	Linemarking & signs	2,000	0.6	3,333	3	3	3	9	839	47.4	50	
	Hunter River Levee	Hunter St - Belmore Bridge	Off-road	Incomplete	Spray sealed shared path - 3.0m wide	30,000	0.9	33,333	2	3	4	9	N/A	N/A	N/A	
	High Street	Belmore Bridge - Regent St	Off-road	Incomplete	Linemarking, signs & minor works	8,000	1.8	4,444	3	3	3	9	10,190	64.0	50	
	Ledsam Street & Cycleway	Regent St - Tunnel - Bungaree St	On/Off-road	Incomplete	Signs only	1,000	0.2	5,000	3	2	3	8	N/A	N/A	50	
	Bungaree Street	Cycleway - Capp St	Off-road	Incomplete	Linemarking, signs & kerb works	10,000	0.4	25,000	2	2	4	8	4,563	59.5	60	
	Capp/Margaret Streets	Bungaree St - Railway Bridge	On-road	Incomplete	Signs only	1,000	0.3	3,333	3	2	2	7	N/A	N/A	50	
	Telarah/Green Streets	Railway Bridge - Wollombi Rd	On-road	Incomplete	Concrete shared path, linemarking & signs	10,000	1.6	6,250	3	2	2	7	5,134	54.7	60/50	
	Regiment Road	Wollombi Rd - New England Hwy	On-road	Complete		0	2.2	0	N/A	2	3	N/A	3,490	N/A	60	
	New England Highway	Regiment Rd - Racecourse Rd	Off-road	Proposed	Concrete shared path & bridge 2.5m wide, south side	79,000	0.3	263,333	1	2	4	7	14,794	69.5	60	
		Racecourse Rd - Station Ln	On-road	Complete	RTA	0	6.0	0	N/A	1	1	N/A	N/A	N/A	80	
		Station Ln - LGA Boundary	On-road	Incomplete	Refer to RTA	RTA	6.6	RTA	N/A	1	1	N/A	N/A	N/A	100	
	* Note: Proposed upgrading & detour of cycleway via Pitnacree Rd & Furber St due to 3rd Hunter River Crossing in 2006.					290,000	31.5	13.1	km Urban			8.14	Overall			
	Estimated minimum additional cost \$50,000								(Non RTA length)							
R2	Thornton	Total Length 3.7 km														
	Thornton Road *	New England Hwy - Railway Bridge	Off-road	Proposed	Concrete shared path - 2.5m wide, east then west side	215,000	1.1	195,455	1	2	4	7	16,413	65.2	60	
	Railway Avenue	Railway Bridge - Eurimbla St	On-road	Incomplete	Bike lanes - linemarking & signs including median island	10,000	0.6	16,667	2	3	1	6	11,268	63.3	50	
	Edwards Avenue	Eurimbla St - Somerset Dr (S)	On-road	Incomplete	Bike shoulder lanes - linemarking & signs	3,000	0.4	7,500	3	3	2	8	3,475	N/A	50	
	Edwards/Government Rd	Somerset Dr (South to North)	Off-road	Incomplete	Concrete shared path - 2.0m wide, both sides	10,000	0.6	16,667	2	3	3	8	2,259	67.0	50	
	Government Road **	Somerset Dr (N) - Raymond Terrace Rd	Off-road	Proposed	Concrete shared path - 2.5m wide, west side	165,000	1.0	165,000	1	3	4	8	3,184	74.9	50/60	
			On-road	Proposed	Linemarking & pavement symbols	5,000	1.0	5,000	3	2	1	6	3,184	74.9	50/60	
	* Note 1: Final location of cyclist/pedestrian crossing subject to proposed Haussman Drive Road Bridge Construction Project due 2007.					408,000	3.7	Direct length only			7.17	Overall				
	** Note 2: The proposed off-road cyclist/pedestrian path to be included in the Thornton North Master Plan and funded by the developer.															
R3	Raymond Terrace Rd	(Urban) Length 2.4 km														
	Cumberland Street	Morpeth Rd - Lindesay St	On-road	Proposed	Bike shoulder lanes - linemarking & signs	2,000	0.2	10,000	3	3	2	8	6,762	N/A	50	
	Lindesay/Ray. Terrace Rd	Cumberland St - Tenambit St (End K&G)	On-road	Proposed	Bike lanes - linemarking & signs	14,000	1.4	10,000	3	3	3	9	5,859	59.0	50	
	Raymond Terrace Road	End K&G - Metford Rd	On-road	Incomplete	Roundabout slip-lanes, linemarking & signs	19,000	0.8	23,750	2	2	3	7	6,264	62.5	60	
						35,000	2.4					8.00	Overall			
R3	Raymond Terrace Rd	(Rural) Length 12.6 km														
	Raymond Terrace Road	Metford Rd - Haussmann Dr	On-road	Incomplete	Pavement symbols & signs	1,000	2.6	385	3	1	3	7	8,465	95.4	80	
		Haussmann Dr - Government Rd	On-road	Incomplete	Shoulder widening, linemarking & signs	105,000	1.8	58,333	1	1	2	4	4,544	103.9	80	
		Government Rd - LGA Boundary	On-road	Incomplete	Shoulder widening, linemarking & signs including speed zone reduction from 100 to 90 kph	500,000	8.2	60,976	1	1	2	4	6,388	97.9	100	
						606,000	12.6					5.00	Overall			

BICYCLE TRUNK ROUTES - SUMMARY AND PRIORITY RANKINGS

R4	Metford to Tenambit	(Off-Road) Length 3.7 km																	
	Chelmsford Drive	New England Highway - Metford Rd	Off-road	Complete	Concrete shared path - 2.5m wide, east side	0	0.4	0	N/A	3	4	N/A	10,996	N/A	60				
	Metford Road	Chelmsford Dr - Fieldsend St	Off-road	Proposed	Asphalt shared path - 2.5m wide, east side	110,000	0.7	157,143	1	2	4	7	6,864	N/A	60				
		Fieldsend St - Raymond Terrace Rd	Off-road	Proposed	Asphalt shared path - 2.5m wide, west side	90,000	0.5	180,000	1	2	4	7	N/A	N/A	60				
		Raymond Terrace Rd - Ribee St	Off-road	Proposed	Asphalt shared path - 2.5m wide, west side	340,000	2.1	161,905	1	2	4	7	7,852	N/A	60				
						540,000	3.7						7.00	Overall					
R4	Metford to Morpeth	(On-Road) Length 5.0 km																	
	Metford Road	Chelmsford Dr - Fieldsend St	On-road	Proposed	Bike shoulder lanes - linemarking & signs	1,000	0.7	1,429	3	2	2	7	6,864	N/A	60				
		Fieldsend St - Raymond Terrace Rd	On-road	Proposed	Bike shoulder lanes - linemarking, signs & ramp	10,000	0.5	20,000	2	2	1	5	N/A	N/A	60				
		Raymond Terrace Rd - Ribee St	On-road	Proposed	Bike shoulder lanes - linemarking, signs & ramp	6,000	2.1	2,857	3	2	2	7	7,852	72.4	60				
		Ribee St - High St	On-road	Proposed	Shoulder widening, linemarking & signs	140,000	1.5	93,333	1	1	3	5	4,441	N/A	60				
	Tank Street	High St - Swan St	On-road	Incomplete	Linemarking & signs	1,000	0.2	5,000	3	1	3	7	3,970	59.4	60				
						158,000	5.0						6.20	Overall					
R5	Morpeth Road	Total Length 4.7 km																	
	Melbourne Street	New England Hwy - Morpeth Rd	On-road	Incomplete	Bike lanes - linemarking & signs	6,000	0.6	10,000	3	3	2	8	12,029	63.2	60				
	Morpeth Road	Melbourne St - Thompson St	On-road	Proposed	Bike lanes - linemarking & signs	5,000	0.5	10,000	3	2	3	8	5,460	63.6	60				
		Thompson St - Jenna Dr	On-road	Proposed	Shoulder widening, linemarking & signs	25,000	1.5	16,667	2	2	3	7	N/A	N/A	60				
		Jenna Dr - Raworth Av	On-road	Proposed	Future Reconstruction Programs - signs only	2,000	1.2	1,667	3	2	3	8	3,191	74.1	60				
		Raworth Av - Tank St	On-road	Proposed	Shoulder widening, linemarking & signs	29,000	0.9	32,222	2	1	3	6	3,521	66.7	60				
						67,000	4.7						7.40	Overall					
R6	Cessnock Road	(Off-Road) Total Length 2.8 km (*)																	
	Church Street	Railway St - New England Hwy	Off-road	Incomplete	Linemarking & signs (including pedestrian bridge)	1,000	0.3	3,333	3	3	3	9	11,478	N/A	60				
	Loftus/Walker Streets	New England Hwy - Cessnock Rd	Off-road	Proposed	Concrete shared path - 2.5m wide, west side	13,000	0.3	43,333	2	2	3	7	N/A	N/A	50				
	Cessnock Road	Walker St - Fishery Creek	Off-road	Proposed	Concrete shared path - 2.5m wide, east side	65,000	0.3	216,667	1	2	4	7	8,416	79.9	60/70				
		Fishery Creek Pedestrian/Cyclist Bridge	Off-road	Potential	Prefabricated bridge 2.5m wide, east side	100,000	0.1	1,000,000	1	2	4	7	8,416	79.9	70				
		Fishery Creek - Future Develop. Area	Off-road	Potential	Concrete shared path - 2.5m wide & 2km long, east side	335,000	1.8	186,111	1	2	4	7	6,929	83.1	70				
						514,000	2.8						6.17	Overall					
R6	Cessnock Road	(On-Road) Length 5.2 km																	
	Cessnock Road	Walker St - Mt Dee Rd	On-road	Incomplete	Crossing, linemarking & signs	1,000	0.6	1,667	3	1	2	6	8,416	79.9	70				
		Mt Dee Rd - Dagworth Rd	On-road	Proposed	Shoulder widening, linemarking & signs	80,000	0.7	114,286	1	1	2	4	N/A	N/A	70				
		Dagworth Rd - Gillieston Rd	On-road	Incomplete	Linemarking & signs	1,000	0.5	2,000	3	1	2	6	N/A	N/A	70				
		Gillieston Rd - Ryans Road	On-road	Proposed	Shoulder widening, linemarking & signs	90,000	1.2	75,000	1	1	2	4	6,929	83.1	70				
		Ryans Rd - Russell St	On-road	Incomplete	Linemarking & signs	1,000	0.6	1,667	3	1	2	6	N/A	N/A	60				
		Russell St - LGA Boundary	On-road	Proposed	Shoulder widening, linemarking & signs	190,000	1.6	118,750	1	1	2	4	6,093	92.4	80				
						363,000	5.2						5.00	Overall					

