

Appendix A Definitions of keywords and phrases

The following are definitions of the keywords on the problem coding sheet and the recommendation coding sheet together with examples of how to describe crash problems and recommendations on the PR form. These are general descriptions intended as guidelines or examples of how the terms might be used.

A1 – Problem coding sheet

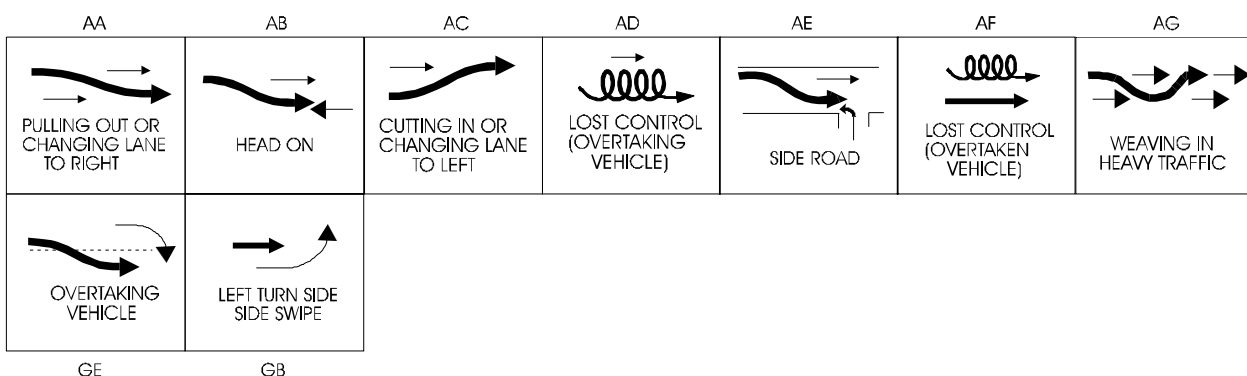
A.1.1 Problem categories

All/general – code 1

This should be used if all crash movement types (crash categories) make up the problem group, not just all crashes at the crash location. Generally this code should only be used in conjunction with optional details to convey the idea that all crashes of a specific type are addressed, eg all cycle crashes.

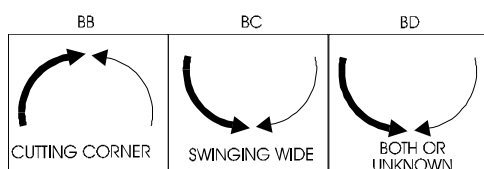
Overtaking – code 2

This category includes all movement codes with first letter A, plus two letter movement codes GE, GB.



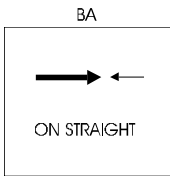
Head-on (bend) – code 3

This category includes all head-on type crashes occurring on a bend. Two letter movement codes BB, BC, BD.



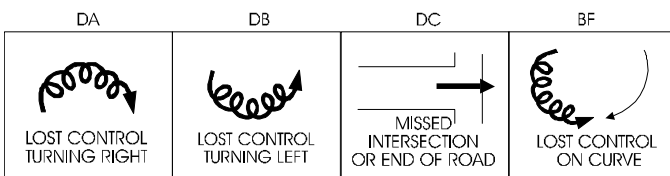
Head-on (straight) – code 4

This category includes all head-on type crashes occurring on a relatively straight length of road. Two letter movement code BA.



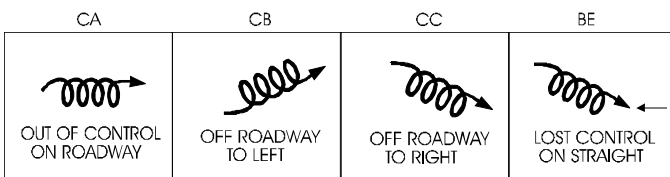
Lost control (bend) – code 5

This category includes any lost-control type of crashes occurring on a bend. All movement codes with first letter D, plus two letter movement code BF (curve).



