

Road Safety Engineering Report

2009/10 - 2013/14



ROAD SAFETY ENGINEERING MEASURES REPORT

2009/10 – 2013/14

Report On Road Safety Engineering Measures
Implemented By TransportNI

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Executive Summary

Background

This report contains information on the engineering measures undertaken by TransportNI within the Collision Remedial and Traffic Calming programme of works during the period 2009/10 to 2013/14.

Although the causes of road traffic collisions can often be attributed to road user behaviour, TransportNI is committed to considering the potential for collision reduction in all aspects of its work. This applies to all public roads in Northern Ireland and includes new road schemes as well as locations on the existing road network where there may be a poor safety record.

This report concentrates on the road safety engineering measures undertaken on the existing road network. It contains information on the effectiveness monitoring of the Collision Remedial and Traffic Calming programme of works implemented by TransportNI from 2006/07 to 2013/14. Information is also included on the use and effectiveness of Vehicle Activated Signs.

Collision Remedial Schemes

Since 1 April 2003, the objective of the TransportNI Collision Remedial Programme is to reduce by 50% the number of target collisions occurring at treated sites over the 3 years following completion of the works. Prior to that, the target was a reduction of 40% in collisions over a 3 year period.

A “target collision” is the term used to describe the type of collision that is to be addressed by the remedial works. E.g. Rear end shunts.

2006/07

In 2006/07 there were 38 collision remedial schemes at a cost of £1.28m. In the three years following completion of the works, there were 125 fewer target collisions at these sites compared with the three year collision history prior to the work being undertaken. This represents 68% fewer target collisions.

This change in collisions was achieved against an overall background increase of 13.5% in the total number of collisions across Northern Ireland over the same period. The net financial saving to the community of this programme of works, including staff costs, was estimated at £13m.

2007/08

In 2007/08, TransportNI implemented 36 collision remedial schemes were implemented at a cost of £1.23m. In the three years following completion of the works, there were 104 fewer target collisions at these sites compared with the three year collision history prior to the work being undertaken. This represents 55% fewer target collisions

This change in collisions was achieved against an overall background increase of 12% in the total number of collisions across Northern Ireland over the same period. The net financial saving to the community of this programme of works including staff costs was estimated at £10.7m.

2008/09

In 2008/09, 39 collision remedial schemes were implemented at a cost of £1.72m. In the three years following completion of the works, there were 123 fewer target collisions at these sites compared against the three year collision history prior to the work being undertaken. This represents 73% fewer target collisions.

This change in collisions was achieved against an overall background increase of 2% in the total number of collisions across Northern Ireland over the same period. The net financial saving to the community of this programme of works including staff costs is estimated at £13.5m.

2009/10

In 2009/10, 31 collision remedial schemes were implemented at a cost of £1.58m. In the three years following completion of the works, there were 71 fewer target collisions at these sites compared against the three year collision history prior to the work being implemented. This represents 78% fewer target collisions

This change in collisions was achieved against an overall background decrease of 6.3% in the total number of collisions across Northern Ireland over the same period. The net financial saving to the community of this programme of works, including staff costs was estimated at £10.9m.

2010/11

In 2010/11, 17 collision remedial schemes were implemented at a cost of £834k. In the three years following completion of the works, there were 59 fewer target collisions at these sites compared with the three year collision history prior to the work being implemented. This represents 61% fewer target collisions.

This change in collisions was achieved against an overall background decrease of 6.7% in the total number of collisions across Northern Ireland over the same period. The net financial saving to the community of this programme of works including staff costs was estimated at £6m.

2011/12

In 2011/12, TransportNI undertook 20 collision remedial schemes costing £1.2m. These schemes have been monitored for two years. During this interim monitoring period, there has been 85.5% fewer target collisions compared with a similar period before work commenced.

This change in collisions was achieved against an overall background decrease of 4.7% in the total number of collisions across Northern Ireland over the same period.

2012/13

In 2012/13, TransportNI undertook 15 collision remedial schemes costing £533k. These schemes have been monitored for one year. During this interim monitoring period, there has been 64.5% fewer target collisions compared with a similar period before work commenced.

This change in collisions was achieved against an overall background increase of 6.6% in the total number of collisions across Northern Ireland over the same period.

2013/14

In 2013/14, TransportNI undertook 19 collision remedial schemes costing £1.55m. 1 year monitoring of these schemes has not yet been completed.

Traffic Calming Schemes:

Traffic calming schemes aim to reduce road traffic collisions by reducing the speed of vehicles over an area or on an individual length of road.

2006/07

In 2006/07, 51 traffic calming schemes were implemented at a cost of £1.36m. In the three years following completion of the works, there were 62 fewer collisions at these sites. The net financial saving to the community of this programme of works including staff costs was estimated at £6.48m.

2007/08

In 2007/08, 59 traffic calming schemes were implemented at a cost of £1.37m. In the three years following completion of the works, there were 73 fewer collisions at these sites. The net financial saving to the community of this programme of works including staff costs was estimated at £7.48m.

2008/09

In 2008/09, 74 traffic calming schemes were implemented at a cost of £1.8m. In the three years following completion of the works, there were 78 fewer collisions at these sites. The net financial saving to the community of this programme of works including staff costs was estimated at £7.87m.

2009/10

In 2009/10, 53 traffic calming schemes were implemented at a cost of £1.17m. In the three years following completion of the works, there were 17 fewer collisions at these sites. The net financial saving to the community of this programme of works including staff costs was estimated at £1.7m.

2010/11

In 2010/11, 25 traffic calming schemes were implemented at a cost of £892k. In the three years following completion of the works, there were 14 fewer collisions at these sites. The net financial saving to the community of this programme of works including staff costs was estimated at £1.4m.

2011/12

In 2011/12, 46 traffic calming schemes were implemented at a cost of £1.3m; these have been monitored for two years. Since completion of the schemes there have been 55 fewer collisions at treated sites.

2012/13

In 2012/13, 18 traffic calming schemes were implemented at a cost of £464k. To date monitoring information is available for only 1 year.

2013/14

In 2013/14 TransportNI undertook 25 traffic calming schemes costing £305k. The first year monitoring of these schemes is not yet completed.

Vehicle Activated Signs (VAS):

These are signs which have a blank face until activated by road users travelling at a speed in excess of a pre-set defined speed threshold. Once the speed threshold is breached the sign face illuminates to display legends such as the legal speed limit at that location, or alternatively a warning of a hazard ahead.

The objective of using Vehicle Activated Signs is to encourage a reduction in speed and thereby assist in promoting safety of travel for all road users.

Key Facts

Table 1: Road Traffic Collisions & Casualty Statistics for Northern Ireland*

	2009/10	2010/11	2011/12	2012/13	2013/14
Personal Injury Collisions	6187	5547	5639	5766	6012
Total Casualties	9675	8796	8830	9019	9381
Persons Killed	101	58	52	53	60

* Source: Police Service of Northern Ireland, Web Site

Table 2: Collision Remedial Schemes

Year	Number of Schemes Implemented	Capital Cost of Schemes (£)	Percentage Change in Collisions Over 3 Years (Against target of 40% reduction)
2001/02	48	1,744,477	-67%
2002/03	42	1,082,120	-59%
Change in Policy from 2003/04 onwards to 50% reduction in Target Collisions			
2003/04	49	1,559,574	-68%
2004/05	48	2,489,320	-76%
2005/06	59	2,058,454	-70%
2006/07	38	1,284,842	-68%
2007/08	36	1,233,923	-55%
2008/09	39	1,723,015	-73%
2009/10	31	1,580,297	-78%
2010/11	17	833,770	-61%
2011/12	20	1,199,619	3 Year Monitoring not yet complete for this period.
2012/13	15	532,870	3 Year Monitoring not yet complete for this period.
2013/14	19	1,550,452	3 Year Monitoring not yet complete for this period.

Table 3: Traffic Calming Schemes

Year	Number of Schemes Implemented	Capital Cost of Schemes (£)	Reduction in Collisions Over 3 Years
2000/01	31	896,437	104
2001/02	50	1,508,611	122
2002/03	50	1,513,773	176
2003/04	65	1,930,200	184
2004/05	79	2,567,142	132
2005/06	66	2,836,961	92
2006/07	51	1,357,255	62
2007/08	59	1,372,750	73
2008/09	74	1,804,945	78
2009/10	53	1,164,800	17
2010/11	25	891,749	14
2011/12	46	1,304,400	3 Year Monitoring not yet complete for this period
2012/13	18	464,034	3 Year Monitoring not yet complete for this period
2013/14	25	305,842	3 Year Monitoring not yet complete for this period

Further Information

Enquires relating to any aspect of this report should be directed to: -

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1.0 Collision Remedial

1.1 Collision Remedial Schemes

Collision remedial schemes use engineering measures in an attempt to improve road safety at locations where there may be a poor safety record. Since April 2004 the Department policy has set an intervention level of four or more collisions within a 3 year period, above which sites are considered for treatment. Prior to April 2004 the intervention level above which sites were considered for treatment was eight or more collisions in three years for urban areas of Belfast and four or more collisions in three years elsewhere.

Proposed collision remedial schemes are prioritised on a first year economic rate of return (FYERR) basis. This compares the expected value of collision reduction with the estimated cost of the remedial works. Since April 2004, the minimum FYERR level to attract funding has been set at 50% with staff cost also included. (See definitions at the back of this report). This policy is detailed in TransportNI Policy and Procedure Guide, Road Safety Engineering Procedures (RSPPG_E027).

1.2 Collision Remedial Programme

Table 4. gives details of the collision remedial programmes completed from 2006/07 to 2013/14. Monetary figures are shown to the nearest £ thousand.

Table 4: Collision Remedial Programme

Year	Schemes Implemented	Capital Expenditure (£)	Average Cost Per Scheme (£)
2006/07	38	1,284,842	33,812
2007/08	36	1,233,923	34,276
2008/09	39	1,723,015	44,180
2009/10	31	1,580,297	50,977
2010/11	17	833,770	49,045
2011/12	20	1,199,619	59,981
2012/13	15	532,870	35,525
2013/14	19	1,550,452	81,603

Detailed information on all collision remedial schemes implemented from 2006/07 to 2013/14 is given in Appendix I.

1.3 Overall Effectiveness of Collision Remedial Programme

The effectiveness of the collision remedial measures is analysed by comparing the changes in the three years before and after completion of the scheme.

Table 5 on page 10 compares the target, with the percentage change in collisions, for each annual programme of works since 2001/02. Where three years data is not available interim changes over 1 and 2 years are given. Best practice however, is to monitor schemes for 3 years after completion before reaching a firm conclusion on the effectiveness of the programme.

Since April 2003 the objective of the collision remedial programme has been to reduce by 50% the number of target collisions occurring at treated sites over the 3 years following completion of the work. Table 5 shows 78% fewer target collisions at sites treated in 2009/10. This change in collisions has been achieved against a background decrease of 6% in the total number of collisions in Northern Ireland over a similar period. In 2010/11 there were 61% fewer target collisions at treated sites. This change in collisions has been achieved against a background decrease of 7% in the total number of collisions over a similar period.