BICYCLE COLLECTOR ROUTES - DETAILS AND PRIORITY RANKINGS

ROUTE	ROAD	SUBURB	SECTION	LOCATION	EXISTING FACILITIES	AADT	85% SPEED	SPEED LIMIT	PROPOSED FACILITIES / STATUS	BIKE PLAN COST (\$)	LENGTH (km)	COST/LENGTH	SCORE - \$/KM	SCORE - POPULATION	SCORE - SAFETY	TOTAL SCORE	ROUTE SCORE
NOTES: Route Ranking Scores - Possible score range = 10.00 highest to 3.00 lowest																	
(*) - Developer funded or part developer funded works																	
(**) - MCC Rolling Works Program 2004 - 2007 funded or part funded works																	
C01	Aberglasslyn Road	Aberglasslyn	Melville Br - A'lyn Ln	On-road	Nil - carriageway 7m	843	36.0	60	Bike directional signs only	1,000	0.55	1,818	3	1	2	6	6.75
C01	Aberglasslyn Road (*)	Aberglasslyn	A'lyn Ln - Oakhampton	On-road	Nil - carriageway 7m	N/A	N/A	60	Developer to widen - 1.5m bike sh'r + 3m traffic lanes	0	1.20	0	3	1	2	6	6.75
C01	Aberglasslyn Road (*)	Aberglasslyn/Rutherford	Oakhampton - Diamond	On-road	Nil - variable carriageway 5.5-7.0/5.5-7.0m	N/A	N/A	60	Developer to widen - 1.5m bike sh'r + 3m traffic lanes	0	1.50	0	3	2	2	7	6.75
C01	Aberglasslyn Road (**)	Rutherford	Diamond - Alexandra	On-road	Nil - carriageway 8.0/8.0m	3,440	62.0	60	MCC Works Prog 05/06 - 1.5m bike + 3m traffic lanes	0	0.55	0	3	2	3	8	6.75
C02	Reserves - W of Weblands (*)	Aberglasslyn	Melville Br - Broughton	Off-road	Silky Oak only - optimal route to all services	N/A	N/A	N/A	Developers to build shared path 2.5m	0	2.3	0	3	2	4	9	8.00
C02	Reserves - W of Weblands	Aberglasslyn/Rutherford	Broughton - R'ford Shops	Off-road	Accessways 2m - optimal route to all services	N/A	N/A	N/A	Shared path 2.0m in accessways, 2.5m elsewhere	100,000	0.70	142,857	1	3	3	7	8.00
C03	Denton Park Drive	Aberglasslyn	Aberglasslyn - Birch	On/Off-road	Shared path 900x2.5m S - from Aberglasslyn Rd	257	78.7	60	Extend bike sh'r lanes - Birch to path + kerb ramps	4,000	1.10	3,636	3	2	4	9	7.67
C03	Denton Park Drive	Aberglasslyn/Rutherford	Birch - Fairfax	On-road	Bike shoulder lanes - linemarked 3.5/3/3/3.5m	2,189	66.2	60	Incomplete - linemark 1.5m C4 + symbols	7,000	1.60	4,375	3	2	2	7	7.67
C03	Denton Park Drive	Rutherford	Fairfax - NE Hwy	On/Off-road	Shared path 150x2m W - Hwy to Justine Pde link	3,684	67.0	60	Extend bike shoulder lanes 150m to Link + Xing	3,500	0.35	10,000	3	2	2	7	7.67
C04	Weblands Street (**)	Aberglasslyn/Rutherford	Denton Park - Dunkley	On-road	Bike shoulder lanes - linemarked 3.5/3/3/3.5m	5,265	52.2	60	MCC Works Prog 05/06 - linemark C4	5,000	1.20	4,167	3	2	2	7	7.00
C04	Weblands Street	Rutherford	Dunkley - Alexandra	On-road	Bike shoulder lanes - linemarked 3.5/3/3/3.5m	5,265	52.2	60	Incomplete - linemark 1.5m C4 + symbols	3,500	0.35	10,000	3	2	2	7	7.00
C05	Fairfax Street	Rutherford	All	On-road	Nil - variable carriageway 5.5-6.5/5.5-6.5m	1,176	45.4	50	Relinemark - 3.0m traffic lanes + sh'r bike symbols	8,000	0.80	10,000	3	2	2	7	7.50
C05	New England Highway	Rutherford	Dunkley - Arthur	Off-road (N)	Asphalt shared path 2.0m + ramp to Shops	14,794	69.5	60	Extend ramp 50m from ped'n lights to low path + Xing	10,000	0.60	16,667	2	2	4	8	7.50
C06	Budgeree Drive	Aberglasslyn	Weblands - Peppertree	Off-road (N)	Concrete shared path 900x2m, no signs	1,651	56.2	50	Shared path signs only	1,000	0.90	1,111	3	2	3	8	7.01
C06	Budgeree Drive	Aberglasslyn	Peppertree - Ghilgai	Off-road (E)	Nil - link paths from adjacent streets	1,651	56.2	50	Continue shared path 2m to main creek shared path	85,000	0.65	130,769	1	2	3	6	7.01
C07	Reserves - E of Bungeree	Aberglasslyn/Rutherford	Denton Park - Weblands	Off-road	Nil - optimal watercourse route to schools	N/A	N/A	N/A	Shared path 1600x2.5m + several 2m side links	300,000	1.60	187,500	1	2	4	7	7.51
C07	Weblands Street	Rutherford	Budgeree - Alexandra	Off-road (E)	Footpath 1.2m servicing schools	5,265	52.2	60	Widen to 2m shared path - 750x0.8m	40,000	0.75	53,333	1	3	4	8	7.51
C08	Avery Street	Rutherford	Alexandra - Treasure	On-road	Bike shoulder lanes - linemarked 3.1/3.5/3.4/3.2m	820	N/A	50	Relinemark - 3.0m traffic + 1.5m bike shoulder lanes	5,000	0.50	10,000	3	2	2	7	7.02
C09	Dunkley Street	Rutherford	Weblands - Fairfax	On-road	Bike shoulder lanes - linemarked 2.75/3/3/2.75m	1,805	N/A	60	Bike directional signs only	500	0.55	909	3	2	2	7	7.52
C09	Dunkley Street	Rutherford	Fairfax - NE Hwy	On-road	Bike shoulder lanes - linemarked 3.3/4.2/4.2/3.3m	1,805	N/A	60	Relinemark - 3.0m traffic + 1.5m bike lanes + signs	3,000	0.15	20,000	2	2	3	7	7.52
C09	Harvey Road	Rutherford	All	On-road	Nil - carriageway 11m	1,347	N/A	60	Bike directional signs only	1,000	0.50	2,000	3	2	3	8	7.52
C09	Logan Road	Rutherford	Harvey - Off-road path W	On-road	Nil - carriageway 11m	N/A	N/A	50	Bike directional signs only (50m length only)	500	0.05	10,000	3	2	3	8	7.52
C10	Alexandra Avenue	Rutherford	Weblands - NE Hwy	On-road	Bike sh'r lanes - linemarked 3.5/5.5m/median	2,158	55.4	60	Linemark - separate 1.5m bike + 4m traffic lanes	2,000	0.35	5,714	3	2	3	8	8.01
C11	New England Highway	Rutherford	Regiment - Arthur	Off-road (S)	Concrete shared path 2.0 & 2.5m	14,794	69.5	60	Bike directional + shared path signs only	1,000	0.90	1,111	3	2	4	9	9.00
C12	Reserves - W of Vindin	Rutherford	Alexandra - NE Hwy	Off-road	Optimal schools route - path 85x3.5m near Hwy	N/A	N/A	N/A	Continue shared path 500x2.5m through Reserve	85,000	0.60	141,667	1	3	4	8	8.02
C12	New England Highway	Rutherford	Accessway - Ped'n Lights	Off-road	Footpath 1.2m to pedestrian lights & schools	14,794	69.5	60	Widen & improve footpath to 2.0m - 50x0.8m	5,000	0.05	100,000	1	3	4	8	8.02
C13	Ventura Close	Rutherford	Cul de sac - Ryan	Off-road	Concrete shared path 2.0m - link to Arthur St	N/A	N/A	50	Bike directional signs only	500	0.05	10,000	3	2	4	9	8.03
C13	Arthur Street	Rutherford	Ryan - Hillview	Off-road (N)	Footpath 1.2m to pedestrian lights & Shops	N/A	N/A	50	Widen to 2.5m shared path - 280x1.3m	25,000	0.35	71,429	1	3	3	7	8.03
C13	Hillview Street	Rutherford	Arthur - Shops	Off-road (E)	Footpath 30x1.2m + 50x1.5m to Shops	1,907	44.0	50	Widen to 2.5m shared path - 30x1.3 + 50x1.0m	6,000	0.08	75,000	1	3	4	8	8.03
C14	Reserves - Regiment Rd	Rutherford	Marlborough - Buffier	Off-road	Nil - optimal off-road route across Regiment Rd	N/A	N/A	N/A	Shared path 300x2.0m	40,000	0.30	133,333	1	2	4	7	7.75
C14	Reserves - Regiment Rd	Rutherford	Buffier - Hollywood	On-road	Nil - direct link route from Regiment Rd (N)	N/A	N/A	50	Bike route signs only	1,000	0.20	5,000	3	2	3	8	7.75
C14	Reserves - Regiment Rd	Rutherford	Hollywood - Ventura	Off-road	Footpath 1.2m - optimal off-road ridge route	N/A	N/A	N/A	Widen to 2.0m shared path + 2 side links - 350x0.8m	17,000	0.35	48,571	2	2	4	8	7.75
C14	Reserves - Regiment Rd	Rutherford	Ventura - Regiment	On/Off-road	Shared paths 2.5m - direct route to Regiment Rd (S)	N/A	N/A	50	Bike directional signs only	500	0.50	1,000	3	2	3	8	7.75
C15	Brigantine Street	Rutherford	All	On-road	Optimal collector route - 10/11m carriageway	564	66.0	50	Linemark - 3.0m traffic lanes + sh'r bike symbols	12,000	1.20	10,000	3	2	2	7	7.03
C16	New England Highway	Rutherford	Arthur - Wollombi	Off-road (S)	Footpath 1.2m to pedestrian lights & Shops	14,794	69.5	60	Widen to 2.0m shared path - 250x0.8m	14,000	0.25	56,000	1	2	3	6	6.33
C16	Wollombi Road	Rutherford	NE Hwy - Neville	On-road	Nil - carriageway 6.0m/1.2m refuge/6.5m	3,537	65.5	60	Extend 1.5m bike lanes to Xing + widen refuge to 2m	5,000	0.05	100,000	1	2	3	6	6.33
C16	Wollombi Road	Rutherford	Neville - Regiment	On-road	Bike sh'r lanes - linemarked 3.6/3.7m/median	3,537	65.5	60	Incomplete - linemark 1.5m C4 + bike symbols	3,000	0.70	4,286	3	2	2	7	6.33
C17	Maitland Road	Bolwarra	Westbourne - Bayswater	Off-road (W)	Footpath 1.2m to Village & school	N/A	N/A	60	Widen to 2.7m shared path to kerb - 300x1.5m	30,000	0.30	100,000	1	2	3	6	6.34
C17	Maitland Road	Bolwarra	Bayswater - Bolwarra	On/Off-road	Shared path 3.0m & on-road route to school	N/A	N/A	50	Bike directional + Share the Road signs only	500	0.40	1,250	3	1	3	7	6.34
C17	Bolwarra Road	Bolwarra	Maitland - Paterson	Off-road (N)	Footpath 1.2 & 2.5m to primary school	574	59.0	50	Widen section to 2.0m shared path - 400x0.8m	22,000	0.50	44,000	1	1	4	6	6.34