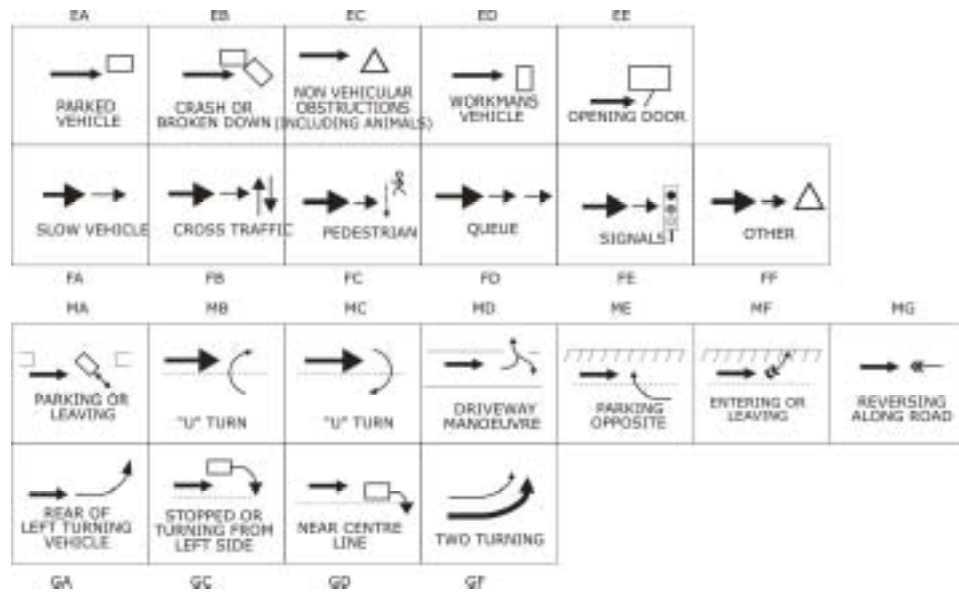
Lost control (straight) – code 6

This category includes any lost-control type of crashes occurring on a relatively straight length of road. All movement codes with first letter C, plus two letter movement code BE (straight).



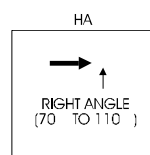
Rear-end/obstruction – code 7

This category includes any crashes which are a rear-end type, or involve a vehicle hitting an obstruction of some sort. All movement codes with first letter E, F, or M, plus two letter movement codes GA, GC, GD, GF.



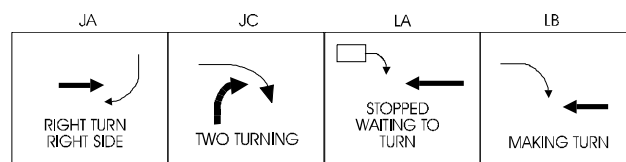
Crossing – code 8

This category includes all crossing-type manoeuvres. All movement codes with first letter H.



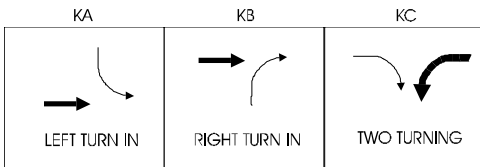
Turning – code 9

This category includes all turning movements. All movement codes with first letter J or L.



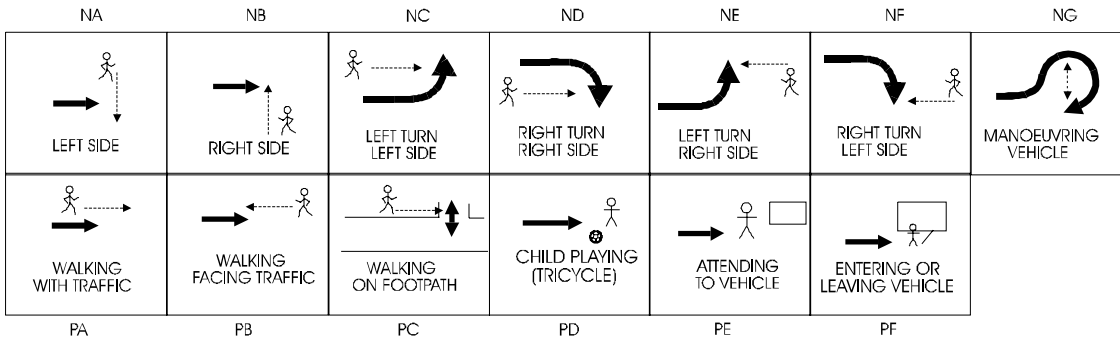
Merging – code 10

This category includes all merging movements. All movement codes with first letter K.