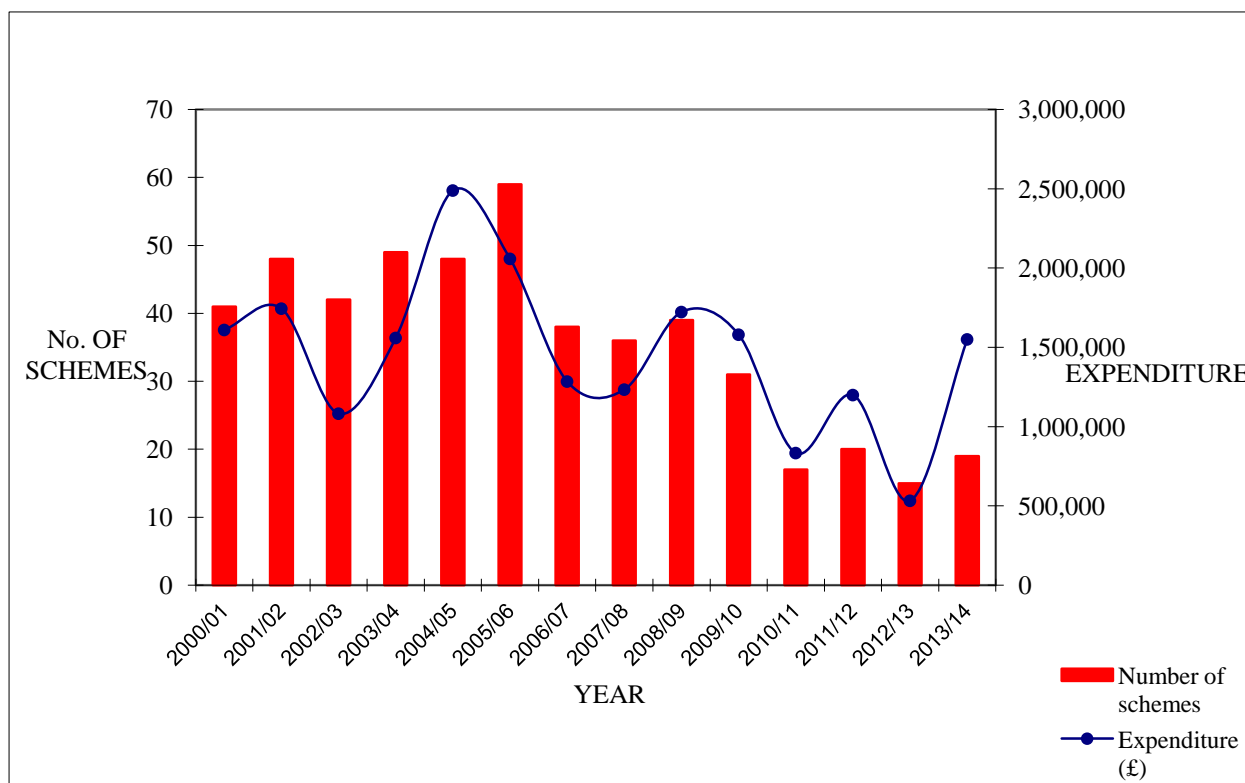
Similarly, the 2011/12 treated sites show 86% fewer target collisions occurred at these sites compared with the two years before work commenced.

Table 5: Overall Effectiveness of Collision Remedial Programme

Annual Programme of Works	Percentage change in collisions at treated sites during monitoring period compared to similar period before treatment. (Percentage change in Northern Ireland annual collision numbers in same period).			3 Year Target
	1 Year	2 Year	3 Year	
2001/02*	-73% (-21%)	-65% (-22%)	-67% (-24%)	-40%
2002/03*	-57% (-14%)	-56% (-27%)	-59% (-29%)	-40%
2003/04	-67% (-20%)	-67% (-25%)	-68% (-28%)	-50%
2004/05	-72% (-17%)	-76% (-15%)	-76% (-14%)	-50%
2005/06	-73% (+7%)	-70% (+5%)	-70% (+1%)	-50%
2006/07	-74% (+24%)	-73% (+21%)	-68% (+13%)	-50%
2007/08	-65% (+10%)	-59% (+15%)	-55% (+12%)	-50%
2008/09	-73% (-2%)	-74% (-2%)	-72% (+2%)	-50%
2009/10	-81% (-10%)	-76% (-10%)	-78% (-6%)	-50%
2010/11	-60% (-9%)	-61% (-8%)	-61% (-7%)	-50%
2011/12	-81% (+4%)	-86% (-5%)	Information not yet available	-50%
2012/13	-65% (+7%)	Information not yet available	Information not yet available	-50%
2013/14	Information not yet available	Information not yet available	Information not yet available	-50%

*Figures show percentage change in overall collisions at treated sites.

Fig 1: Expenditure on Collision Remedial Schemes from 2000/01 – 2013/14



The annual overall expenditure on collision remedial schemes since 2000/01 is shown in figure 1 above.

1.4 Divisional Analysis of Collision Remedial Programme

Full three year “after scheme implementation” monitoring is now available for the 2006/07 to 2010/11 collision remedial programmes. This information is shown in Table 6 on page 12 for each of the four TransportNI Divisions.

The table provides details of the percentage change in collisions and the corresponding net financial benefit arising from the change, with regard to the collision remedial works implemented. Net financial benefits are calculated by multiplying the annual change in collisions by the valuation of an average injury collision for that period and subtracting the cost of the works. Monetary figures shown are to the nearest £ thousand.

Details of Schemes implemented from 2006/07 to 2013/14 can be found in Appendix I. of this report.

Table 6: Analysis of 2006/07 - 2010/11 Collision Remedial Programme.

	Division	Expenditure Including Staff Costs	Change in Collisions During 3 Years Monitoring Period	Percentage Change In Collisions	Net Financial Benefit, Including Staff Costs
2006/07	Northern	£324,000	21	-37%	£1,866,072
	Southern	£295,800	38	-88%	£3,660,854
	Eastern	£469,610	38	-72%	£3,486,631
	Western	£452,400	28	-90%	£2,463,613
	Total	£1,541,810	125	-68%	£11,477,171
2007/08	Northern	£499,200	26	-43%	£2,171,259
	Southern	£530,875	24	-63%	£1,952,302
	Eastern	£246,073	29	-48%	£2,737,163
	Western	£204,559	25	-86%	£2,358,228
	Total	£1,480,708	104	-55%	£9,218,952
2008/09	Northern	£461,363	29	-83%	£2,462,209
	Southern	£353,400	31	-97%	£2,769,778
	Eastern	£531,484	44	-71%	£3,899,534
	Western	£721,372	18	-72%	£1,104,151
	Total	£2,067,618	122	-80%	£10,235,671
2009/10	Northern	£528,000	34	-72%	£2,862,329
	Southern	£829,800	16	-100%	£750,344
	Eastern	£396,526	43	-78%	£3,850,111
	Western	£142,031	16	-73%	£1,438,113
	Total	£1,896,356	109	-78%	£8,976,047
2010/11	Northern	£178,800	11	-34%	£932,310
	Southern	£621,600	25	-93%	£1,894,550
	Eastern	£128,124	20	-57%	£1,884,796
	Western	£72,000	3	-100%	£229,938
	Total	£1,000,524	59	-61%	£4,958,698

The Department for Transport in Great Britain publishes Transport Analysis Guidance (TAG) on the conduct of transport studies. Safety is one of the objectives of this TAG and estimates of the cost of road traffic collisions to the community are published in TAG Unit 3.4.1. Included in this valuation is the cost of lost output, ambulance and hospital costs, an allowance for the human cost of pain, grief and suffering, and the cost of damage only collisions. Sourced from WebTAG Unit 3.4.1 release Nov 2014 v1.3b the valuation of an average collision (ranging from Fatal to Damage only) for 2010* is £99,846.

* Note – WebTAG recommends presentation of monetary values in 2010 prices

1.5 Regression to Mean

The random nature of road traffic collisions tends to cause collision frequencies at specific locations to fluctuate. The selection of sites for treatment on the basis of their past collision record can introduce a source of potential bias in measuring the effectiveness of collision remedial schemes. This arises as the selection process tends to introduce sites at the peak of their fluctuations in collision frequencies, and such sites will tend to experience reductions in collision frequency even if no treatment is applied. This effect is commonly referred to as "regression to mean". A study by Mountain *et al* (1998) has shown that approximately half of the observed reduction in collisions at treated sites is due to the regression to mean effect. An allowance for the effect of regression to mean could be made by comparing the change in collision frequency at treated sites against a number of untreated control sites. This, however, would involve not treating sites with an identified collision history and for this reason no account has been taken of regression to mean in this report.

1.6 Value Analysis of Engineering Measures

Each site identified in the collision remedial programme is examined individually to determine the most effective remedial treatment. A wide range of measures have been implemented, and these are listed in Table 7a on page 14.

Table 4b on page 15 is illustrative of the cost effectiveness of each type of collision remedial measure based on all schemes implemented during the period 2006/07 – 2010/11, for which the three-years' monitoring period is complete. While it is recognised that for many of the measures a statistically significant sample does not exist, the information is, however, still considered a useful analysis providing an indication of the cost effectiveness of measures.

For each type of treatment the average scheme cost, average change in collisions and average cost of saving a collision has been calculated. The average scheme cost has been discounted to the year 2010 for comparison purposes. Scheme costs adjusted as

$$\text{Construction cost in 2010 prices} = (\text{x year cost}) \times \frac{\text{2010 RPI average}}{\text{x year RPI average}}$$

Table 7a Collision Remedial Scheme Types and References

Scheme Type	Scheme Reference
Realignment of Bend	A
Alteration to Roundabout	B
Improved Pedestrian Facility	C
Right Turn Lane Provided	D
Road Markings Provided	E
Signs & Road Markings Provided	F
Guard Rail for Pedestrians	G
Visibility Improved	H
Carriageway Widened	I
Street Lighting Provided at Pedestrian Crossing	J
Zebra Crossing Provided	K
Skid Resistant Surface Dressing	L
Ladder Markings Provided	M
Roundabout Provided	N
Vehicle Guard Rail Provided	O
Traffic Islands Provided	P
Crossfall Altered	Q
Asphalt / Bitmac Resurfacing	R
Pelican Crossing Provided	S
Traffic Signs Provided	T
Signing Improvement	U
Street Lighting Improved	V
Traffic Signals Altered	W
Visibility Reduced	X
Junction Altered	Y
Speed Tables, Chicanes & Islands	Z
Street Lighting Provided	AA
Drainage & Resurfacing	AB
Ladder Markings & Pedestrian Refuge	AC
Sightline & Lighting Improved	AD
Pelican, Right Turn Protection & Markings	AE
Street Lighting & Guard Rail	AF
Markings & Signal Alterations	AG
Carriageway Widened & Markings	AH
Provision of Islands & Lighting	AI
Anti-Skid & Yellow Bar Markings	AJ
New Traffic Signals	AK
Realignment of Bend & Asphalt / Bitmac Resurfacing	AR
Kerbed & Grassed Central Reservation	AS
Footway Build Outs	AT
Alteration to Roundabout & Skid Resistant Surface	B/L
Improved Pedestrian Facility and Right Turn Lane Provided	C/D
Right Turn Lane Provided & Carriageway Widened	D/I
Right Turn Lane Provided & Traffic Islands Provided	D/P
Right Turn Lane Provided & Traffic Signals Altered	D/W
Visibility Improved & Asphalt / Bitmac Resurfacing	H/R
Skid Resistant Surface Dressing & Crossfall Altered	L/Q
Skid Resistant Surface Dressing & Junction Altered	L/Y
Roundabout Provided & Traffic Signals Provided	N/P
Crossfall Altered & Asphalt / Bitmac Resurfacing	Q/R