BICYCLE COLLECTOR ROUTES - DETAILS AND PRIORITY RANKINGS

C18	Paterson Road (**)	Bolwarra Heights	Tocal - Cabarita	On-road	Bike shoulder lanes - linemarked 3.5/3/3.5m	3,970	67.0	60	MCC Works Prog 04/05 - linemark 1.5m C4 + symbols	5,000	0.85	5,882	3	2	2	7	7.04
C19	Reserves - N of Dalveen	Bolwarra Heights	Paterson - Pinnacle	Off/On-road	Nil - central link route to Largs & school	N/A	N/A	N/A	Shared path 350x2.0m - Dalveen to Stanley	47,000	0.80	58,750	1	2	3	6	5.50
C19	Reserves - N of Dalveen	Largs	Pinnacle - Largs	Off/On-road	Shared path 2.0m R'wood to Largs + refuge isle	N/A	N/A	N/A	Extend shared path 600x2m + 2m cutting to Alyce	80,000	0.95	84,211	1	2	3	6	5.50
C19	Church Street	Largs	Largs - John	Off-road (N)	Nil - optimal route to primary school	927	55	50	Shared path 350x2.0m	47,000	0.35	134,286	1	1	3	5	5.50
C19	John Street	Largs	Church - Morpeth	Off-road (E)	Nil - optimal route to primary school	116	47	50	Shared path 150x2.0m	20,000	0.15	133,333	1	1	3	5	5.50
C20	High Street	Maitland	Belmore - Elgin (Mall)	On-road	Nil - important route, 45 degree parking	5,352	46.0	50	Relinemark - 3.0m traffic + 1.5m bike lanes	3,000	0.30	10,000	3	3	2	8	7.76
C20	High Street Mall	Maitland	All (Elgin - Bourke)	Off-road	Nil - important route in pedestrian mall	N/A	N/A	N/A	Cyclist dismount & bike parking signs + 3 sets racks	10,000	0.25	40,000	2	3	4	9	7.76
C20	High Street	Maitland	Bourke (Mall) - K Tubman	On-road	Nil - important route, 45 degree parking	3,939	46.5	40	Relinemark - 3m traffic, 1.5m bike lanes + roundabout	3,000	0.20	15,000	2	3	2	7	7.76
C20	High Street	Maitland	K Tubman - Rly Bridge	On-road	Nil - important route, variable linemarking	10,516	50.8	50	MCC Works Prog 06/07 - 3.0m traffic lanes + sh'r symbols	5,000	0.80	6,250	3	3	1	7	7.76
C21	Les Darcy Drive	South Maitland	Anzac - Loftus	Off-road (S)	Footpath 1.8m part overgrown + links to bridges	20,000	N/A	80	Widen to 2.1m shared path + trim landscaping	30,000	1.20	25,000	2	2	3	7	7.05
C22	Reserve - S of Canterbury	Morpeth	Reserve - Tank St	Off-road (S)	Nil - prime off-road route	N/A	N/A	50	Shared path 450x2.5m	75,000	0.45	166,667	1	2	4	7	7.68
C22	Reserve - S of Canterbury (*)	Morpeth/Tenambit	Canterbury - Goldingham	Off-road	Shared path 300x2m S from Canterbury	N/A	N/A	N/A	Developers to extend 2.5m shared path along creek	0	0.65	0	3	2	4	9	7.68
C22	Reserve - N of Jenna (*)	Raworth	Goldingham - Morpeth	On-road	Shared path 50x2.5m N from Valentia	646	N/A	50	Shared path 400x2.5m + Developers 100x2.5m	65,000	0.40	162,500	1	2	4	7	7.68
C23	Reserves - W of Metford (*)	Tenambit	Metford - Goldingham	Off-road	Nil - important link via accessways to creek	N/A	N/A	N/A	Shared path 300x2.5m + Developers 200x2.5m	50,000	0.30	166,667	1	2	4	7	7.06
C24	Collinson Street	Tenambit	Metford - Edward	On-road	Bike shoulder lanes - linemarked 2/3/3/2m	1,043	64.4	50	Bike directional signs only	1,000	0.90	1,111	3	2	2	7	7.33
C24	Thompson Street	East Maitland	Edward - Chambers	On-road	Bike shoulder lanes - linemarked 2/3/3/2m	N/A	N/A	50	MCC Works Prog 04/05 - 3.0m traffic lanes + sh'r symbols	4,500	0.45	10,000	3	2	2	7	7.33
C24	Thompson Street	East Maitland	Chambers - Morpeth	On-road	Bike route signs only	1,485	N/A	50	Upgrade bike route signs only	1,000	1.00	1,000	3	2	3	8	7.33
C25	Edward Street	Tenambit	Collinson - Maize	Off-road (W)	Footpath 2.5m to school & 1.2m to Shops	2,325	N/A	50	Widen narrow section to 2.5m - 80x1.3m	7,000	0.08	87,500	1	3	3	7	7.92
C25	Maize Street	Tenambit	Edward - Sinclair	Off-road (N)	Footpath 1.2m to ped'n xings & Shops	5,033	52.2	50	Widen to shared path 250x1.3m + Shops bike racks	25,000	0.25	100,000	1	3	3	7	7.92
C25	Sinclair Street	East Maitland	Maize - Kenneth	Off-road (W)	Footpath 1.2m, Shops & school route	676	N/A	50	Widen to 2.5m shared path - 60x1.3m	6,000	0.06	100,000	1	3	3	7	7.92
C25	Kenneth Street	East Maitland	Sinclair - Hinder	On-road	Nil - carriageway 8m, Shops & school route	671	N/A	50	Bike directional signs only	500	0.35	1,429	1	3	3	7	7.92
C25	Hinder Street	East Maitland	Kenneth - High	On-road	Nil - carriageway 15m, Shops & school route	2,073	N/A	50	Bike directional signs only	500	0.02	25,000	2	3	2	7	7.92
C25	High Street	East Maitland	Hinder - Hodge	On-road	Shoulder lanes - linemarking 4.0/3.5/3.5/3.6m	6,344	53.6	50	Relinemark - 3.0m traffic + 1.3m bike lanes	2,500	0.25	10,000	3	3	2	8	7.92
C25	Hodge Street (**)	East Maitland	High - Narang	On-road	Nil - carriageway 15m, shops & school route	N/A	N/A	50	MCC Works Prog 05/06 - 3.0m traffic + 1.5m bike lanes	0	0.20	0	3	3	3	9	7.92