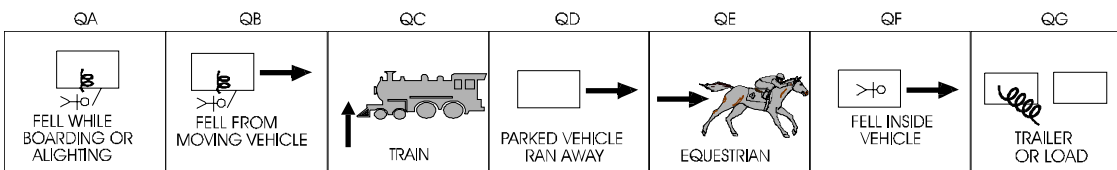
Pedestrian – code 11

This category includes all collisions involving pedestrians. All movement codes with first letter N or P.



Other – code 12

This category includes all crashes not covered by the above categories. All movement codes with first letter Q.



A.1.2 Optional details

Darkness – code 1

Use this code if the problem group of crashes are occurring at night. For example, there may be head-on crashes at a bend which are occurring at night.

Wet road – code 2

Use this code for describing crashes which occur on wet road surfaces.

Struck roadside obstacle – code 3

Use this code if collisions with roadside obstacles are a significant feature of the crash problem.

Speed – code 4

Use this code if vehicle speed is a significant contributing factor to the crash problem.

Cyclist – code 5

Use this code if there is a crash problem involving cyclists.

A2 – Recommendation codes

A.2.1 Action categories/actions

Actions are divided into five action categories:

Install/add
Remove
Move
Upgrade/maintain
Modify

Within these five action categories are actions which describe the work recommended for each object. Note that the action category itself is not coded, but is a guide to help users find the appropriate action code.

Action category – Install/add				
Action	Code	Interpretation	Example	Do not use
Install	11	Add, construct.	Install throat island – code 11 (install) 507 (throat island)	Do not use 'install' for any pavement markings that are painted on the road surface. Use code 12 (paint/mark). Do not use with object code 808 (Austroads/NZ standards).
Paint/mark	12	Includes application of thermoplastic as well as any other material used for pavement marking.	Paint dashed centreline – code 12 (paint) 203 (dashed centreline)	Do not use with object codes such as 602 (ditch), 608 (trees/ vegetation), etc. Do not use if marking is to be textured, ribbed, profiled or reflectorised (use action code 16 or 67)

Action category – Install/add (continued)				
Action	Code	Interpretation	Example	Do not use
Seal	13	Refers to an area which was previously unsealed.	Seal shoulder – code 13 (seal) 110 (shoulder)	Do not use to describe the resealing of a road (use 42 re-seal)
Plant	14		Plant trees/vegetation – code 14 (plant) 609 (trees/vegetation)	Do not use with any other object.
Allow	15	Permit the flow of traffic, or vehicles to be parked. Generally the opposite of ban.	Allow vehicle parking – code 15 (allow) 703 (parked vehicles)	
Apply textured/ribbed	16	Used to describe road markings that are of the profiled type.	Install profiled edge line – code 16 (apply textured/ribbed) 209 (edge line)	
Action category – Remove				
Action	Code	Interpretation	Example	Do not use
Remove (Ban)	21	Remove, ban, prohibit, disallow.	Remove give way control – code 21 (remove) 801 (give way control) Ban or prohibit left turn traffic – code 21 (remove) 701 (left turn traffic)	
Action category – Move				
Action	Code	Interpretation	Example	Do not use
Move	31	To move or reposition something that already exists at the site.	Move Stop sign – code 31 (move) 400 RG5 (Stop sign)	Do not use with object code 809 (TS phasing).
Re-align	32	Change the orientation of a longitudinal feature.	Re-align guard rail – code 32 (re-align) 605 (guard rail)	
Action category – Upgrade/maintain				
Action	Code	Interpretation	Example	Do not use
Upgrade	41	Used to indicate a general upgrade of the object to a standard.	Upgrade street lighting – code 41 (upgrade) 300 (lighting)	Do not use to mean 're-seal', 'maintain paint' on pavement markings, 're-shape' or 're-design' road.