Table 7b: Value Analysis of Schemes Completed between April 2006/07 & 2010/11
***Arranged in Priority of Cost Effectiveness**

Scheme Reference	Scheme Type	No. of schemes	Cost in 2010 terms (£)	Average scheme cost (£)	Average collisions saved	Average cost / collision saved (£)
Q / R	Crossfall Altered & Asphalt / Bitmac Resurfacing	6	472,474	78,746	2.70	174,990
N	Roundabout Provided	3	791,937	263,979	4.70	168,497
L	Skid Resistant Surface Dressing	27	489,869	18,143	3.22	152,133
AK	New Traffic Signals	2	73,238	36,619	0.50	146,476
A	Realignment of Bend	3	278,862	92,954	2.67	104,443
E+U	Road Markings Provided + Signing Improvement	8	93,632	11,704	1.00	93,632
Q,R,D	Crossfall Altered + Asphalt / Bitmac Resurfacing + Right Turn Lane Provided	1	170,719	170,719	2.00	85,359
A,D,Q/R	Realignment of Bend + Right Turn Lane Provided + Crossfall Altered & Asphalt / Bitmac Resurfacing	1	275,703	275,703	4.00	68,926
D/I+T	Right Turn Lane Provided & Carriageway Widened + Traffic Signs Provided	1	136,022	136,022	2.00	68,011
D	Signing Improvement	5	311,513	62,303	4.60	67,720
D/I	Right Turn Lane Provided & Carriageway Widened	1	189,462	189,462	3.00	63,154
H	Visibility Improved	2	187,235	93,618	3.00	62,412
W	Traffic Signals Altered	7	350,556	50,079	5.70	61,501
A&Q	Realignment of Bend + Crossfall Altered	2	240,119	240,119	4.00	60,030
D/P	Right turning lane & Traffic Island Provided	1	167,408	167,408	3.00	55,803
U+L	Signing Improvement + Skid Resistant Surface Dressing	11	181,850	16,532	3.50	51,957
U,H,L	Visibility Improved + Skid Resistant Surface Dressing + Signing Improvement	2	62,556	31,278	1.50	41,704
S + L	Pelican Crossing Provided + Skid Resistant Surface Dressing	1	68,237	68,237	2.00	34,119
Al+L	Provision of Islands & Lighting + Skid Resistant Surface Dressing	1	66,061	66,061	2.00	33,031
F	Signs & Road Markings Provided	6	98,669	16,445	3.30	29,900
H / Y / R	Visibility Improved + Junction Altered + Asphalt / Bitmac Resurfacing	1	86,584	86,584	3.00	28,861
B	Alteration to Roundabout	1	101,585	101,585	4.00	25,396
L&F	Signs & Road Markings Provided & Skid Resistant Surface	5	99,635	19,927	4.00	24,909
D,H,T	Right Turn Lane Provided + Visibility Improved + Traffic Signs Provided	1	72,868	72,868	3.00	24,289
F,Y	Signs & Road Markings Provided + Junction Altered	1	45,803	45,803	2.00	22,901
H / I / R	Visibility Improved + Carriageway Widened + Asphalt / Bitmac Resurfacing	1	86,584	86,584	4.00	21,646
R	Asphalt / Bitmac Resurfacing	2	68,363	34,182	3.50	19,532
D+C	Right Turn Lane Provided + Improved Pedestrian Facility	1	57,565	57,565	3.00	19,188
A,C,O,Q,R	Realignment of Bend + Improved Pedestrian Facility + Vehicle Guard Rail Provided + Crossfall Altered + Asphalt / Bitmac Resurfacing	2	66,402	33,201	3.50	18,972
A,AH	Realignment of Bend + Carriageway Widened & Markings	1	90,317	90,317	5.00	18,063
B,F	Alteration to Roundabout + Signs & Road Markings Provided	1	33,482	33,482	2.00	16,741
AK+L	New Traffic Signals + Skid Resistant Surface Dressing	1	230,500	230,500	14.00	16,464
B+C	Alteration to Roundabout + Improved Pedestrian Facility	1	16,234	16,234	1.00	16,234
Y,H	Junction Altered + Visibility Improved	1	30,343	30,343	2.00	15,172
F,L,P	Signs & Road Markings Provided + Skid Resistant Surface Dressing + Traffic Islands Provided	1	14,070	14,070	1.00	14,070
AB,U	Drainage & Resurfacing + Signing Improvement	1	55,067	55,067	4.00	13,767
F, L, Q, R	Signs & Road Markings Provided + Skid Resistant Surface Dressing + Crossfall Altered + Asphalt / Bitmac Resurfacing	1	39,929	39,929	3.00	13,310
AH	Carriageway Widened & Markings	1	53,032	53,032	4.00	13,258
P+D	Traffic Islands Provided + Right Turn Lane Provided	1	35,716	35,716	3.00	11,905
B/L	Alteration to Roundabout & Skid Resistant Surface	1	34,688	34,688	3.00	11,563
F,H&Q	Signs & Road Markings Provided + Visibility Improved + Crossfall Altered	1	21,646	21,646	2.00	10,823
D/P+W	Right Turn Lane Provided & Traffic Islands Provided + Traffic Signals Altered	1	21,646	22,574	2.00	10,823
H,U,R	Visibility Improved + Signing Improvement + Asphalt / Bitmac Resurfacing	1	41,853	41,853	4.00	10,463
C,W	Improved Pedestrian Facility + Traffic Signals Altered	1	113,245	113,245	11.00	10,295

Table 7b (cont.)

Scheme Reference	Scheme Type	No. of schemes	Cost in 2010 terms (£)	Average scheme cost (£)	Average collisions saved	Average cost / collision saved (£)
W,Y	Traffic Signals Altered + Junction Altered	1	53,097	53,097	6.00	8,850
R+L	Asphalt / Bitmac Resurfacing + Skid Resistant Surface Dressing	1	8,329	8,329	0.00	8,329
C+L	Improved Pedestrian Facility + Skid Resistant Surface Dressing	1	31,898	31,898	4.00	7,974
L,M,T,Y	Skid Resistant Surface Dressing + Ladder Markings Provided + Traffic Signs Provided + Junction Altered	1	30,304	30,304	4.00	7,576
F,Q/R	Signs & Road Markings + Crossfall Altered & Asphalt / Bitmac Resurfacing	1	28,250	28,250	4.00	7,063
Y	Junction Altered	1	12,492	12,492	2.00	6,246
L & E	Skid Resistant Surface Dressing + Road Markings Provided	1	11,500	11,500	2.00	5,750
EFL	Road Markings Provided + Signs & Road Markings Provided + Skid Resistant Surface Dressing	2	11,287	5,644	0.00	5,644
F,L,M	Signs & Road Markings Provided + Skid Resistant Surface Dressing + Ladder Markings Provided	1	33,551	33,551	6.00	5,592
F,H	Signs & Road Markings Provided + Visibility Improved	1	16,740	16,740	3.00	5,580
K	Zebra Crossing Provided	3	11,055	3,685	2.00	5,528
C/D+P	Improved Pedestrian Facility and Right Turn Lane Provided + Traffic Islands Provided	1	15,695	15,695	3.00	5,232
C,A/C	Improved Pedestrian Facility + Ladder Markings & Pedestrian Refuge	1	26,000	26,000	5.00	5,200
C,G,L	Improved Pedestrian Facility + Guard Rail for Pedestrians + Skid Resistant Surface Dressing	1	35,176	35,176	7.00	5,025
E	Road Markings Provided	3	13,533	4,511	2.70	5,012
P / T	Traffic Islands Provided + Traffic Signs Provided	1	24,832	24,832	5.00	4,966
M	Ladder Markings Provided	1	22,574	22,574	5.00	4,515
AA+U	Street Lighting Provided + Signing Improvement	1	12,362	12,362	3.00	4,121
H/R+F	Visibility Improved & Asphalt / Bitmac Resurfacing + Signs & Road Markings Provided	1	32,469	33,862	8.00	4,059
Q	Crossfall Altered	1	15,000	15,000	4.00	3,750
C,F,L	Improved Pedestrian Facility + Signs & Road Markings Provided + Skid Resistant Surface Dressing	1	17,317	17,317	5.00	3,463
K & T	Zebra Crossing Provided + Traffic Signs Provided	1	12,416	12,416	4.00	3,104
U	Signing Improvement	1	8,328	8,328	3.00	2,776
Q/R+U	Crossfall Altered & Asphalt / Bitmac Resurfacing + Signing Improvement	2	7,576	3,788	3.00	2,525
C	Improved Pedestrian Facility	1	10,823	10,823	6.00	1,804
K & Y	Zebra Crossing Provided + Junction Altered	1	10,723	10,723	6.00	1,787
F,U	Signs & Road Markings Provided + Signing Improvement	1	4,185	4,185	4.00	1,046
L,T	Skid Resistant Surface Dressing & Traffic signs provided	1	8,327	8,327	8.00	1,041
L,U,E	Skid Resistant Surface Dressing + Signing Improvement + Road Markings Provided	1	4,008	4,008	4.00	1,002
L/Y	Skid Resistant Surface Dressing + junction Altered	1	5,541	5,541	-1.00	-5,541
T,L/Y	Traffic Signs Provided + Skid Resistant Surface Dressing & Junction Altered	1	28,107	28,107	-2.00	-14,054
B,F,L	Alteration to Roundabout + Signs & Road Markings Provided + Skid Resistant Surface Dressing	2	58,000	58,000	-3.50	-16,571
M,AK & BL	Ladder Markings Provided + New Traffic Signals + Alteration to Roundabout & Skid Resistant Surface	1	133,189	133,189	-3.00	-44,396

Example of a Collision Remedial Scheme



Middle Road at Meadow Hill, Carrickfergus, (Before)



Middle Road at Meadow Hill, Carrickfergus, (After)

Fig. 2: Collision Remedial Scheme, provision of puffin crossing and road widening

2.0 Traffic Calming Measures

2.1 Traffic Calming Schemes

The objective of a traffic calming scheme is to improve driver behaviour and control traffic speed and traffic volume in order to reduce the number of collisions, primarily those involving pedestrians and cyclists in urban areas.

Traffic calming schemes aim to reduce road traffic collisions by reducing the speed of vehicles over an area or on an individual length of road. Sites are considered based on collision history, traffic speed and volume, and road environment. Schemes are prioritised using a points system, influenced by these factors.

Table 8 below gives overall details of traffic calming schemes implemented from 2000/01 to 2013/14.

2.2 Traffic Calming Programme

Table 8: Overall details of Traffic Calming Programme

Year	Schemes Implemented	Expenditure (£)	Average Cost Per Scheme (£)
2000/01	31	896,437	28,917
2001/02	50	1,508,611	30,172
2002/03	50	1,513,773	30,275
2003/04	65	1,930,200	29,695
2004/05	79	2,567,142	32,495
2005/06	66	2,836,961	42,984
2006/07	51	1,357,225	26,613
2007/08	59	1,372,750	23,267
2008/09	74	1,804,945	24,391
2009/10	53	1,164,800	21,977
2010/11	25	891,749	35,670
2011/12	46	1,304,400	28,357
2012/13	18	464,034	25,780
2013/14	25	305,842	12,234

2.2 Effectiveness of Traffic Calming Programmes

Detailed information on all traffic calming schemes that TransportNI has implemented from 2006/07 to 2013/14 is given in Appendix II.