C25	George Street	East Maitland	Hodge - Lindsay	On-road	Nil - carriageway 11m, shops & school route	N/A	N/A	50	Linemark - 3.0m traffic lanes + sh'r bike symbols	3,500	0.45	7,778	3	3	2	8	7.92
C25	George Street (**)	East Maitland	Lindsay - NE Hwy	On-road	Nil - carriageway 16m, shops & school route	1,731	60.8	50	MCC Works Prog 06/07 - 3.0m traffic + 1.5m bike lanes	5,000	0.75	6,667	3	3	3	9	7.92
C25	New England Highway	East Maitland	Fitzroy - Melbourne	Off-road (N)	Shared path 2m to Shops & schools	20,000	N/A	70	Minor path widening near Melbourne St + signs	2,000	0.35	5,714	3	3	3	9	7.92
C25	New England Highway	East Maitland	Melbourne - King	Off-road (N)	Shared path 2m to pedestrian lights & schools	20,000	N/A	70	Bike directional signs only	500	0.55	909	3	3	3	9	7.92
C25	New England Highway	East Maitland	King - High	Off-road (N)	Footpath 1.2m to High St traffic lights	20,000	N/A	70	Widen to 2.0m shared path - 300x0.8m	15,000	0.30	50,000	2	3	3	8	7.92
C26	Narang Street	East Maitland	Hodge - Cumberland	On-road	Nil - linemarked 8.5/6.0m, high school route	2,465	67.2	50	Bike directional signs only	500	0.07	7,143	3	2	2	7	7.07
C26	Cumberland Street	East Maitland	Narang - Lindsay	On-road	Nil - carriageway 11m, high school route	N/A	N/A	50	Bike directional signs only	1,000	0.55	1,818	3	2	2	7	7.07
C27	Fieldsend Street	East Maitland	Metford - Turton	On-road	Nil - linemarked 3.5/3.5m rural carriageway	1,656	N/A	50	Bike directional signs only	500	0.40	1,250	3	1	2	6	7.68
C27	Fieldsend Street	East Maitland	Turton - Brunswick	On-road	Nil - carriageway 13m	1,841	64.2	50	Bike directional signs only	500	0.60	833	3	1	3	7	7.68
C27	Railway Path Reserve	East Maitland	Fieldsend - Victoria	Off-road	Asphalt footpath 250x3m + lighting - link route	N/A	N/A	N/A	Bike directional + shared path signs only	500	0.25	2,000	3	3	4	10	7.68
C27	Railway Path Reserve	East Maitland	Victoria - High	Off-road	Asphalt footpath 250x1.2/2.0m - link route	N/A	N/A	N/A	Reconstr old 1.2m asphalt as concrete - 200x2.5m	35,000	0.25	140,000	1	3	4	8	7.68
C27	High Street	East Maitland	Railway Path - Shops	Off-road (E)	Footpath 1.2m	6,041	62	60	Widen to 2.5m shared path - 60x1.3m + Shops bike racks	8,000	0.06	133,333	1	3	4	8	7.68
C27	Brunswick Street	East Maitland	Fieldsend - Lawes	On-road	Nil - carriageway 15m	N/A	N/A	50	Bike directional signs only	500	0.40	1,250	3	1	3	7	7.68
C28	High Street	East Maitland	NE Hwy - Rous	On-road	Nil - linemarked 7.8/7.7m	2,677	59.2	50	Linemark - 3.0m traffic + 1.5m bike lanes	3,000	0.30	10,000	3	3	3	9	8.04
C28	Rous Street (**)	East Maitland	High - Victoria	On-road	Nil - carriageway 14.4m	2,873	59.6	50	MCC Works Prog 05/06 - 3.0m traffic + 1.5m bike lanes	0	0.20	0	3	2	3	8	8.04
C28	Victoria Street	East Maitland	Rous - Brisbane	On-road	Nil - carriageway 15m	1,615	65.1	50	Linemark - 3m traffic, 1.5m bike lanes + roundabout	3,000	0.20	15,000	2	2	3	7	8.04
C28	Richardson Street	East Maitland	All	On-road	Nil - variable carriageway 15 to 17m	2,364	N/A	50	Linemark - 3.0m traffic + 1.5m bike lanes	3,000	0.30	10,000	3	2	3	8	8.04
C28	Brunswick Street	East Maitland	Richardson - Mt V Rd	On-road	Nil - variable carriageway 14 to 22m	2,065	N/A	50	Linemark 1.5m bike lanes + multi-use trail links	6,000	0.60	10,000	3	2	3	8	8.04
C29	Rous Street (**)	East Maitland	Victoria - Adelaide	On-road	Nil - carriageway 14.4m	2,873	59.6	50	MCC Works Prog 05/06 - 3.0m traffic + 1.5m bike lanes	0	0.45	0	3	2	3	8	7.69
C29	Garnett Road	East Maitland	Adelaide - Mitchell	Off-road (N)	Nil - important link route to Shops	N/A	N/A	50	Shared path 350x2m	47,000	0.35	134,286	1	3	4	8	7.69
C29	Mitchell Drive	East Maitland	Garnett - Ped'n Xing	Off-road (N)	Footpath 1.2m to Shops pedestrian xing	19,289	40.7	50	Widen to 2.5m shared path - 100x1.3m	8,500	0.10	85,000	1	3	3	7	7.69
C30	New England Highway	East Maitland	Brunswick - Reserve	Off-road (S)	Footpath 1.2m to Reserve & Greenhills Shops	20,000	N/A	70	Widen to 2.5m shared path - 100x1.3m	8,500	0.10	85,000	1	2	3	6	7.53
C30	Reserve - N of Garnett	East Maitland	NE Hwy - Garnett	Off-road	Asphalt footpath 2m to Greenhills Shops	N/A	N/A	N/A	Bike directional + shared path signs only	500	0.25	2,000	3	2	4	9	7.53
C31	Mitchell Drive	East Maitland	Stronach - Chisholm	Off-road (S)	Footpath 1.2m to Greenhills Shpos	5,089	66.2	50	Widen to 2.0m shared path - 700x0.8m	35,000	0.70	50,000	2	3	3	8	7.54
C31	Reserve - N of Springbok	East Maitland	Chisholm - Brunswick	Off-road	Footpath 1.2m - link bike route	N/A	N/A	N/A	Widen to 2.0m shared path - 250x0.8m	12,500	0.25	50,000	2	1	4	7	7.54