Action category – Upgrade/maintain (continued)				
Action	Code	Interpretation	Example	Do not use
Re-seal	42	This term assumes that the area was previously sealed.	Re-seal carriageway – code 42 (re-seal) 102 (carriageway/ lanes). <i>Note:</i> If skid test and re-seal as necessary is recommended, code as 're-seal carriageway/lanes'. Recommendation can then be coded as implementation status 4 – will not be done, if skid test does not show a problem.	
Maintain paint	43	Refers to the same type of marking in the same location. This term assumes that the edgeline, lane marking, etc had already been marked/painted at some time, and has since faded or worn off. Where the same type of markings are to be in a new location use 'move' or 're-align'.	Re-mark lane markings – code 43 (maintain paint) 214 (lane markings)	Do not use with object codes 601 (building), 602 (ditch), 608 (trees/vegetation), 804 (speed limit), 807 (TS control), 808 (TS Austroads/NZ std), or 809 (TS phasing).
Repair	44	Fix something (e.g. guard rail) that was physically damaged.	Repair guard rail – code 44 (repair) 605 (guard rail)	
Replace	45	Replace something that is missing or damaged to an extent that it cannot be repaired. Where an object is to be in a new location use 'move'.	Replace missing Stop sign – code 45 (replace) 400 RG5 (Stop sign)	

Action category – Modify

Action	Code	Interpretation	Example	Do not use
Close	51	Close something physically, eg a lane.	Close right turn lane – code 51 (close) 107 (right turn lane)	Do not use to mean 'remove traffic flow'. If you are banning right turn traffic, but the lane will still be used for straight-through traffic, use the code 21 (remove) 702 (right turn traffic). However, if you are closing a physical right turn lane or bay, and the lane will not be used at all, use the code 51 (close) 107 (right turn lane – physical).
Extend	52	A physical extension in a longitudinal direction only.	Extend taper – code 52 (extend) 111 (taper)	Do not use with object codes 903 – depression, or 904 – sag.
Shorten	53	A physical reduction in a longitudinal direction.	Shorten guard rail – code 53 (shorten) 605 (guard rail)	Do not use with object codes 101 (bridge) or 809 (TS phasing).
Narrow	54	A physical reduction in a latitudinal direction.	Narrow throat island – code 54 (narrow) 507 (throat island)	Do not use with object code 224 (RRPMs). If you are using code 609 (trees/vegetation), use action code 62 (trim) instead of 54 (narrow).
Widen	55	A physical extension in a latitudinal direction.	Widen shoulder – code 55 (widen) 110 (shoulder)	Do not use with object code 224 (RRPMs).
Lower	56	Refers to physical downward movement.	Lower chevron board – code 56 (lower) 206 (chevron board)	Do not use with object codes 224 (RRPMs), 601 (building), 602 (ditch), 809 (TS phasing), or 609 (trees/vegetation). Do not use with object code 804 (speed limit). Use action code 64 (change) with speed limit.

Action category – Modify (continued)				
Action	Code	Interpretation	Example	Do not use
Raise	57	Refers to physical upward movement.	Raise sight rail – code 56 (raise) 225 (sight rail)	Do not use with object codes 224 (RRPMs), 601 (building), 602 (ditch), 809 (TS phasing), or 609 (trees/vegetation). Do not use with object code 804 (speed limit). Use action code 64 (change) with speed limit.
Re-design	58	Change the shape of the layout of the road surface, traffic islands and road markings.	Re-design intersection – code 58 (re-design) 105 (intersection)	
Increase	59		Increase superelevation/ camber – code 59 (increase) 905 (superelevation/ camber). Can also refer to the number of objects.	Do not use with object codes 902 (curve), 903 (depression), or 904 (sag).
Decrease	60		Decrease superelevation/ camber – code 60 (decrease) 905 (superelevation/ camber). Can also refer to the number of objects, eg reduce the number of street name signs – code 60 (decrease) 400 130 (fingerboard)	
Enlarge (size of)	61		Enlarge the size of Stop signs – 61 (enlarge) 400 RG5 (Stop sign)	
Trim	62		Trim trees/vegetation – code 62 (trim) 609 (trees/vegetation)	Do not use with any other object.
Shade	63	Includes installation of visors, etc (where sun glare might be a problem).	Shade traffic signals – code 63 (shade) 811 (traffic lanterns)	Do not use with any other object. Do not use for target boards (use action code 66, Add backing board to)