The tables in Appendix II provide a comparison of the number of collisions before and after scheme implementation. Traffic calming schemes are primarily undertaken to reduce the volume and speed of traffic and the occurrence of road traffic collisions in residential areas. The resultant changes in these factors reflect the effectiveness of this programme of works. This report concentrates on the reduction of collisions.

For traffic calming schemes implemented in 2009/10, monitoring shows 18 fewer collisions have occurred in the 3 years following completion of the works. Similarly for schemes implemented in 2010/11, monitoring shows 23 fewer collisions.

2.3 Traffic Calming Expenditure

Fig.3: shows graphically the number of traffic calming schemes and total expenditure from 2000/01 – 2013/14.

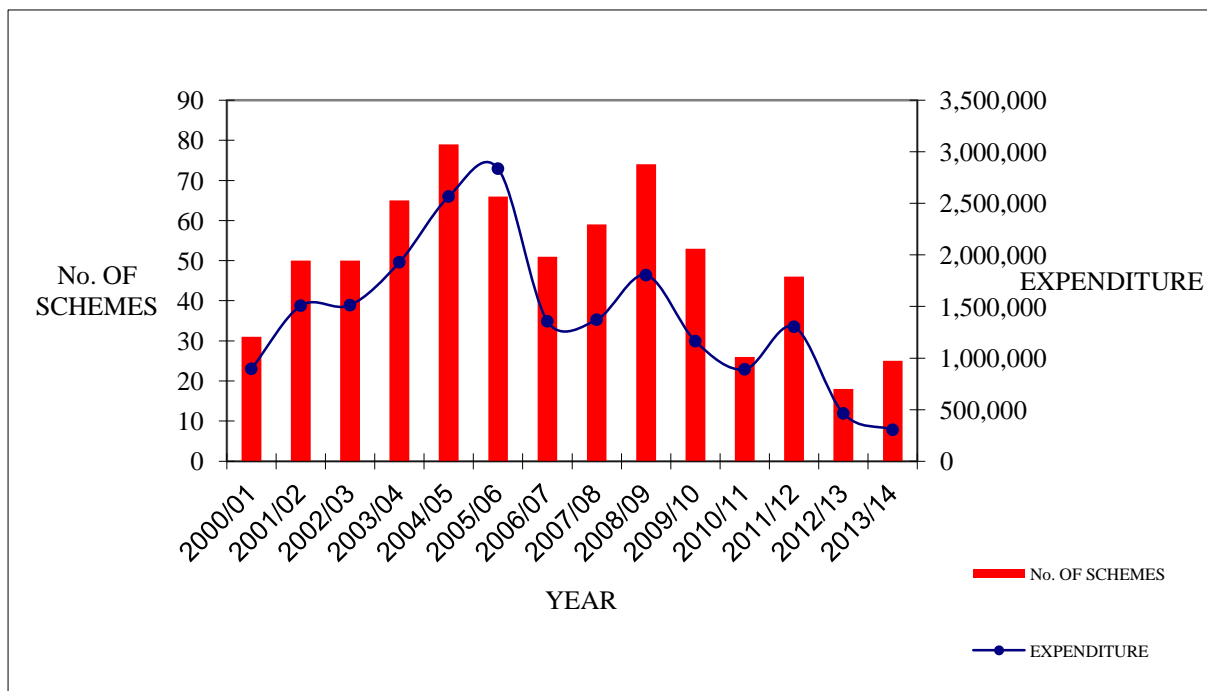


Fig. 3: Expenditure on Traffic Calming Schemes 2000/01 to 2013/14

Example of Traffic Calming Scheme



Lower Malone area, Belfast (Before)



Lower Malone area, Belfast (After)

Fig. 4: Road humps implemented to reduce volume and speed of traffic in urban areas.

3.0 VEHICLE ACTIVATED SIGNS (VAS)

3.1 Vehicle Activated Sign Schemes

Travelling too fast for the conditions is a major factor in many road traffic collisions. Vehicle Activated Signs can help encourage drivers to adjust their speed and alert them to road conditions ahead. For example, VAS can be particularly useful on the approach to a bend or junction where there is a history of collisions or drivers losing control of their vehicle.

It is important to note that Vehicle Activated Signs are considered to be additional to and an enhancement of the conventional signage. The merits of each proposed location are examined to determine if the site would benefit from the addition of a vehicle activated sign.

Appendix III gives details of VAS installed in 2006/07 to 2013/14.

Guidance on the use of Vehicle Activated Signs can be found in Traffic Advisory Leaflet TA 1/03.

Vehicle Activated Sign



Fig. 5: Speed Reactive Junction Warning Signs at Kilknock Cross, Largy Road.

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Appendix I

Collision Remedial Schemes

**Details of Schemes Implemented from
2006 /07 - 2013 /14**

**Summary of Schemes Implemented
from 2000 /01 – 2013 /14**

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Table 9: 2013 / 2014 COLLISION REMEDIAL SCHEMES

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE		
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGET	1	2	3	TOTAL				
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET										
NORTHERN	1	Bridge St / Harryville junction	Sept-13	£156k	4	4	1.33														W,Y	S	
	2	Stiles Way / Ballymena Rd roundabout	Apr-14	£4700	9	9	3.00															E	S
	3	Cromkill Rd / Ballee Rd West	Mar-14	£450k	9	9	3.00															N	S
	4	A2 South of Glynn Village	Mar-14	£15,000	4	4	1.33															L,F	S
SOUTHERN	1	Edward Street/Francis Street Lurgan	Mar-14	£216k	9	5	1.67																
	2	A3 Monaghan Road (Drumacnaver)	Dec-13	£398k	7	7	2.33																
	3	Dundrum Road Newcastle (HFS)	Feb - 14	£10,000	4	3	1.00																
	4	Belfast Road Ballynahinch (HFS)	Feb - 14	£5,000	2	2	0.67																
EASTERN	1	Andersonstown Road / Kennedy Way, Belfast	Nov '13	£37,418	23	15	5.00															L	S
	2	Ballymiscaw Road / Ballyregan Road	Mar '14	£16,203	9	8	2.67															L, U	S
	3	Ballynahinch Road / Howe Road, Ballykeel	Dec '13	£25,167	4	4	1.33															A, L, U, AH	S
	4	Ballyutoag Road, Belfast	Mar '13	£64,303	12	6	2.00															E, L, U	R
	5	Collin Road, Ballyclare	Mar '14	£16,082	7	5	1.67															E, U	R
	6	East Bridge Street at Central Station	Aug '13	£42,421	8	5	1.67															L, W	S
	7	Hillhall Road at Orr's Lane, Lisburn	Mar '14	£5,371	6	6	2.00															L, U	S
	8	Middle Road / Meadow Hill, Carrickfergus	Jun '13	£54,205	5	4	1.33															D, L, S	S
	9	Old Ballynahinch Road / Comber Road	Mar '14	£19,582	6	5	1.67															L, U	S
WESTERN	1	Castledawson Road / Aghagaskin Road RTL	Oct-13	£60,000	6	5	1.67																
	2	Kiladeas Road, Lisnarick	Jan-14	£55,000	3	3	1.00															Q,R	S
	19	TOTAL		£1,550,452	137	109																	

Table 10: 2012 / 2013 COLLISION REMEDIAL SCHEMES

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE					
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGET	1	2	3	TOTAL							
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET													
NORTHERN	1	Nutts corner roudabout	Oct-12	£191,000	13	3	1.00	3	2																	
	2	A6 Castle Rd/ Milltown Rd junction	Sep-12	£8,500	4	3	1.00	1	1																	
SOUTHERN	1	A27 Poyntzpass Road (Jacksons Corner)	July 2012	£500k	5	5	1.67	0	0															A,Q/R	S	
	2	A29 Keady Road, Tassagh Gospel Hall	June 2012	£342k	6	5	1.67	0	0															A,Q/R	S	
	3	B28 Moy Road at Corcullentragh Road	March 2013	£8,600	4	4	1.33	0	0															L,U	S	
	4	A29 Armagh Road at Bachelors Walk	Sept 2013	£40k	4	4	1.33	0	0															I,Q/R	S	
	5	A3 Northway at Seagoe Junction	March 2013	£27k	15	14	4.67	2	2															L	S	
	6	Frances Street Newtownards (HFS)	Jun-12	£12,500	3	3	1.00	1	0																	
	7	Movilla Road Newtownards (HFS)	Aug-12	£8,000	3	2	0.67	1	0																	
	8	Strangford Road Downpatrick (HFS/ road markings)	Jul-12	£6,000	3	2	0.67	2	1																	
EASTERN	1	A8(M) / Ballyclare Road, Newtownabbey	Apr '12	£41,705	4	2	0.67	3	0															I	S	
	2	Balloo Road / Cayman Drive, Bangor	May '12	£44,958	4	4	1.33	0	0															D, I	S	
	3	Ballysallagh Road, Bangor	Mar '13	£32,380	11	10	3.33	3	3															L, U	R	
	4	Kings Road / Knock Road, Belfast	Mar '13	£20,727	19	10	3.33	3	0															W	S	
WESTERN																										
	1	Tattreagh Road/Carnlea Road Junction, Fintona	Jan-13	£158,500	6	5	1.67	0	0															Q,R	S	
	15	TOTAL		£532,870	104	76		19	9																	

Table 11: 2011 / 2012 COLLISION REMEDIAL SCHEMES

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE	
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGET	1	2	3	TOTAL			
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET									
NORTHERN	1	A44 Drones Road (Armoyn to Moyarget Road)	Apr-12	£15,000	21	15	5.00	4	1	3	0						4.00	5.00			E, U	
	2	A42 Ballynafie Road Portglenone near cemetery	Sep-11	£25,000	3	2	0.67	0	0	0	0						0.67	0.67			E, U	
	3	High St/ Pound St junction upgrade	May-11	£89,000	8	5	1.67	0	0	0	0						1.67	1.67			E, U	
SOUTHERN	1	A3 Monaghan Road @ Knockbane Road	Sept-11	£14,000	3	3	1.00	1	0	0	0						1.00	1.00			L	S
	2	A26 Banbridge Road, Moygannon	Oct-11	£5,000	4	4	1.33	0	0	0	0						1.33	1.33			L	S
	3	Millennium Way/Union Street, Lurgan	Dec-11	£32,000	7	6	2.00	0	0	0	0						2.00	2.00			W	S
	4	A26 Banbridge Road	Jan-12	£140,000	6	6	2.00	0	0	0	0						2.00	2.00			A, Q/R	S
	5	B3 Plantation Road/Calvertstown Road	Mar-12	£160,000	5	5	1.67	1	1	0	0						0.67	1.67			H/R	S
	6	A50 Banbridge Road, Gilford	Mar-12	£140,000	6	5	1.67	0	0	0	0						1.67	1.67			A, Q/R	S
EASTERN	1	110 Hillsborough Road, Moneyrea	Feb-12	£17,996.10	8	8	2.67	2	0	0	0						2.67	2.67			L, T	S
	2	Antrim Road / Cliftonville Road	Mar-12	£14,000.00	15	8	2.67	2	0	4	0						2.67	2.67			L, T	S
	3	Ballinderry Road - bend near Lissue	Jan-12	£64,935.96	7	7	2.33	0	0	0	0						1.33	1.33			L, Q, U	S
	4	Ballyskeagh Road adjacent to No 119	Aug-11	£14,793.18	6	4	1.33	0	0	0	0						1.33	1.33			L, U	S
	5	Ballyskeagh Road / Drumbeg Road	Mar-12	£16,189.25	5	4	1.33	0	0	0	0						1.67	1.67			L, U	S
	6	Crumlin Road, Belfast	Mar-12	£19,996.64	17	12	4.00	4	1	3	2						4.67	3.67			M	R
	7	Longwood Road / Church Road at Abbey Centre roundabout	Feb-12	£22,004.03	9	7	2.33	3	3	3	1						0.00	2.00			L	S
	8	Nelson Street / York Link	Mar-12	£89,672.37	23	10	3.33	6	2	5	1						1.33	2.33			H, L, W	S
WESTERN	1	Mayogall Road / Eden Road, Bellaghy	May-12	£124,207	3	3	1.00	0	0	0	0						1.00	1.00			Y	S
	2	Coagh Road / Ballymaguire Road, Coagh	Apr-12	£118,000	3	3	1.00	0	0	0	0						1.00	1.00			H/R	S
	3	A509 Derrylin Road North of Gransha Rd jtn	Jan-12	£77,824	7	7	2.33	0	0	0	0						2.33	2.33			Q,R	S
	20	TOTAL		£1,199,619	166	124		23	8	18	4						33.33	37.33				