BICYCLE SCENIC ROUTES - DETAILS AND COSTS

ROUTE	DESCRIPTION	PROPOSED FACILITIES	BIKE PLAN COST (\$)	ON-ROAD (km)	OFF-ROAD (km)	TOTAL (km)
S1	Historic Maitland Ride	Total Length 20 km				
	Maitland Rly Stn - Harold Gregson Reserve	Bicycle Trunk Route R7	0	1.2		1.2
	Harold Gregson Reserve - Melbourne St	Bicycle Trunk Route R1	0	1.7	0.7	2.4
	Pitnacree Road - Brush Farm Road	Widen & rehabilitate 500x3m section of Brush Farm Rd to 4m	25,000	4.8		4.8
	Morpeth Road - Tank Street, Morpeth	Bicycle Trunk Route R5 + bike racks (4) at Morpeth Shops	2,500	1.3		1.3
	Tank Street, Morpeth - Metford Road	Bicycle Trunk Route R4	0	3.8		3.8
	Raymond Terrace Road - Lindsay Street	Bicycle Trunk Route R3	0	1.8		1.8
	King Street - John Street	Bike racks (2) at Maitland Gaol	1,500	0.6		0.6
	Morpeth Road - Maitland Rly Stn	Bicycle Trunk Routes R5, R1 & R7	0	3.3	0.7	4.0
	All	Scenic route directional signs - 20 off	4,000			
	Rural roads	Share the Road (W6-214) signs - 5 off	1,000			
		Totals	34,000	18.5	1.4	19.9
S2	Paterson Country Ride	Total Length 28 km				
	Maitland Rly Stn - Belmore Road, Lorn	Bicycle Trunk Routes R7 & R8	0	1.7	0.7	2.4
	Glenarvon Road - High Street, Largs	Existing road + bike racks (2) at Largs Shops	1,500	6.0		6.0
	Dunmore & Paterson Rds - LGA Boundary	Side link to Paterson via Dunmore Bridge	0	2.3		2.3
	Phoenix Park Road, Largs - Morpeth	Existing road	0	5.3		5.3
	Hinton Road - LGA Boundary	Side link to Hinton via Hinton Bridge	0	2.2		2.2
	Morpeth - Maitland Rly Stn	Bicycle Scenic Route S1	0	9.5	0.7	10.2
	All	Scenic route directional signs - 15 off	3,000			
	Rural roads	Share the Road (W6-214) signs - 10 off	2,000			
		Totals	6,500	27.0	1.4	28.4
S3	Morpeth Loop Rides	Total Length 33 km				
	Swan & Edward Streets, Morpeth	Existing road	0	1.5		1.5
	Duckenfield, Eales, Raymond Terrace & McFarlanes Roads	Loop 1 Ride - existing roads	0	10.0		10.0
	Duckenfield, Martins Creek, Raymond Terrace, Scotch Creek & Duckenfield Rds	Loop 2 Ride - existing roads	0	20.0		20.0
	Swan & Edward Streets, Morpeth	Existing road	0	1.5		1.5
	All	Scenic route directional signs - 10 off	2,000			
	Rural roads	Share the Road (W6-214) signs - 10 off	2,000			
		Totals	4,000	33.0	0.0	33.0
S4	Walka Waterworks Loop Ride	Total Length 15 km				
	Maitland Rly Stn - Sempill Street	Bicycle Trunk Routes R7 & R8	0	0.9	0.2	1.1
	Oakhampton Road - Aberglasslyn Road	Existing road	0	6.0		6.0
	Aberglasslyn Road - Queen Street	Bicycle Collector Route C1 & Trunk Route R11	0	2.9		2.9
	New England Highway - Mt Pleasant Street	Bicycle Trunk Route R10 & existing roads	0	1.5		1.5
	Sempill Street - Maitland Rly Stn	Bicycle Trunk Routes R7 & R8	0	0.9	0.2	1.1
	Scobies & South Willards Lanes (shortcut)	Side link to Walka Waterworks + bike racks (4) at Waterworks	2,500	0.8		0.8
	Waterworks - Aberglasslyn Road (shortcut)	Side link continued via existing un-paved trail & wooden rail bridge	0	0.6	1.0	1.6
	All	Scenic route directional signs - 15 off	3,000			
	Rural roads	Share the Road (W6-214) signs - 5 off	1,000			
		Totals	6,500	13.6	1.4	15.0
S5	Four Mile Creek Ride	Total Length 20 km				
	Maitland Rly Stn - Louth Pk & Gullivers Rds	Bicycle Trunk Route R6 & existing roads	0	3.4	0.4	3.8
	Rathluba Lagoon Trail	Existing un-paved trails+ bike racks at Lagoon	2,500		2.1	2.1
	Brunswick Street - Shamrock Lane Trail	Existing un-paved trails	0		2.6	2.6
	4 Mile Ck - Ashtonfield to Metford Rly Stn	Future trail along Creek reserves	Unknown		6.5	6.5
	Thornton North - McFarlanes Road (S3)	Future shared path east of Creek - Thornton North Developers	0		4.4	4.4
	Signage	Directional & Share the Road signs - allow	3,000			
		Totals	Unknown	3.4	16.0	19.4
		GRAND TOTALS	\$51,000+	95.5	20.2	116

MAITLAND TO GREENHILLS - BICYCLE ROUTE R1 (Continued)						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Reserve	Lawes St - tennis carpark	Shared path 30x2.5m from bike xing	75	sq m	65	4875
	Tennis carpark - NE Hwy	Shared path 270x2.5m along Page St				
		rear & Highway fencelines	675	sq m	65	43875
		Adjust flowerbeds adj Hwy fenceline	2	each	500	1000
		R8-2 signs + posts	6	each	150	900
New England Highway	At traffic lights	Move power pole & fence section	1	each	5000	5000
Mitchell Drive	NE Hwy - Molly Morgan Dr	Footpath widening to 2.5m - E side	150	sq m	65	9750
		R8-2 signs + posts	2	each	150	300
Selected	Selected	PS-2 pavement symbols - bike lanes	60	each	30	1800
All	Selected	Directional signs + posts	20	each	150	3000
		TOTAL ESTIMATED COST *				182580

(* **Note:** Traffic signals are proposed to be constructed at the intersection of Melbourne & Lawes Sts as part of the Hunter River Third Crossing in late 2006. Upgraded cycle facilities required: signals crossing, a 200 x 2.5m concrete bicycle path to Furber St & private land acquisition. Estimated minimum additional cost \$50,000)

MAITLAND TO RUTHERFORD STH VIA TELARAH - BICYCLE ROUTE R1 (PART)

ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Route starts at Belmore Bridge, Maitland & finishes at Regiment Road & New England Highway - Total length 6 km						
Belmore Bridge	Belmore Br - High St	Remove flowerbed - widen footpath + adjacent bike ramp off Belmore Rd	20	sq m	80	1600
		PS-3 + PA-1 road ramp symbols	2	each	30	60
		R8-2 signs + posts	2	each	150	300
High Street	Belmore Rd - Long Br	R8-2 signs + posts	2	each	150	300
	Long Br Low-level Path	Linemarking as separated path				
		300m - cyclists N + pedestrians S	300	each	6	1800
		R8-3 signs + posts	4	each	150	600
	Path - Regent St	Improve kerb crossing	1	each	1000	1000
		R8-2 additional signs + posts	2	each	150	300
Ledsam Street	Regent St - Bonar St	W6-214 signs + posts	2	each	150	300
	Bonar St - Bungaree St	Existing shared path & tunnel				0
Bungaree Street	Ledsam St - Capp St	Reconstruct & extend E kerb & gutter				
		3.0m west to provide dual 1.2m wide bike lanes on existing shoulder	120	m	60	7200
		Extend footpath & kerb ramp to suit	6	sq m	80	480
		Remove holding rail	1	each	100	100
		R8-1 signs + posts	2	each	150	300
		G9-60 signs	2	each	100	200
		Linemarking S4 - dual bike lanes	100	m	2	200
		Relocate bus stop 120m north	1	each	200	200
	Approaches to Capp St	W6-7 + W8-23 signs + posts	2	each	200	400
Capp & Margaret Streets	Bungaree St - Telarah St	W6-214 signs + posts	4	each	150	600
		G9-60 sign + post	1	each	150	150
Telarah Street	20m W - Rly Overbridge	Widen N footpath to 2m shared path from driveway + adjust chevron sign	1	each	3000	3000
		Taper linemarking to suit both sides				0
		R8-2 additional signs + posts	2	each	150	300
	Approaches to Rly O'br	W6-7 + W8-23 signs + posts	2	each	200	400
	Rly O'br - South St	Relinemarking L5 to 3.0m traffic lanes	900	m	2	1800
		PS-2 pavement symbols	8	each	30	240
		W6-214 signs + posts	4	each	150	600
South Street	Telarah St - Green St	PS-2 pavement symbols	4	each	30	120
		W6-214 signs + posts	2	each	150	300
Green Street	South St - Wollombi Rd	W6-214 signs + posts	10	each	150	1500
Wollombi Road	Roundabout	Relinemark with bike lanes	1	each	1000	1000
Regiment Road	Wollombi Rd - N. E. Hwy	Existing on-road cycleway				0
New England Highway	Regiment Rd - Creek	Concrete path 100x2.5m - south side	250	sq m	65	16250
	Creek	Shared use bridge 2.5m wide	1	each	30000	30000
	Creek - Racecourse Rd	Concrete path 200x2.5m - south side	500	sq m	65	32500
All	Selected	Directional signs + posts	20	each	150	3000
		TOTAL ESTIMATED COST				107100