Action category – Modify (continued)				
Action	Code	Interpretation	Example	Do not use
Change	64	To change the stated object code. Can also mean to change to the stated object code.	Change phasing of traffic signals – code 64 (change) 809 (TS phasing) or change give way to stop control – code 64 (change) 802 (stop control)	
Ease	65		Increase radius of curve – code 65 (ease) 902 (curve)	
Add backing board to	66	To improve the conspicuousness of a signs, traffic signals etc. Includes target boards.	Add backing board to curve warning sign – code 66 (add backing board to) 400 PW17 (sign)	
Reflectorise	67	Generally used for road markings where glass beads are added to the markings to make them more visible at night. Can also apply to kerb lines	Change to reflectorised edge line markings – code 67 (reflectorise) 209 (edgeline)	

Object categories/objects

Objects are divided into nine treatment categories:

Treatment category	
100	Surface and layout
200	Marking and delineation
300	Lighting
400	Traffic signs
500	Kerbs, islands and medians
600	Roadside features
700	Traffic flow
800	Control types
900	Geometric alignment

Within these nine treatment categories are object codes which describe the safety improvements commonly implemented at crash locations. The general treatment category may be coded, if a specific object you want is not listed.

Treatment category: Surface and layout – code 100		
Object	Code	Interpretation
Bridge	101	
Carriageway/lane(s)	102	A general lane for vehicle/cyclist travel or the overall carriageway.
Crawler/passing lane	103	A lane for slower traffic that creates safer overtaking opportunities.
Driveway	104	A vehicle access to and from the roadway.
Flush median		Refer to Category 200, Markings and delineation.
Intersection	105	Any place where two or more roads join.
Physical bay – left turn	106	A lane used by left-turning traffic. This is to be used only where the road has been changed to physically construct a left turn bay.
Physical bay – right turn	107	A lane used by right-turning traffic. This is to be used only where the road has been changed to physically construct a right turn bay. Usually includes a median island.
Physical bay – parking	108	A lane specifically used for parking. This is to be used only where the road has been changed to physically construct a parking bay. For simply marking a parking space on an existing road use code 222.
Ramp	109	Entrance/exit ramp at grade-separated intersection.
Shoulder	110	The portion of the trafficable carriageway between the edge of the traffic lane and the outer edge of the trafficable/sealed carriageway.
Taper	111	Shape of merge or diverge.
Very high friction surfacing	112	Used to describe specialised surface treatments with very high polished stone values. Generally applied to address loss of control in wet crashes.

Treatment category: Markings and delineation – code 200		
Object	Code	Interpretation
Bridge end marker	201	
Bus stop	202	The painted markings and signs indicating a bus stop.
Centreline – dashed	203	A dashed line separating two opposite directions of travel.
Centreline – solid	204	A solid line separating two opposite directions of travel.
Chevron – single curve indicator		A single reflectorised arrow used to indicate the road alignment or curve. Refer Category 400, Signs. Use appropriate Manual of traffic signs and markings (MOTSAM) sign code PW67.
Chevron board – full		Multiple reflectorised arrows used to indicate a curve or intersection. Refer Category 400, Signs. Use appropriate MOTSAM sign code PW66, RC5, etc.
Continuity line	207	A dashed edge line through an intersection. Generally used on the left hand side of a lane.
Diagonal markings	208	Eg to hatch shoulders. Use 212 if marking is used to fill in a painted island.
Edgeline	209	Delineates the left hand edge of a traffic lane and separates the shoulder or parking from the through traffic.
Edge marker posts	210	Used to delineate the road alignment, especially at bends. Also referred to as 'delineator posts'.
Flush median	211	Median which is flush or painted instead of raised.
Guard rail		Refer to Category 600, Roadside features (606).
Hatched/painted island	212	An island which is painted on the road surface (not a raised island).
Hazard marker	213	Indicates a roadside hazard. Does not include edge marker posts or 'bridge end markers'.
Lane markings – general	214	General lane markings, used to separate lanes of traffic travelling in the same direction.
Lane markings – arrows	215	Specify which directions of travel are permitted from a given lane.
Lane markings – cycle lane	216	A painted lane specifically for cycles. Can be a shared bus/cycle lane.
Lane markings – left turn	217	Used to indicate a left turning lane.
Lane markings – right turn lane/bay	218	Used to indicate a right turning lane or painted right turn bay.
Lane markings – roundabout	227	Refers to any concentric lane markings used at a roundabout to reduce confusion or improve vehicle flow.