Table 12: 2010 / 2011 COLLISION REMEDIAL SCHEMES

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGET	1	2	3	TOTAL		
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET								
NORTHERN	1	Ballee Roundabout, Ballymena	Nov-10	£28,000	8	7	2.33	4	4	8	7	7	6	19	17	-1.67	-4.67	-3.67	-10.00	B,F,L	S
	2	Roguary Road/Ballydonnelly Road near Toome	Mar-11	£9,000	6	5	1.67	0	0	0	0	0	0	0	0	1.67	1.67	1.67	5.00	F	S
	3	Whitesides Road, Ballymena	Nov-10	£21,000	6	5	1.67	1	1	1	0	1	1	3	2	0.67	1.67	0.67	3.00	F, L	R
	4	Bann Road, Ballymoney	Feb-11	£42,000	3	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	F, L, Q, R	S
	5	Broughshane Street/Park Way, Ballymena	Mar-11	£37,000	11	7	2.33	0	0	0	0	0	0	0	0	2.33	2.33	2.33	7.00	C,G,L	MA
	6	B69 Seacoast Road Limavady (A37 to Swans Bridge)	Mar-11	£12,000	8	5	1.67	3	2	0	0	1	0	4	2	-0.33	1.67	1.67	3.00	E, U	R
SOUTHERN	1	C364 Clare Road/Lowtown Road Crossroads	May 2010	£50,000	6	4	1.33	0	0	1	1	1	1	2	2	1.33	0.33	0.33	2.00	H,,L,U	S
	2	A51 Hamiltonsbawn Road, Armagh	June 2010	£15,000	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	Q	S
	3	A3 at Cloghan road Junction	March 2011	£290,000	6	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	A,D,Q/R	S
	4	Union Street/Russell Drive Junction Lurgan	March 2011	£64,000	5	4	1.33	0	0	0	0	2	0	2	0	1.33	1.33	1.33	4.00	W	S
	5	B10 at Mathers Corner	March 2011	£95,000	6	5	1.67	0	0	0	0	0	0	0	0	1.67	1.67	1.67	5.00	A,AH	S
	6	B10 at Glebe Road Annaclone	Mar-11	£4,000	6	6	2.00	0	0	0	0	0	0	0	0	2.00	2.00	2.00	6.00	L,U	S
EASTERN	1	Balloo Road / Bloomfield Road South	June '10	£53,097	9	7	2.33	0	0	1	1	0	0	1	1	2.33	1.33	2.33	6.00	W, Y	S
	2	Ballysallagh Road / Crawfordsburn Road	March '11	£8,759	8	8	2.67	1	0	0	0	0	0	1	0	2.67	2.67	2.67	8.00	L, T	S
	3	Doagh Road / Old Carrick Road, Newtownabbey	July '10	£15,468	5	3	1.00	2	1	1	0	1	0	4	1	0.00	1.00	1.00	2.00	L	S
	4	West Circular Road / Newtownards Road Roundabout	Mar '11	£29,446	24	17	5.67	9	5	5	3	10	5	24	13	0.67	2.67	0.67	4.00	L	S
WESTERN	1	Magheranageeragh	Aug-10	£60,000	4	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	R	S
	17	TOTAL		£833,770	125	97		20	13	17	12	23	13	60	38	19.33	20.33	19.33	59		

Table 13: 2009 / 2010 COLLISION REMEDIAL SCHEMES

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE	
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGET	1	2	3	TOTAL			
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET									
NORTHERN	1	Main Road Glynn	Dec-09	£19,000	7	5	1.67	0	0	0	0	0	0	0	0	0	1.67	1.67	1.67	5.00	F, L	S
	2	Teeshan Interchange Ballymena	Mar-10	£22,000	6	5	1.67	1	1	1	1	0	0	2	2	0.67	0.67	1.67	3.00	F	R	
	3	Galgorm Road Ahoghill	Mar-10	£26,000	11	6	2.00	0	0	2	1	1	0	3	1	2.00	1.00	2.00	5.00	C,A/C	R	
	4	Portrush Road Roundabout Ballymoney	Mar-10	£30,000	6	5	1.67	1	1	1	1	0	0	2	2	0.67	0.67	1.67	3.00	B,F,L	S	
	5	Atlantic Road / Islandtasserty Road,Portrush.	Mar-10	£90,000	4	4	1.33	0	0	1	1	0	0	1	1	1.33	0.33	1.33	3.00	A	S	
	6	Broad Road / Ringsend Road, Limavady.	Jul-10	£79,000	6	3	1.00	0	0	1	1	0	0	1	1	1.00	0.00	1.00	2.00	A	S	
	7	Moyarget Road, (Derrykeighan to Ballycastle)	Mar-10	£13,000	8	4	1.33	1	0	2	1	7	4	10	5	1.33	0.33	-2.67	-1.00	E+U	R	
	8	Limavady Road, Garvagh.	Aug-09	£5,000	5	4	1.33	1	0	0	0	0	0	1	0	1.33	1.33	1.33	4.00	E+U	R	
	9	Right Turn Lanes on A6 Glenshane Rd at Lismacarroil	Aug-09	£130,000	4	2	0.67	1	0	0	0	0	0	1	0	0.67	0.67	0.67	2.00	D/I+T	S	
	10	A2 Buncrana Road @ Whitehouse	Sep-09	£15,000	6	4	1.33	3	1	1	0	0	0	4	1	0.33	1.33	1.33	3.00	C/D+P	R	
	11	A5 N,bldgs-M,mason Route Treatment	Feb-10	£11,000	6	5	1.67	1	0	0	0	2	0	3	0	1.67	1.67	1.67	5.00	E+U	R	
SOUTHERN	1	A1 Carnbane Way / Newry By-Pass	Feb 10	£11,500	2	2	0.67	0	0	0	0	0	0	0	0	0.67	0.67	0.67	2.00	L & E	S	
	2	B3 Plantation Road@ Shaws Farm,Gilford	July-09	£130,000	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	A, Q	S	
	3	A27 Portadown Road' Shorts +Rds, Mullavilly	June-09	£300,000	6	6	2.00	0	0	0	0	2	0	2	0	2.00	2.00	2.00	6.00	N	S	
	4	A3 Belfast Road@Cottage Rd/Inn Rd +Rds,Dollingstown	Jun-09	£250,000	5	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	N	S	

Table 13: 2009 / 2010 COLLISION REMEDIAL SCHEMES (cont.)

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGER	1	2	3	TOTAL		
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET								
EASTERN	1	Albertbridge Road/Castlereagh Street/Mountpottinger Road	Nov-09	£87,275	11	4	1.33	4	0	0	0	2	0	6	0	1.33	1.33	1.33	4.00	D	S
	2	Ballygowan Road/Ryan Park	Mar-10	£23,490	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	L	S
	3	Belmont Road/Parkway	Mar-10	£31,765	15	6	2.00	3	1	5	2	1	0	9	3	1.00	0.00	2.00	3.00	L	S
	4	Hillhall Road Double Bend 200m East of Church Lane (O'Kanes)	Oct-09	£18,683	5	5	1.67	1	0	1	1	1	1	3	2	1.67	0.67	0.67	3.00	L	S
	5	Hillhall Road - Bend @ Carson's Lane	Apr-09	£13,434	6	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	L	S
	6	Hillhall Rd - 100m west of Drumbeg Road (Homestead)	Nov-09	£16,821	6	6	2.00	0	0	0	0	0	0	0	0	2.00	2.00	2.00	6.00	L	S
	7	Larne Road / Downshire Road	Mar-10	£4,223	10	6	2.00	1	1	0	0	0	0	1	1	1.00	2.00	2.00	5.00	L	S
	8	Malone Road / Upper Malone Road	Sep-09	£65,216	13	6	2.00	2	1	2	2	3	1	7	4	1.00	0.00	1.00	2.00	S + L	S
	9	Old Ballynahinch Road - River Road To Drennans Road	Jan-10	£15,277	6	6	2.00	0	0	1	1	0	0	1	1	2.00	1.00	2.00	5.00	L	S
	10	York St / Brougham St / Dock St	Jun-09	£54,254	14	8	2.67	2	1	3	0	2	0	7	1	1.67	2.67	2.67	7.00	D	S
WESTERN	1	B72 Manoo Road, Kesh	Mar-09	£15,000	3	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	L	S
	2	A32 Moss Field Irvinestown	Jul-09	£16,000	4	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	L	S
	3	C636 Tullycullion/Tullydraw, Dungannon	Mar-10	£40,000	8	5	1.67	1	0	1	1	0	0	2	1	1.67	0.67	1.67	4.00	H,U,R	S
	4	A31 SmithStreet/Circular Road,Money more	Mar-10	£9,000	5	4	1.33	2	2	0	0	0	0	2	2	-0.67	1.33	1.33	2.00	L, U	S
	5	Aughrim Road/Creagh Road	Sep-09	£8,359	5	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	L, U	S
	6	B82 Killadeas Road at Duross Road junction	Mar-10	£30,000	5	3	1.00	0	0	0	0	3	3	3	3	1.00	1.00	-2.00	0.00	Q,R	S
31	TOTAL		£1,580,297	206	140		25	9	22	13	24	9	71	31	37.67	33.67	37.67	109			