THORNTON - BICYCLE ROUTE R2					
Route starts at New England Highway & finishes at Raymond Terrace Road, Thornton - Total length 3.7					
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE
Thornton Road	NE Hwy - Anderson Dr	Concrete path 400x2.5m - east side	1000	sq m	65
Anderson Drive	Hartley Dr - Thornton Rd	Concrete path 80x2.5m - north side	200	sq m	65
		(completes shared path from Beresfield)			
Thornton Road *	Anderson Dr - RFS HQ	Concrete path 600x2.5m - east side	1500	sq m	65
	At RFS HQ	Crossing + median island - allow	1	each	5000
	(* See Note 1)	Relocate 50/60 kph signs S of Xing	2	each	150
	Approaches to Karuah St	W6-7 + W8-23 signs + posts	2	each	200
	RFS HQ - Rly Bridge	Concrete path 200x2.5m - west side	500	sq m	65
	All	R8-2 signs + posts	8	each	150
Railway Avenue	North side of Karuah St	Crossing + median island - allow	1	each	5000
	Approaches to Karuah St	W6-7 + W8-23 signs + posts	2	each	200
	Karuah St - Eurimbla St	Relinemark E1+L5 - 3m traffic, 1.4m bike & 2.8m p'kg lanes - both sides	350	m	6
		PS-2 pavement symbols	14	each	30
		R7-1-4 signs + posts	8	each	150
	Eurimbla St Roundabout	Relinemark with bike lanes	1	each	1000
Edwards Avenue	E'bla St - Somerset Dr	Linemark C4 - 1.4m bike shoulder & 2.0m parking lanes - both sides	400	m	4
		PS-2 pavement symbols	12	each	30
	Somerset Dr Roundabout	G9-60 sign + post - northbound	1	each	150
	Somerset Dr - Gov't Rd	Complete 2m concrete shared paths - both sides, allow	1	each	5000
Government Road *	Edw's Av - Somerset Dr	Complete 2m concrete shared paths - both sides, allow	1	each	5000
	S'set Dr - creek bridge (End K&G - 60 kph sign)	Linemark E1 - 3m traffic lanes - both sides	350	m	4
		PS-2 pavement symbols	6	each	30
	Creek - R'md T'ce Rd (60 kph rural zone)	Relinemark E1 - 3m traffic lanes - both sides	650	m	4
		PS-2 pavement symbols	8	each	30
	S'set Dr - creek bridge	Off-road 2.5m shared path W side	350	lin m	165
	Creek - R'md T'ce Rd (* See Note 2)	Future off-road 2.5m shared path W side - Thornton N developer funded	650	lin m	165
All	Selected	Directional signs + posts	8	each	150
		TOTAL ESTIMATED COST			

* **Note 1:** Final location of the cyclist/pedestrian crossing at Thornton Road to coincide with proposed H Drive Road Bridge intersection. This bridge project is due for construction in 2007 and is associated with proposed Thornton North Residential Development Area.

* **Note 2:** This section of Government Road lies within the proposed Thornton North Residential Development. The Thornton North Master Plan adopted by Council on 9 Dec 2003, maps proposed pedestrian/cycle link section of Government Rd. An off-road pedestrian/cycle path along the western side of Government is not in the Master Plan, but is considered necessary to directly link Thornton North to Thornton.

RAYMOND TERRACE ROAD - BICYCLE ROUTE R3						
Route starts at Morpeth Road, East Maitland & finishes at Raymond Terrace Road LGA Boundary - Total length 15 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Urban Section - Morpeth Road to Metford Rd, East Maitland - Length 2.4 km						
Cumberland Street	Morpeth Rd - Lindesay St	Linemark L5 + C4 - 3m traffic & 1.5m bike shoulder lanes both sides	200	m	8	1600
Lindesay Street	Cumberland St - High St	Linemark 2 x L5 - 3m traffic & 1.5m bike lanes both sides	600	m	8	4800
		R7-1-4 signs + posts	6	each	150	900
	High St Roundabout	Relinemark with bike lanes	1	each	1000	1000
	High St - Victoria St	Linemark 2 x L5 - 3m traffic & 1.5m bike lanes both sides	200	m	8	1600
		R7-1-4 signs + posts	2	each	150	300
Raymond Terrace Rd	Victoria St - End of K&G	Linemark 2 x L5 - 3m traffic & 1.5m bike lanes both sides	550	m	8	4400
		R7-1-4 signs + posts	4	each	150	600
	End of K&G - One Mile Ck	Shoulder widening full width between armco barriers at unnamed culvert	40	sq m	30	1200
		Relinemark E1 to 3m traffic lanes	200	m	4	800
	One Mile Creek	Relocate 50/60 kph signs E of creek	2	each	100	200
	Approaches to creeks	G9-57 signs + posts	2	each	150	300
	One Mile Ck - Metford Rd	Relinemark E1 to 3.5m traffic lanes	550	m	4	2200
	Metford Rd Roundabout	Bike slip-lane & median xing - North	1	each	6000	6000
	(Off-road deviations)	Bike slip-lane & median xing - South	1	each	6000	6000
All	Selected	PS-2 pavement symbols every 200m plus extras at intersections - allow	40	each	30	1200
All	Selected	Directional signs + posts	8	each	150	1200
SUB-TOTAL URBAN						34300
Rural Section - Metford Rd, East Maitland to Raymond Terrace Road LGA Boundary - Length 12.6 km						
Raymond Terrace Rd (2.0m shoulders)	Approaches to 4 Mile Ck	G9-57 signs + posts	2	each	150	300
	Alongside armco barriers	PS-2 pavement symbols	6	each	30	180
	Hausmann Dr - Forest Dr	Shoulder widening - both 150x1.0m	150	sq m	30	4500
	Forest Dr - Government Rd	Shoulder widening - both 1700x1.0m	3400	sq m	30	102000
	Gov't Rd - McFarlanes Rd	Shoulder widening - both 1000x1.5m	3000	sq m	30	90000
		Reduce 100 to 90kph zone - signs	8	each	100	800
	McF'Ins Rd - W'dberry Rd	Shoulder widening - both 1500x1.5m	4500	sq m	30	135000
	Woodberry Rd - LGA Bdy	Shoulder widening - both 3000x1.5m	9000	sq m	30	270000
	Selected	PS-2 pavement symbols every 500m plus extras at intersections - allow	60	each	30	1800
	Selected	Directional signs + posts	8	each	150	1200
SUB-TOTAL RURAL						605780
TOTAL ESTIMATED COST						640080

MORPETH ROAD - BICYCLE ROUTE R5						
Route starts at Melbourne Steet, East Maitland & finishes at Swan Street, Morpeth - Total length 4.7 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Melbourne Street	N. E. Hwy - Riley St	Relinemark 2 x L5 - 3.5m traffic + 1.5m bike lanes both sides	250	m	8	2000
		R7-1-4 signs + posts	2	each	150	300
	Riley St - Lawes St	Bicycle Route R1				
	Lawes St - Roundabout (0.3km)	Relinemark L5 + C4 - 1.5m bike shoulder lanes both sides	250	m	8	2000
	Roundabout	Relinemark with bike lanes	1	each	1000	1000
Morpeth Road	Roundabout - Thompson St (0.5km)	Linemark L5 + C4 - 1.5m bike shoulder lanes + 3.0m traffic lanes	500	m	8	4000
	Thompson St - Jenna Dr (1.5km)	Shoulder widening - 0.5m west side Linemark L5 both sides - 3.0m wide traffic lanes	600	sq m	30	18000
		W6-214 signs + posts	3000	m	2	6000
	Jenna Dr - 500m north (0.5km)	Reconstruction Program 2004/05 - Linemark L5 - 3.0m traffic lanes				0
		W6-214 signs + posts	4	each	150	600
	500m north - Raworth Av (0.7km)	Future Reconstruction Program - Linemark L5 - 3.0m traffic lanes				0
		W6-214 signs + posts	4	each	150	600
	Raworth Av - Tank St (0.9km)	Shoulder widening - both to 1.5m min Relinemark L5 both sides - 3.0m wide traffic lanes	800	sq m	30	24000
		W6-214 signs + posts	1800	m	2	3600
All	All	PS-2 pavement symbols every 200m plus extras at intersections - allow	60	each	30	1800
All	Selected	Directional signs + posts	8	each	150	1200
		TOTAL ESTIMATED COST				67200