Treatment category: Markings and delineation – code 200 (continued)

Object	Code	Interpretation
Limit lines	219	Indicating where traffic should give way or stop at an intersection or railway level crossing.
No overtaking line	220	A solid yellow line, indicating a length of road where overtaking is not allowed.
No stopping lines	221	Yellow dashed lines along the side of the road to prohibit parking or stopping at all times.
Parking space – painted	222	Refers to the painted lines marking the parking space. If the recommendations refer to a physical bay constructed for parking, use code 106 – parking bay physical.
Pedestrian crossings	223	Markings indicating a pedestrian crossing.
RRPMs	224	Reflective raised pavement markers.
Sight rail	225	Wooden rail which may be used to delineate curve in the road or the end of a road. Does not include guard rails.
Words	226	Words painted on the carriageway, e.g. 'Give Way', 'Stop', etc.

Treatment category: Lighting – code 300

Object	Code	Interpretation
Lighting	300	Refers to artificial street lighting, including flag lights and floodlighting.

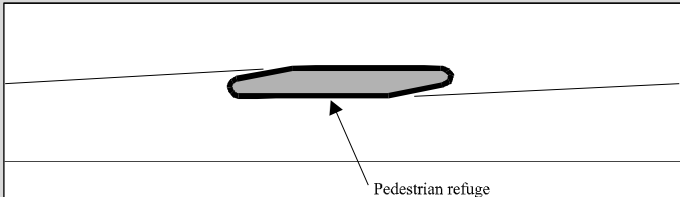
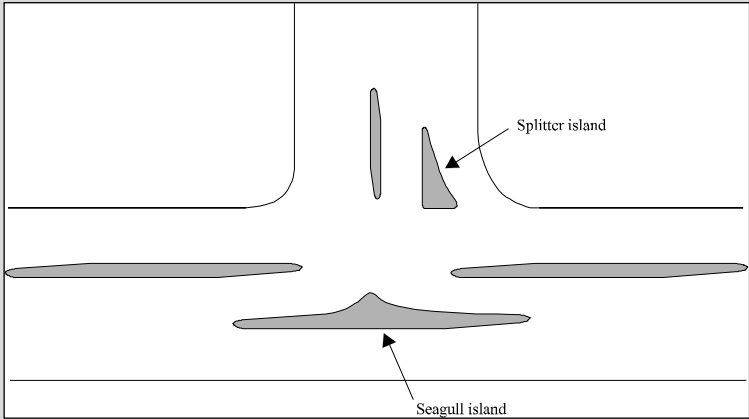
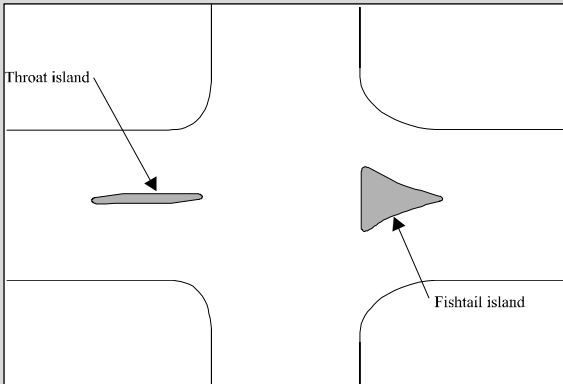
Treatment category: Traffic signs – code 400

Object	Code	Interpretation
Sign	400	Code signs according to the <i>Manual of traffic signs and markings</i> , e.g. Stop sign is RG5. For coding, code 400 in the OBJECT column, and the sign code in the column for traffic sign code.
Advertising signs/billboards		Refer to Category 600, Roadside features