Table 14: 2008 / 2009 COLLISION REMEDIAL SCHEMES

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE	
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGET	1	2	3	TOTAL			
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET									
NORTHERN	1	Mullennan Road/Letterkenny Road, Londonderry	Aug-09	£160,000	5	3	1.00	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	D/P	S
	2	Ardmore Road Londonderry	Mar-09	£40,000	3	2	0.67	0	0	1	0	0	0	1	0	0.67	0.67	0.67	2.00	A	S	
	3	A2 Clooney Road @ Temple Road junc, Londonderry	Apr-08	£9,000	6	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	L	S	
	4	Culmore Road @ Ardan Rd junction , Londonderry	Feb-09	£8,700	3	2	0.67	0	0	1	1	2	1	3	2	0.67	-0.33	-0.33	0.00	L	S	
	5	Dublin Road Ballymena Road Antrim	Mar-09	£32,000	9	6	2.00	4	1	5	2	3	1	12	4	1.00	0.00	1.00	2.00	B,F	S	
	6	Portglenone Road at Kilknock Cross	Dec-08	£44,000	5	5	1.67	2	2	0	0	1	1	3	3	-0.33	1.67	0.67	2.00	F,Y	S	
	7	Liminary Road Ballymena	Feb-09	£27,000	5	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	F,Q/R	S	
	8	Lunnan Road at Low Road Islandmagee	Jan-09	£16,000	4	4	1.33	2	1	0	0	0	0	2	1	0.33	1.33	1.33	3.00	F,H	S	
	9	Victoria Road Agnew Street Larne	Jun-08	£6,000	8	7	2.33	1	0	1	0	0	0	2	0	2.33	2.33	2.33	7.00	W	S	
	10	Priestland Road (Ballybogy to Bushmills)	Aug-08	£14,973	10	4	1.33	1	1	3	3	0	0	4	4	0.33	-1.67	1.33	0.00	E+U	R	
	11	Aghanloo Road (Windyhill Road to Seacoast Road)	Mar-09	£5,000	5	4	1.33	0	0	1	1	2	1	3	2	1.33	0.33	0.33	2.00	E+U	R	
	12	Cushendall Road (Ballycastle to Cushendall)	Mar-09	£21,796	10	5	1.67	2	2	1	1	4	2	7	5	-0.33	0.67	-0.33	0.00	E+U	M	
SOUTHERN	1	A24 Newcastle Road @ Tannaghmore	May-08	£7,500	6	4	1.33	1	0	0	0	1	0	2	0	1.33	1.33	1.33	4.00	E	S	
	2	A50 Castlewellan Road @ Church Hill	Jun-08	£2,500	6	2	0.67	0	0	0	0	0	0	0	0	0.67	0.67	0.67	2.00	E	S	
	3	A25 Ballydugan Road / Ballykilbeg Rd Jct	Nov-08	£17,500	8	3	1.00	0	0	0	0	1	0	1	0	1.00	1.00	1.00	3.00	L	S	
	4	A25 Castlewellan Rd @ Moneycarragh Bridge	Oct-08	£7,000	4	3	1.00	0	0	1	0	1	0	2	0	1.00	1.00	1.00	3.00	L	S	
	5	A27 Portadown Rd @ Ballyknock +rds	Feb 09	£105,000	5	4	1.33	1	1	0	0	1	0	2	1	0.33	1.33	1.33	3.00	A	S	
	6	B32 Castleblaney Rd @ Carna Hall	Jan 09	£2,000	5	5	1.67	0	0	0	0	0	0	0	0	1.67	1.67	1.67	5.00	F	S	
	7	A27 Lurgan Rd @Upper Church Lane jct	Mar-09	£38,000	6	3	1.00	0	0	0	0	1	0	1	0	1.00	1.00	1.00	3.00	W	S	
	8	A26 Tullyraine Rd@ Blackskull Rd jct	Nov-08	£15,000	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	L&U	S	
	9	B77 Red Lion Rd @ Lissheffield Rd jct	Oct-08	£100,000	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	A&Q	S	

Table 14: 2008 / 2009 COLLISION REMEDIAL SCHEMES (cont.)

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET/ YEAR	1		2		3		ALL	TARGER	1	2	3	TOTAL		
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET								
EASTERN	1	A2 Larne Road	Mar-09	£4,000	10	4	1.33	0	0	4	0	1	0	5	0	1.33	1.33	1.33	4.00	F,U	R
	2	Balloo Rd / Gransha Rd	Nov-08	£108,788	14	11	3.67	0	0	0	0	0	0	0	0	3.67	3.67	3.67	11.00	C,W	S
	3	Ballykeel Crossroads (Upper)	Jan-09	£12,000	4	3	1.00	0	0	1	1	1	1	2	2	1.00	0.00	0.00	1.00	U,H,L	S
	4	Belfast Rd / Old Belfast Rd / Rathgael Rd	Sep-08	£103,791	14	8	2.67	5	0	3	0	2	0	10	0	2.67	2.67	2.67	8.00	W	S
	5	Hillhall Rd at bend 250m South of Glen Rd	Jun-08	£12,000	7	5	1.67	0	0	0	0	0	0	0	0	1.67	1.67	1.67	5.00	U,L	S
	6	M5 / Shore Rd roundabout	Aug-08	£3,850	11	5	1.67	4	1	1	0	9	0	14	1	0.67	1.67	1.67	4.00	L,U,E	S
	7	Millfield / North St / Peter's Hill / Carrick Hill	May-08	£95,703	30	12	4.00	5	2	4	0	8	0	17	2	2.00	4.00	4.00	10.00	W	S
	8	Monkstown Rd / Doagh Rd	Aug-08	£3,771	6	3	1.00	1	1	3	2	7	4	11	7	0.00	-1.00	-3.00	-4.00	L	S
	9	Quarterland Rd / C19 Budore Rd / Tornagrough Rd	Jun-08	£70,000	6	5	1.67	1	1	0	0	1	1	2	2	0.67	1.67	0.67	3.00	D,H,T	S
	10	Saintfield Rd / Old Ballynahinch Rd	Feb-09	£29,000	9	6	2.00	2	2	1	1	2	1	5	4	0.00	1.00	1.00	2.00	Y,H	S
WESTERN	1	A45 Ballynakilly Road, Coalisland	Oct-08	£104,000	3	3	1.00	0	0	0	0	1	1	0	0	1.00	1.00	0.00	2.00	Q,R	S
	2	B182 Deerpark Road, Bellaghy	Feb-08	£122,343	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	Q,R	S
	3	A3 Cavan Road, Newtownbutler	Oct-08	£100,000	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	Q,R	S
	4	B127 Newbridge Road, Lisnaskea	Sep-08	£164,000	3	2	0.67	0	0	0	0	0	0	0	0	0.67	0.67	0.67	2.00	Q,R,D	S
	5	C415 Lower Chanterhill Road, Enniskillen	Aug-08	£12,000	5	3	1.00	0	0	1	1	0	0	1	1	1.00	0.00	1.00	2.00	L	S
	6	B4 Minniburns	Feb-09	£27,000	4	2	0.67	0	0	1	1	1	1	1	2	0.67	-0.33	-0.33	0.00	L,U	S
	7	A5 Urney Road signals Strabane	Dec-08	£18,900	5	3	1.00	0	0	0	0	2	2	0	2	1.00	1.00	-1.00	1.00	L	S
	8	Kirlish Road Drumquin	Apr-08	£52,900	5	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	AB,U	S
39	TOTAL		£1,723,015	265	168		32	15	33	14	52	17	113	45	41.00	42.00	39.00	122			

Table 15: 2007 / 2008 COLLISION REMEDIAL SCHEMES

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE	
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGET	1	2	3	TOTAL			
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET									
NORTHERN	1	B69 Baranalt Road, at Tully / Sesnagh, Limavady	Oct-07	£166,000	5	5	1.67	0	0	0	0	0	0	0	0	0	1.67	1.67	1.67	5.00	H	S
	2	A26 Newbridge Road at Causeway Hospital Entrance	Aug-07	£29,000	4	4	1.33	1	1	3	3	1	1	5.00	5	0.33	-1.67	0.33	-1.00	AK	S	
	3	B17 Cloyfin Road, Coleraine.	Jan-08	£9,000	7	5	1.67	4	3	5	3	4	4	13.00	10	-1.33	-1.33	-2.33	-5.00	E+U	R	
	4	Buncrana Road Lay-by Protection	Mar-08	£12,000	2	2	0.67	0	0	0	0	0	0	0.00	0	0.67	0.67	0.67	2.00	Y	S	
	5	Castle Road Antrim	May-07	£31,000	7	6	2.00	1	0	0	0	0	0	1.00	0	2.00	2.00	2.00	6.00	F,L,M	R	
	6	Cullybackey Road/ Sand Road Ballymena	Aug-07	£16,000	7	6	2.00	1	1	0	0	1	0	2.00	1	1.00	2.00	2.00	5.00	C,F,L	S	
	7	Ballee Road West Cromkill Road Ballymena	Nov-07	£13,000	9	8	2.67	2	2	4	4	1	1	7.00	7	0.67	-1.33	1.67	1.00	F,L,P	S	
	8	Ballyrickard Road Larne	Nov-07	£23,000	6	6	2.00	1	1	1	1	1	0	3.00	2	1.00	1.00	2.00	4.00	F,L	R	
	9	A57 Ballyclare Road Templepatrick at Bridge End Road	Aug-07	£28,000	5	5	1.67	0	0	1	1	0	0	1.00	1	1.67	0.67	1.67	4.00	L,M,T,Y	S	
	10	Cushendall Road Cargan, Ballymena	Dec-07	£45,000	6	4	1.33	0	0	0	0	1	1	1.00	1	1.33	1.33	0.33	3.00	A,C,O,Q,R	S	
	11	Cushendall Road Ballymena	Jun-08	£17,000	9	5	1.67	0	0	1	0	1	1	2.00	1	1.67	1.67	0.67	4.00	A,C,O,Q,R	R	
	12	A8 Harbour Highway at The Ramp	Jul-08	£27,000	5	5	1.67	3	3	1	0	4	4	8.00	7	-1.33	1.67	-2.33	-2.00	T,L/Y	S	
SOUTHERN	1	Dublin Road @ Lower Burren Road	Dec-07	£10,000	5	5	1.67	0	0	1	0	0	0	1.00	0	1.67	1.67	1.67	5.00	L	S	
	2	B177 Hillsborough Road @ Magheraknock Road	Feb 08	£3,000	4	2	0.67	0	0	0	0	2	0	2.00	0	0.67	0.67	0.67	2.00	E	S	
	3	Moy Road Roundabout, Armagh	Nov-07	£15,000	5	3	1.00	1	1	1	1	0	0	2.00	2	0.00	0.00	1.00	1.00	B+C	S	
	4	A27 Aughlish Road @ Monclone (Part of SO resurfacing)	Aug-07	£2,000	4	4	1.33	0	0	1	1	0	0	1.00	1	1.33	0.33	1.33	3.00	Q/R+U	S	
	5	A27 Aughlish Road @ Jacksons (Part of SO resurfacing)	Aug-07	£5,000	4	4	1.33	0	0	0	0	4	4	4.00	4	1.33	1.33	-2.67	0.00	Q/R+U	S	
	6	A50 Gilford Road @ Drumlin Hill New Roundabout construction	Jul-07	£200,000	5	5	1.67	1	1	0	0	0	0	1.00	1	0.67	1.67	1.67	4.00	N	S	
	7	Roundabout 4: A27 Mandeville Road approach	Dec-07	£7,696	4	4	1.33	0	0	1	1	3	3	4.00	4	1.33	0.33	-1.67	0.00	R+L	S	
	8	Roundabout4 :A3 Central Way approach	May-07	£7,700	5	5	1.67	0	0	2	1	1	1	3.00	2	1.67	0.67	0.67	3.00	L	S	
	9	A50 Moyallen Rd near Plantation Rd	Oct-07	£10,000	3	3	1.00	0	0	0	0	0	0	0.00	0	1.00	1.00	1.00	3.00	L+U	S	
	10	A28 Newry Rd @ Waughes +rds	May-08	£182,000	5	3	1.00	0	0	0	0	0	0	0.00	0	1.00	1.00	1.00	3.00	D/I	S	

Table 16: 2007 / 2008 COLLISION REMEDIAL SCHEMES (cont.)