CESSNOCK ROAD - BICYCLE ROUTE R6						
Route starts at Maitland Railway Station & finishes at Cessnock Road LGA Boundary - Total length 5.7 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Off-Road Section - Maitland to Gillieston Heights - Length 2.8 km (*)						
Church Street	Railway St - N. E. Hwy	Existing 2.5m footpath				0
New England Highway	Pedestrian Bridge	PS-3 + PS-4 pavement symblos	3	each	30	90
Loftus Street	N. E. Hwy - Walker St	Concrete path 40x2.5m - west side	100	sq m	65	6500
Walker Street	Loftus St - Cessnock Rd	Crossing - kerb ramp	2	each	1000	2000
		W6-7 + W8-23 signs + posts	2	each	200	400
		Concrete path 60x2.5m - south side	150	sq m	65	9750
Cessnock Road	Walker St - 80kph sign	Concrete path 180x2.5m - south side	500	sq m	65	32500
	80kph sign - Fishery Ck	Concrete path 180x2.5m - east side	450	sq m	65	29250
	Fishery Ck Ped/Bike Br	Shared use bridge 2.5m wide - E side	1	each	100000	100000
	Fishery Ck - Devel. Area	Concrete path 2000x2.5m - east side	5000	sq m	65	325000
All	Concrete shared paths	Centre linemarking S5	2500	m	2	5000
All	Concrete shared paths	R8-2 double signs + posts	12	each	200	2400
All	Selected	Directional signs + posts - allow	8	each	150	1200
			SUB-TOTAL OFF-ROAD			514090
<p>* Note: An off-road pedesrian/cycle path along the eastern side of Cessnock Road is not included in the Gillieston Heights Development Area Master Plan, but the above path is considered necessary to directly link it to the Maitland CBD.</p>						
On-Road Section - Maitland to LGA Boundary - Length 5.4 km						
Cessnock Road	Walker St - 80kph sign	Existing 2.0m shoulders - both sides				0
	80kph sign - Mt Dee Rd	Crossing at 80kph sign - allow	1	each	1000	1000
		W6-7 + W8-23 signs + posts	2	each	200	400
		Existing 2.0m shoulders - both sides				0
	Mt D. Rd - Dagworth Rd	Earthworks widening - both 500m	1000	m	20	20000
		Shoulder widening - both 500x2.0m	2000	sq m	30	60000
	Dagworth Rd - Gill'tn Rd	Existing 2.0m shoulders - both sides				0
	Gillieston Rd - Vt'ge Dr	Shoulder widening - both to 2.0m	1800	sq m	30	54000
	Vintage Dr - Ryans Rd	Shoulder widening - both 250x2.0m	1000	sq m	30	30000
		Shoulder widening at armco barrier - both 100x1.5m	300	sq m	30	9000
		G9-57 signs + posts	2	each	150	300
	Ryans Rd - Russell St	Existing 2.0m shoulders - both sides				0
	Russell St - LGA Bdy	Earthworks widening - both 100m	200	m	40	8000
		Shoulder widening - both to 2.0m	6000	sq m	30	180000
	80kph sign - LGA Bdy	PS-2 pavement symbols every 500m				0
		plus extras at intersections - allow	30	each	30	900
	Selected	Directional signs + posts - allow	4	each	150	600
			SUB-TOTAL ON-ROAD			364200
			TOTAL ESTIMATED COST			878290

MAITLAND CBD LOOP - BICYCLE ROUTE R7						
Route starts & finishes at Maitland Railway Station - Total length 7 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Athel D'Ombra Drive	Elgin St - Devonshire St	W6-214 signs + posts	6	each	150	900
	D'shire St Footbridge	R8-2 + R1-2 signs + post	1	each	200	200
	(bike link to S Maitland)					
Abbot Street	Devonshire St - Rose St	Linemark L5 - 3m traffic + 1.2m bike lanes both sides	120	m	4	480
		PS-2 pavement symbols	4	each	30	120
		W6-214 signs + posts	2	each	150	300
		'no stopping' signs + posts	4	each	150	600
Rose & Smith Streets	Abbot St - High St	W6-214 signs + posts	6	each	150	900
High Street	Smith St - H. St Rly Stn	R8-2 signs + posts - S side path	8	each	150	1200
(Link to High St Rly Stn)	Approaches to High St - Ward, Abbot, Sparke Sts	W6-7 + W8-23 signs + posts	3	each	200	600
High Street	Opposite Smith St	Kerb extension + ramp + conc path	1	each	4000	4000
	Approaches to Smith St	W6-7 + W8-23 signs + posts	2	each	200	400
	Opposite Smith St	Footpath widening 30m to 2.0m	30	sq m	60	1800
Harold Gregson Reserve	High St - James St	Bicycle Route R1				
James Street	Reserve - Carrington St	Bicycle Route R1				
Carrington Street	James St - Hunter St	Bicycle Route R1				
Hunter Street	Carrington St - Levee Bk	Bicycle Route R1				
Levee Bank	Hunter St - Belmore Br	Bicycle Route R1				
Belmore Bridge	Belmore Br - High St	Bicycle Route R1				
High Street	Belmore Rd - Regent St	Bicycle Route R1				
Ledsam Street	Regent St - Bonar St	Bicycle Route R1				
Bonar Street	Ledsam St - Regent St	W6-214 signs + posts	4	each	150	600
Regent Street	Bonar St - Steam St	W6-214 signs + posts	4	each	150	600
Steam Street	Regent St - A. Walsh Dr	Reconstruct access road 400x2.5m	1000	sq m	40	40000
		R8-2 signs + posts	8	each	150	1200
	A. Walsh Dr - Church St	W6-214 signs + posts	3	each	150	450
Church Street	Steam St - Railway St	Repair kerb return ramp - S E side	1	each	1000	1000
		Footpath widening 50m to 3.0m	70	sq m	60	4200
		R8-2 signs + posts	2	each	100	200
	Approaches to Steam St	W6-7 + W8-23 signs + posts	2	each	200	400
All	Selected	Directional signs + posts - allow	10	each	150	1500
		TOTAL ESTIMATED COST				61650

TOCAL ROAD - BICYCLE ROUTE R9						
Route starts at Paterson Road, Bolwarra Heights & finishes at Tocal Road LGA Boundary - Total length 8.6 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Tocal Road	Paterson Rd - Moore Rd (kerbed section)	Linemarking L5 both sides - 3.1m wide traffic lanes - 400m	800	m	2	1600
		PS-3 pavement symbols every 200m				
		- to provide 1.2m wide bike lanes	8	each	30	240
		R7-1-4 signs + posts - allow	8	each	150	1200
		'No stopping' signs - both sides	8	each	150	1200
	Moore Rd - M. Vale Rd (semi-rural section)	Shoulder widening - both to 1.5m	1600	sq m	30	48000
	M. Vale Rd - Lang Dr (rural - 1.0 km)	Shoulder widening - both to 1.5m	1200	sq m	30	36000
		Reduce 80 to 70kph zone - signs	4	each	100	400
		70kph pavement markings	2	each	30	60
	Lang Dr - Mindarriba Ck (rural - 2.0 km)	Shoulder widening - both to 1.5m	1000	sq m	30	30000
		Reduce 100 to 90kph zone - signs	4	each	100	400
		90kph pavement markings	2	each	30	60
	Mindarriba Ck - minor ck (rural - 1.0 km)	Shoulder widening - both to 1.5m	3000	sq m	30	90000
		Relinemarking to 3.0m wide traffic lanes at minor ck - 250m	500	m	2	1000
		G9-57 signs + posts	2	each	150	300
	minor ck - Eelah Rd (rural - 1.3 km)	Shoulder widening - both to 1.5m	3200	sq m	30	96000
	Eelah Rd - LGA Bdy (rural - 2.0 km)	Shoulder widening - both to 1.5m	6000	sq m	30	180000
	Moore Rd - LGA Bdy (8.5 km)	PS-2 pavement symbols every 500m plus extras at intersections - allow	40	each	30	1200
All	Selected	Directional signs + posts	8	each	150	1200
		TOTAL ESTIMATED COST				488860

PATERSON ROAD - BICYCLE ROUTE R8 (Continued)						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Paterson Road	Bend - Tocal Rd	Reconstruct E kerb & gutter to widen road by 2.0m	270	m	60	16200
		Reconstruct road pavement to suit	500	sq m	40	20000
		Reconstruct driveways to suit - allow	100	sq m	65	6500
		Relocate power poles	3	each	2000	6000
		Adjust water hydrant pits	7	each	500	3500
		Adjust telstra pits	2	each	1000	2000
		Remove small trees	2	each	200	400
		Relinemarking to 3.1m traffic/4.0m E bike + parking/min 1.5m W bike lanes	1	each	10000	10000
	Tocal Rd Intersection	Off-road concrete shared path 2.5m wide + road ramps - E side 130m	325	sq m	65	21125
		R8-2 signs + posts	3	each	150	450
		PS-3 + PS-4 pavement symbols	6	each	30	180
All	Glenarvon Rd - Tocal Rd	PS-2 pavement symbols every 500m plus extras at intersections - allow	30	each	30	900
All	Selected	Directional signs + posts	20	each	150	3000
		TOTAL ESTIMATED COST				454125

TOCAL ROAD - BICYCLE ROUTE R9						
Route starts at Paterson Road, Bolwarra Heights & finishes at Tocal Road LGA Boundary - Total length 8.6 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Tocal Road	Paterson Rd - Moore Rd (kerbed section)	Linemarking L5 both sides - 3.1m wide traffic lanes - 400m	800	m	2	1600
		PS-3 pavement symbols every 200m				
		- to provide 1.2m wide bike lanes	8	each	30	240
		R7-1-4 signs + posts - allow	8	each	150	1200
		'No stopping' signs - both sides	8	each	150	1200
	Moore Rd - M. Vale Rd (semi-rural section)	Shoulder widening - both to 1.5m	1600	sq m	30	48000
	M. Vale Rd - Lang Dr (rural - 1.0 km)	Shoulder widening - both to 1.5m	1200	sq m	30	36000
		Reduce 80 to 70kph zone - signs	4	each	100	400
		70kph pavement markings	2	each	30	60
	Lang Dr - Mindarriba Ck (rural - 2.0 km)	Shoulder widening - both to 1.5m	1000	sq m	30	30000
		Reduce 100 to 90kph zone - signs	4	each	100	400
		90kph pavement markings	2	each	30	60
	Mindarriba Ck - minor ck (rural - 1.0 km)	Shoulder widening - both to 1.5m	3000	sq m	30	90000
		Relinemarking to 3.0m wide traffic lanes at minor ck - 250m	500	m	2	1000
		G9-57 signs + posts	2	each	150	300
	minor ck - Eelah Rd (rural - 1.3 km)	Shoulder widening - both to 1.5m	3200	sq m	30	96000
	Eelah Rd - LGA Bdy (rural - 2.0 km)	Shoulder widening - both to 1.5m	6000	sq m	30	180000
	Moore Rd - LGA Bdy (8.5 km)	PS-2 pavement symbols every 500m plus extras at intersections - allow	40	each	30	1200
All	Selected	Directional signs + posts	8	each	150	1200
		TOTAL ESTIMATED COST				488860