Treatment category: Kerbs, islands and medians – code 500

Object	Code	Interpretation
Bulbous kerbs	501	Extensions to the kerbs, for example to allow pedestrians wanting to cross the road to be visible to drivers.
Flush median		Refer to Category 200, Markings and delineation (211).
Hatched/painted island		Refer to Category 200, Markings and delineation (212).
Kerb	502	

Treatment category: Kerbs, islands and medians – code 500 (continued)

Object	Code	Interpretation
Median barrier		Refer to Category 600, Roadside features (607).
Pedestrian refuge	503	<p>Used to provide a refuge in the middle of the road for pedestrians.</p> 
Raised median	504	Physical median which separates two directions of traffic flow.
Roundabout		Refer to Category 800, Control types (803).
Seagull/splitter island	505	<p>Splits and directs diverging and/or merging traffic flows. Includes left turn islands.</p> 
Speed hump	506	Used to restrict traffic speed. Also use this code for speed cushion.
Throat/fishtail island	507	<p>A central island on an intersection approach. Used to highlight junctions or restrict some turning manoeuvres.</p> 

Treatment category: Roadside features – code 600

Object	Code	Interpretation
Threshold/gateway/platform	508	Includes all kerbing, surface treatments signs and marking associated with thresholds, gateways, platforms etc designed to control vehicle speeds or access. Devices can be installed at junctions or midblock locations.
Building	601	
Cliff/bank	602	
Ditch	603	
Fence	604	Includes hedges and walls that are intended as fences. 'Trees/vegetation' or 'building' may otherwise be more appropriate.
Footpath	605	A path designated for pedestrians and segregated from the vehicle carriageway.
Guard rail	606	Designed to restrain or redirect errant vehicles. Does not include 'sight rail'.
Median barrier	607	Barrier separating opposite directions of traffic flow, usually on motorways.
Poles	608	Power/utility poles, includes lighting columns.
Trees/vegetation	609	Any which have some effect on the location (ie contribute to the crash problem). Use of this code is not merely to record the presence of vegetation, etc.
Advertising signs/billboards	610	Includes any roadside advertising sign, billboard, banner, sandwich board, etc.

Treatment category: Traffic flow – code 700

Object	Code	Interpretation
Left turn vehicles	701	
Right turn vehicles	702	
Parked vehicles	703	

Treatment category: Control types – code 800

Object	Code	Interpretation
Give way control	801	Includes Give Way sign, wording marked on roadway surface, and limit lines.
Stop control	802	Includes Stop sign, wording marked on roadway surface, and limit lines.
Roundabout	803	A rotary intersection comprising a central island, and in most cases, throat islands on the approaches to the intersection. Includes control signs, wording marked on roadway surface, and limit lines.

Treatment category: Control types – code 800 continued

Object	Code	Interpretation
Speed limit	804	Refers to the speed limit itself, not the sign. If you are referring to the speed limit sign, code this under Category 400, Traffic signs.
One-lane bridge control	805	Includes one-lane bridge control signs, and any pavement markings.
Railway barrier	806	Includes all barrier arms, signals, signs and markings.
Traffic signal (TS) control	807	Includes the full traffic signal control intersection or crossing (includes all signal facilities and pavement markings).
TS (Upgrade to) Austroads/NZ standards	808	Refers to the present Austroads standards which have been adopted for New Zealand traffic signals. This code should only be used in combination with the action code 41 (upgrade).
TS Phasing	809	Refers to changing the phasing of traffic signals. This code should generally only be used with the action code 64 (change).
TS Other	810	Refers to any other aspects or objects relating to traffic signals not covered in this category.
TS Lanterns	811	Refers to the standard three lamp display unit. Also known as aspects, signal head, etc.
TS Overhead lanterns	812	Refers exclusively to traffic signal lanterns positioned above traffic lanes on overhead mast arms.
TS Arrow lanterns	813	Refers exclusively to arrow display traffic lanterns.
Speed threshold		Refers commonly to rural/urban speed change thresholds at town boundaries. Use object code 508, threshold/gateway/platform

Treatment category: Road geometry – code 900

Object	Code	Interpretation
Crest	901	Vertical curve at the top of a rise.
Curve	902	Horizontal curve.
Depression	903	Deformation (slump) in the road pavement.
Sag	904	Vertical curve at the bottom of a dip.
Superelevation/camber	905	Crossfall/slope of the road across the lanes, or on curves, bends.