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGER	1	2	3	TOTAL		
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET								
EASTERN	1	East Antrim Institute	Mar-08	£12,311	6	5	1.67	0	0	0	0	0	0	0.00	0	1.67	1.67	1.67	5.00	L	S
	2	East Circular Rd-Donaghadee Rd roundabout	Nov-07	£28,031	11	10	3.33	0	0	3	2	1	0	4.00	2	3.33	1.33	3.33	8.00	L	S
	3	Gransha Rd-Lisleen Rd-Lisleen Rd South	Feb-08	£7,954	5	3	1.00	0	0	1	0	0	0	1.00	0	1.00	1.00	1.00	3.00	U+L	S
	4	Hollywood By-pass-Sullivan Place-Redburn Square	Jan-08	£5,285	6	5	1.67	2	0	2	0	2	1	6.00	1	1.67	1.67	0.67	4.00	W	S
	5	South Circular Rd-Bloomfield Rd, Bangor	Nov-07	£88,021	17	10	3.33	3	1	4	2	3	0	10.00	3	2.33	1.33	3.33	7.00	L	S
	6	Stewartstown Road from Teeling rbt to Creightons Rd rbt	Mar-08	£63,459	65	27	9.00	8	6	10	9	19	10	37.00	25	3.00	0.00	-1.00	2.00	AI+L	R
WESTERN	1	Carnelea Road/Tattreagh Road, Fintona	Jan-08	£8,000	5	3	1.00	2	0	2	0	0	0	4.00	0	1.00	1.00	1.00	3.00	U	S
	2	A34 Clones Road	Feb-08	£44,500	5	3	1.00	0	0	0	0	0	0	0.00	0	1.00	1.00	1.00	3.00	Q, R	S
	3	James Street/Molesworth Street, Cookstown	Jun-07	£28,210	6	4	1.33	0	0	2	0	0	0	2.00	0	1.33	1.33	1.33	4.00	W	S
	4	Moy Road/Gortmerron Link Road, Dungannon	Jan-08	£9,898	6	4	1.33	3	2	2	1	0	0	5.00	3	-0.67	0.33	1.33	1.00	L	S
	5	A5 Tullyvar Road	Aug-07	£7,727	4	4	1.33	0	0	1	0	0	0	1.00	0	1.33	1.33	1.33	4.00	R	S
	6	B72 Manoo Road, Ederney	Dec-07	£11,840	4	3	1.00	0	0	0	0	1	1	1.00	1	1.00	1.00	0.00	2.00	L	S
	7	A5 Loughnease	Nov-07	£49,000	7	4	1.33	0	0	0	0	0	0	0.00	0	1.33	1.33	1.33	4.00	AH	S
	8	B80 Cullion Road, Tempo	Jun-07	£11,290	5	4	1.33	0	0	0	0	0	0	0.00	0	1.33	1.33	1.33	4.00	L	S
36	TOTAL		£1,233,923	268	188		33	22	49	30	50	32	132	84	40.67	32.67	30.67	104			

Table 16: 2006 / 2007 COLLISION REMEDIAL SCHEMES

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE	
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGET	1	2	3	TOTAL			
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET									
NORTHERN	1	A2 Bank Road Larne	Jul-06	£15,000	5	4	1.33	0	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	L&F	S
	2	Galgorm Road North Road Ballymena	Mar-07	£10,000	21	9	3.00	1	1	4	1	3	1	8	3	2.00	2.00	2.00	6.00	C	S	
	3	Tullygarley Road , Whiteside Road Ballymena	Feb-07	£20,000	9	6	2.00	3	2	1	0	4	2	8	4	0.00	2.00	0.00	2.00	F,H&Q	R	
	4	Dunsilly Roundabout Antrim	Jun-06	£118,000	11	11	3.67	5	3	6	3	12	8	23	14	0.67	0.67	-4.33	-3.00	M,AK &BL	S	
	5	Carhill Road From Garvagh to Section Bdy	Jan-07	£21,000	7	5	1.67	0	0	1	1	1	1	2	2	1.67	0.67	0.67	3.00	D	R	
	6	Union Street at Zebra Crossing	Apr-07	£48,000	11	7	2.33	0	0	0	0	2	0	2	0	2.33	2.33	2.33	7.00	F	S	
	7	Atlantic Road From Ring Road to Portrush	Jan-07	£8,000	8	4	1.33	2	2	1	1	4	4	7	7	-0.67	0.33	-2.67	-3.00	F	S	
	8	Portstewart Road Portstewart	Apr-06	£20,000	6	6	2.00	0	0	0	0	1	1	1	1	2.00	2.00	1.00	5.00	M	M	
	9	Duncastle Road Route Treatment	Aug-06	£5,000	3	2	0.67	1	1	4	1	0	0	5	2	-0.33	-0.33	0.67	0.00	EFL	R	
	10	Tamnaheirin Road Route Treatment	Aug-06	£5,000	6	3	1.00	0	0	3	1	2	2	5	3	1.00	0.00	-1.00	0.00	EFL	R	
SOUTHERN	1	QUOILE BRIDGE, DOWNPATRICK	Jan-07	£5,000	4	3	1.00	1	0	0	0	0	0	1	0	1.00	1.00	1.00	3.00	K	S	
	2	CHURCH ST, BALLYNAHINCH	Aug-06	£2,100	4	2	0.67	0	0	0	0	0	0	0	0	0.67	0.67	0.67	2.00	K	S	
	3	A20 KEMPSTONE RD @ BALLYRAINEY	Aug-06	£11,000	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	K & T	S	
	4	CATHERINE ST / EDWARD STREET NEWRY	Sep-06	£9,500	8	6	2.00	0	0	0	0	0	0	0	0	2.00	2.00	2.00	6.00	K & Y	S	
	5	FRANCIS ST @ BUTTERCRANE QUAY	Nov-06	£2,900	4	2	0.67	0	0	2	1	0	0	2	1	0.67	-0.33	0.67	1.00	K	S	
	6	A27 Church St/ Portadown Rd mini rtb, Tandragee	Oct-06	£90,000	5	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	B	S	
	7	C169 Braghagh Rd@ Horse Shoe Ln	Feb-07	£7,000	3	1	0.33	0	0	0	0	0	0	0	0	0.33	0.33	0.33	1.00	H	S	
	8	B2 Tullygally East @ Old Portadown Rd Jct	Aug-06	£51,000	6	4	1.33	0	0	2	1	1	0	3	1	1.33	0.33	1.33	3.00	D+C	S	
	9	A26 Tullyraine Rd@ Broken Bridge Rd	Mar-07	£5,000	5	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	F	S	
	10	B10 Jinglers Bridge, Banbridge	Mar-07	£30,000	11	11	3.67	1	1	0	0	4	2	5	3	2.67	3.67	1.67	8.00	H/R+F	S	
	11	A50 Banbridge Rd@ Knocknagore Rd	Mar-07	£33,000	4	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	P+D	S	

Table 16: 2006 / 2007 COLLISION REMEDIAL SCHEMES (cont.)

DIVISION	SCHEME NO.	SCHEME LOCATION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION						TOTAL		REDUCTION IN TARGET COLLISIONS				SCHEME TYPE	ROUTE, MASS ACTION OR SINGLE SITE
					3 YEARS TOTAL	3 YEARS TARGET	AV. TARGET / YEAR	1		2		3		ALL	TARGER	1	2	3	TOTAL		
								TOTAL	TARGET	TOTAL	TARGET	TOTAL	TARGET								
EASTERN	1	Belsize Road / Kirkwoods Road, Lisburn	Nov-06	£30,732	7	6	2.00	1	1	1	1	1	1	3	3	1.00	1.00	1.00	3.00	B/L	S
	2	Milltown Road, Belfast @ Teardrop	Jun-06	£204,213	15	15	5.00	1	0	0	0	1	1	2	1	5.00	5.00	4.00	14.00	AK+L	S
	3	Stewartstown Road / Margarita Park	Feb-07	£13,886	7	3	1.00	0	0	0	0	1	1	1	1	1.00	1.00	0.00	2.00	L	S
	4	Andersonstown Road / Owenarragh Park	Nov-06	£28,260	10	5	1.67	4	1	1	0	4	0	9	1	0.67	1.67	1.67	4.00	C+L	S
	5	Glen Road / Colinglen Road @ Hairpin	Mar-07	£33,391	9	7	2.33	0	0	1	1	0	0	1	1	2.33	1.33	2.33	6.00	U+L	S
	6	Doagh Road / Old Carrick Road	Mar-07	£10,952	6	4	1.33	3	1	0	0	1	0	4	1	0.33	1.33	1.33	3.00	AA+U	S
	7	York Street / Westlink / M2 Onslip	Mar-07	£4,909	4	3	1.00	2	2	1	1	1	1	4	4	-1.00	0.00	0.00	-1.00	L/Y	S
	8	A49 Saintfield Road, Lisburn	Mar-07	£24,894	4	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	U+L	S
	9	Upper Dunmurry Lane, Belfast	Mar-07	£20,105	6	3	1.00	3	0	3	1	1	0	7	1	1.00	0.00	1.00	2.00	U+L	S
	10	Ulster Hospital / East Link Road, Dundonald	Mar-07	£20,000	5	4	1.33	0	0	6	2	1	0	7	2	1.33	-0.67	1.33	2.00	D/P+W	S
WESTERN	1	Aughrim Road, Magherafelt	Apr-06	£15,000	5	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	F / L	S
	2	Carnteel Road, Aughnacloy (Kyles Corner) B35	Mar-07	£80,000	4	4	1.33	0	0	0	0	0	0	0	0	1.33	1.33	1.33	4.00	H / I / R	S
	3	Carnteel Road/Castletown Rd. Jct. B35/C649 A'cloy	Mar-07	£80,000	3	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	H / Y / R	S
	4	Eastern Distributor A29, Cookstown	Jan-07	£40,000	6	6	2.00	0	0	0	0	0	0	0	0	2.00	2.00	2.00	6.00	D	S
	5	Flo Road/Drum Road, Cookstown	Jul-07	£90,000	3	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	D	S
	6	Toome A6, Magherafelt (The Elk)	Oct-06	£22,000	17	8	2.67	8	1	4	1	1	1	13	3	1.67	1.67	1.67	5.00	P / T	S
	7	Tullyvar Road, A5 Aughnacloy	Apr-06	£50,000	3	3	1.00	0	0	0	0	0	0	0	0	1.00	1.00	1.00	3.00	Q / R	S
38	TOTAL		£1,284,842	259	184		36	16	41	17	46	26	123	59	45.33	44.33	35.33	125			

Collision Remedial Schemes

Year	Expenditure (£)	Number of schemes	3 Year Collision History	Reduction In Collisions	Reduction In Collisions at Treated Sites (%)
2000/01	1,610,090	41	384	190	49
2001/02	1,744,477	48	340	229	67
2002/03	1,082,120	42	368	216	59
2003/04	1,559,574	49	338	167	68
2004/05	2,489,320	48	382	204	76
2005/06	2,058,454	59	477	212	70
2006/07	1,284,842	38	259	125	68
2007/08	1,233,923	36	268	104	55
2008/09	1,723,015	39	265	122	73
2009/10	1,580,297	31	206	109	78
2010/11	833,770	17	125	59	61
2011/12	1,199,619	20	166	71	85*
2012/13	532,870	15	104	16	64**
2013/14	1,550,452	19	137	-	***
Total	£20,482,823	502	3819	1824	