MOUNT DEE ROAD TO RUTHERFORD - BICYCLE ROUTE R10						
Route starts at Cessnock Road & finishes at Aberglaslyn Road via Maitland Hospital - Total length 4 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Mount Dee Road	Cessnock Rd - Fishery	On-road				0
	Creek Bridge	W6-214 signs + posts	4	each	150	600
Off-road	Bridge - Rly Line Culvert	Concrete path 600x2.5m - under				
		Trezecinski Br & across Council land	1500	sq m	65	97500
		R8-2 signs + posts	6	each	150	900
	Railway Line Culvert	Concrete path 20x5.5m, west cell	110	sq m	80	8800
		Low head clearance (2.2m) signs	2	each	150	300
Steam Street	Rly Line Clvt - Regent St	Bicycle Route R7				0
Regent Street	Steam St - Bonar St	Bicycle Route R7				0
	Bonar St - High St	W6-214 signs + posts	4	each	150	600
High Street	Long Br Low-level Path	Bicycle Route R7				0
	Path - Hospital	Existing shared path				0
		New R8-2 signs	2	each	100	200
	Hospital - Mt Pleasant St	Footpath widening 120m to 2.5m	110	sq m	65	7150
		New R8-2 signs	4	each	100	400
Mt Pleasant Street	Intersection	Improve kerb crossing	2	each	1000	2000
		Reconstruct median to provide 2.0m				
		wide central refuge	1	each	5000	5000
		W6-8 + W8-23 signs + posts	2	each	200	400
		W6-7 + W8-23 signs + posts	2	each	200	400
New England Highway	Mt Pleas. St - Abergl'n Rd	Footpath widening 820m to 2.0m	660	sq m	65	42900
		R8-2 signs + posts	10	each	150	1500
All	Selected	Directional signs + posts - allow	6	each	150	900
		TOTAL ESTIMATED COST				169550

TELARAH TO RUTHERFORD LOOP - BICYCLE ROUTE R11						
Route starts & finishes at Telarah Shops, Corner South & Green Sreets - Total length 4.8 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
South Street	Green St - Russell St	Linemark C4 - bike shoulder lanes to provide 2.0m parking lanes	350	m	4	1400
	Russell St - N. E. Hwy	Linemark L5+C4 - 3m traffic & 1.5m bike shoulder lanes both sides	650	m	8	5200
	Approaches to N. E. Hwy	W6-7 + W8-23 signs + post	1	each	200	200
New England Highway	South St - Abergl'sln Rd	Widen south footpath to 2.5m	100	sq m	65	6500
	Pedestrian Crossing	Widen kerb ramps - both sides	2	each	1000	2000
Aberglasslyn Road	N. E. Hwy - Alexandra Av	Reconstruction Program 2004/05 - Linemark 3m traffic lanes - both sides & widen east footpath to 2.5m				0
Alexandra Avenue	Abergl'sln Rd - Web'ls St	Linemark L5 - 1.5m separate bike lanes within existing traffic lanes	700	m	4	2800
		Remove exising PS-2 p'vmt symbols	1	each	500	500
Weblands Street	Alexandra Av - Arthur St	Linemark L5 - 1.5m separate bike lanes within existing traffic lanes	200	m	4	800
		Remove exising PS-2 p'vmt symbols	1	each	200	200
Arthur Street	Web'ls St - N. E. Hwy	Linemark L5+C4 - 1.5m separate bike lanes within existing traffic lanes	300	m	8	2400
	Web'ls St - N. E. Hwy	Widen S footpath to 2m - 200x0.8m including link across to Library	170	sq m	65	11050
	Library & Com. Centre	Holding rail type bike racks	2	each	600	1200
Woodberry Street	Arthur St - Melbee St	W6-214 signs + posts	4	each	150	600
Accessway	Melbee - N. E. Hwy	Existing asphalt path 2.0m wide				0
New England Highway	A'way - Pedestrian lights	Improve & widen N footpath to 2.0m	100	sq m	65	6500
	Ped'n lights - Young St	Improve & widen S footpath to 2.0m	50	sq m	65	3250
Young Street	N. E. Hwy - Gillies St	Existing concrete path 2.0m wide				0
	Gillies St - Capper St	Widen W footpath to 2m - 100x0.8m	80	sq m	65	5200
	Capper - Macarthur St	Existing concrete path 2.0m wide				0
Macarthur Street	Young - McDonald St	Widen W footpath to 2m - 100x0.8m including K&G adjustment at #40	100	sq m	65	6500
McDonald Street	Macarthur St - A'ways	Widen S footpath to 2m - 100x0.8m	80	sq m	65	5200
Accessways	McDonald St - Russell St	Existing concrete path 2.5m wide				0
Lismore Avenue	Russell St - Raymond St	Widen E footpath to 2m - 70x0.8m	80	sq m	65	5200
	Raymond St - Bligh St	Shared path 70x2.0m - east side	140	sq m	65	9100
Bligh Street	Lismore St - Brooks St	Linemark L5 - 3m traffic lanes	220	m	4	880
Brooks Street	Bligh St - William St	Linemark L5 - 3m traffic lanes	60	m	4	240
William Street	Bligh St - South St	Linemark L5 - 3m traffic lanes	170	m	4	680
South Street	At Shops	Holding rail type bike racks	2	each	600	1200
Bike & shoulder lanes	All	PS-2 pavement symbols - allow	40	each	30	1200
Bike lanes only	All	R7-1-4 signs + posts - allow	10	each	150	1500
Shared paths	All	R8-2 double signs + posts - allow	20	each	200	4000
All	Selected	Directional signs + posts - allow	20	each	150	3000
TOTAL ESTIMATED COST						88500

RUTHERFORD TO ABERGLASSLYN - BICYCLE ROUTE R12						
Route starts at Rutherford Shopping Centre & finishes at Aberglasslyn Road - Total length 2.3 km						
ROAD	SECTION	ITEM	QUANTITY	UNIT	RATE	AMOUNT
Rutherford Shops	IGA Supermarket	Bike Racks - outside E Mall Entry	4	each	600	2400
	Undercover Area	Bike Racks - between shops	4	each	600	2400
	Southern Path Entry	Bike Racks - easy to see location	4	each	600	2400
East Mall	Shops - North Mall	Widen E footpath to 2.5m - 50x1.3m	65	sq m	65	4225
North Mall	East Walk - Web'lds St	Widen N footpath to 3.0m - 80x1.5m	120	sq m	65	7800
Weblands Street	North Mall - Alex. Av	Widen E footpath to 2.5m - 30x1.0m	30	sq m	65	1950
Alexandra Avenue	Roundabout - SE side	Widen E footpath to 2.5m - 50x1.3m	65	sq m	65	4225
	Weblands St - Avery St	Widen N footpath to 2.5m - 160x1.3m	210	sq m	65	13650
	Avery St - Reserve	Widen N footpath to 2.5m - 100x1.3m	130	sq m	65	8450
Reserve	Alexandra Av - Hague St	Shared path 250x2.5m - west side	625	sq m	65	40625
		Side shared paths 2.0m wide to				
		Peter St 35m & Vindin St 25m	120	sq m	65	7800
	Hague St - Cul de sac	Shared path 380x2.5m - east side				
		to Unicomb Close then west side	950	sq m	65	61750
		Side shared path 35x2.0m - Unicomb	70	sq m	65	4550
		Side shared path 35x2.0m - Hague	70	sq m	65	4550
		Side shared path 40x2.0m - Ford	80	sq m	65	5200
	Cul de sac - Bingara St	Widen 2m shared path to 2.5m	120	sq m	65	7800
		Side shared path 40x2.0m - P. Verge	80	sq m	65	5200
	Bingara St - Abergl'n Rd	Shared path 230x2.5m - west side	575	sq m	65	37375
		Side shared path 50x2.0m - Avery	100	sq m	65	6500
Aberglasslyn Road	Creek N of Bingara St	Refuge island crossing	1	each	5000	5000
		Footpath ramps	2	each	1000	2000
		W6-7 + W8-23 signs + posts	2	each	200	400
Future Reserve	Creek E of Abergl'n Rd					
	to Devel'mnt Area Bdy	Shared path 650x2.5m - west side	1625	sq m	65	105625
All	Selected	Footpath ramps	15	each	1000	15000
All	All	R8-2 double signs + posts	30	each	200	6000
Rutherford Shops	Selected	R5-1-5 bike parking signs + posts	4	each	150	600
All	Selected	Directional signs + posts	10	each	150	1500
		TOTAL ESTIMATED COST				357775