Notes: * 2011/12 schemes have monitoring data for two-years
 ** 2012/13 schemes have monitoring data for one-year
 *** 2013/14 schemes have no available data

Table 17: Summary of Collision Remedial Schemes from 2000/01 – 2013/14

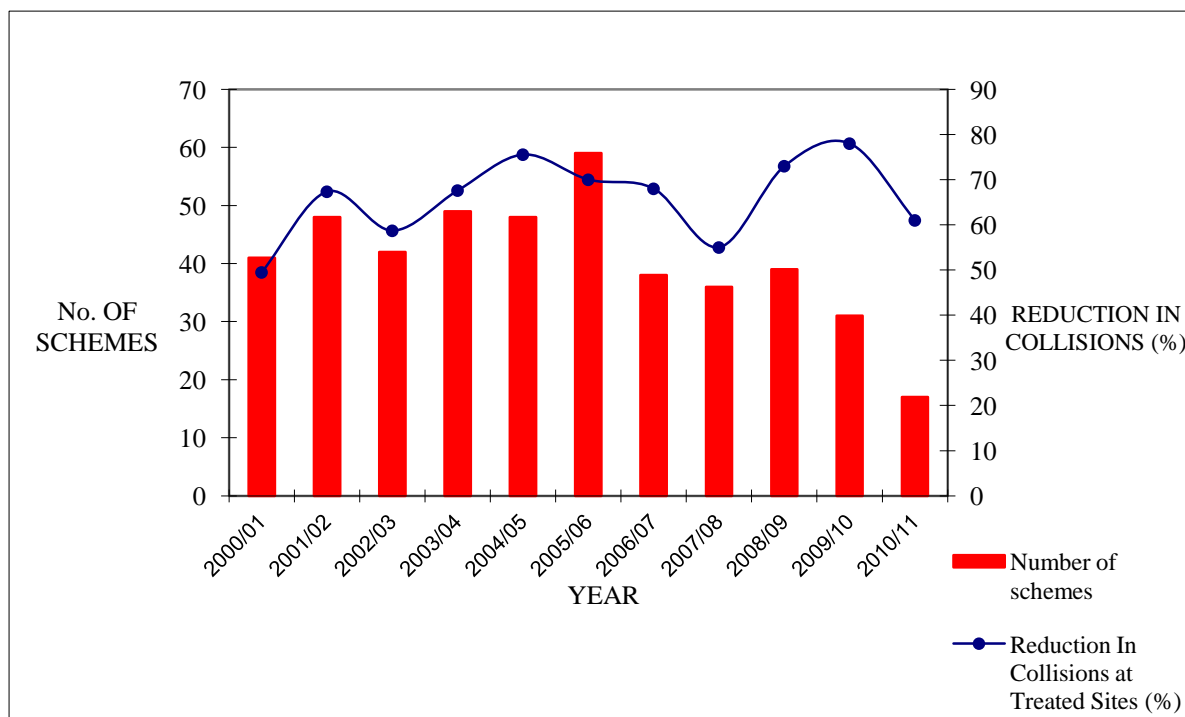


Fig. 6: Summary of Collision Remedial Schemes from 2000/01 – 2010/11

Example of a Collision Remedial Scheme



Gilnahirk Rd/ Upper Braniel Rd. Junction, Castlereagh. (Before)



Gilnahirk Rd/ Upper Braniel Rd. Junction, Castlereagh. (After)

Fig. 7: Collision Remedial Scheme, provision of new warning signs, road markings and high friction surfacing.

Appendix II

Traffic Calming Schemes

**Details of Schemes Implemented from
2006 /07 – 2013 /14**

**Summary of Schemes Implemented
from 2000 /01 – 2013 /14**

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Table 18: 2013 / 2014 TRAFFIC CALMING SCHEMES

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	Highest Ave mean speed (mph) BEFORE	3 YEAR COLLISION HISTORY		Highest Ave mean speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS					
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL		
NORTHERN	1	Ballycraigy Est., Antrim	Road Humps	Apr-13	£22,000	22.50	1	0.33										
	2	Cloonavin area, Ballymena	Road Humps	Mar-14	£7,000	N/A	0	0										
	3	The Folly/ Oakglen, Antrim	Road Humps	Mar-14	£9,400	27.80	1	0.33										
SOUTHERN	1	Forkhill Road Newry	Gateway Signage / red surfacing / repeater 40 mph	Mar-14	£11,000	46.00	2	0.67										
	2	Drumsill Park Armagh	Road humps and cushions	Jul-13	£7,400	25.40	0	0	Survey requested									
	3	Portadown Rd Armagh	Traffic islands	Mar-14	£5,000	36.00	2	0.67										
	4	Moy Road Armagh	Traffic islands	Mar-14	£6,000	47.30	1	0.33										
	5	Drumnascamph Rd Lawrencetown	Speed cushions	Mar-14	£11,600	27.40	3	1.00										
	6	Gilford Road Portadown	Traffic islands	Mar-14	£5,000	41.40	1	0.33										
EASTERN	1	Belmont Road, Belfast	Gateway Measures	Mar-14	£4,200	37.10	1	0.33	to be ordered									
	2	Ligoniel Road, Belfast	Road Humps & Traffic Islands	Feb-14	£23,100	34.50	6	2.00	to be ordered									
	3	Ballyeaston Village area, Newtownabbey	Road Humps & Enhanced Gateway	Aug-13	£23,500	37.20	1	0.33	to be ordered									
	4	Station Rd, Greenisland, Carrickfergus	Measures Road Humps	Aug-13	£24,900	32.40	2	0.67	to be ordered									
	5	Victoria Road, Carrickfergus	Road Humps	Jul-13	£13,500	31.90	6	2.00	to be ordered									
	6	Lower Ballinderry Village,	Road Humps & Enhanced Gateway	Jan-14	£51,600	36.80	5	1.67	to be ordered									
	7	Ravernet Village, Lisburn	Gateway Measures	Mar-14	£20,000	35.90	1	0.33	to be ordered									
	8	Stoneyford Village, Lisburn	Gateway Measures	Mar-14	£20,000	34.70	1	0.33	to be ordered									
WESTERN	1	Currans Brae Moy	Speed cushions 20 mph zone & red surfacing.	Nov-13	£1,364	24.20	0	0.00	N/A									
	2	Cappog Rd, Cleenish Pk	Speed cushions 20 mph zone & red surfacing.	Dec-13	£4,339	29.50	0	0.00	N/A									
	3	Benburb Village	Gateways, road humps, speed cushions & red surfacing.	Mar-14	£8,958	35.10	0	0.00	N/A									
	4	William Tee	Speed cushions 20 mph zone & red surfacing.	Nov-13	£1,858	21.00	0	0.00	14.90									
	5	Maloon Manor	Speed cushions 20 mph zone & red surfacing.	Dec-13	£3,894	28.60	0	0.00	18.20									
	6	Rectory Heights	Speed cushions 20 mph zone & red surfacing.	Mar-14	£4,500	23.10	0	0.00	20.20									
	7	Carrowshee Park	Speed cushions 20 mph zone & red surfacing.	Jan-14	£2,729	26.40	0	0.00	N/A									
	8	Mullaghboy Lane	Speed cushions 20 mph zone & red surfacing.	Apr-14	£13,000	29.40	0	0.00	23.60									
25	TOTAL			£305,842		34												

Table 19: 2012 / 2013 TRAFFIC CALMING SCHEMES

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	Highest Ave mean speed (mph) BEFORE	COLLISION HISTORY		Highest Ave mean speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
NORTHERN	1	Ballycraigy Estate, Antrim	see 13/14														
SOUTHERN	1	Mount Cres/ Bridge St. Downpatrick	Road Humps	Jul-12	£17,000	27.50	3	1.00	25.42	0				1.00			1.00
	2	Circular Road Newtownards	Road Humps / Speed Cushions	Aug-12	£42,000	36.46	4	1.33	requested	1				0.33			0.33
	3	Castle Hill Gilford	Gateway, road humps and cushions	Feb-13	£21,000	24.80	2	0.67	Survey requested	0				0.67			0.67
	4	Ballynamoney Road Aghacommon	Gateway, road humps and cushions	Jun-12	£55,800	34.90	3	1.00	Survey requested	0				1.00			1.00
	5	Oakvale Craigavon	Road humps and cushions	Feb-13	£4,500	23.20	0	0.00	21.00	0				0.00			0.00
	6	Glenholme Park Lurgan	Road humps and cushions	Feb-13	£16,000	23.50	1	0.33	19.40	1				-0.67			-0.67
EASTERN	1	Cranmore Pk. Area, Belfast	Road Humps	Jan-13	£42,400	32.20	2	0.67	22.90	0				0.67			0.67
	2	Island Street area, Belfast	Road Humps & Cycle facilities	Sep-12	£44,300	28.50	1	0.33	21.40	0				0.33			0.33
	3	Lower Malone area, Belfast	Road Humps	Sep-12	£112,700	24.60	1	0.33	17.30	1				-0.67			-0.67
	4	Sicily Park, Belfast	Road Humps & Speed Cushions	May-12	£37,600	37.10	2	0.67	28.30	0				0.67			0.67
	5	Prospect Heights area,	Road Humps	May-12	£30,300	32.10	3	1.00	24.50	0				1.00			1.00
	6	Devenish Drive, Newtownabbey	Road Humps	Aug-12	£5,300	27.90	3	1.00	22.40	0				1.00			1.00
WESTERN	1	Mullaghmore Road	Gateways, road humps, speed cushions & red surfacing.	Oct-12	£15,068	41.60	3	1.00	N/A	0				1.00			1.00
	2	Parkmore, Magherafelt	Speed cushions 20 mph zone & red surfacing.	Oct-12	£10,543	28.40	0	0.00	19.80	0				0.00			0.00
	3	Deramore, Magherafelt	Speed cushions 20 mph zone & red surfacing.	Sep-12	£4,100	28.20	1	0.33	20.60	0				0.33			0.33
	4	Drumbeg, Enniskillen	Speed cushions 20 mph zone & red surfacing.	Oct-12	£2,400	32.00	0	0.00	N/A	0				0.00			0.00
	5	Drumbawn, Enniskillen	Speed cushions 20 mph zone & red surfacing.	Oct-12	£3,023	32.00	0	0.00	N/A	0				0.00			0.00
18	TOTAL			£464,034		29				3				6.67			7

Table 20: 2011 / 2012 TRAFFIC CALMING SCHEMES

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	Highest Ave mean speed (mph) BEFORE	COLLISION HISTORY		Highest Ave mean speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
NORTHERN	1	Parkhall Estate Antrim	Road Humps	Jul-11	£15,500	23.60	2	0.67	N/A	0	1		1.00	0.67	-0.33		0.34
	2	Upper Carncastle Road/Linn Rd Completed	Road Humps	Dec-11	£43,000	28.00	9	3.00	N/A	1	1		2.00	2	2.00		4
	3	Corrody Rd/ Bards Hill, Derry	Provision of Road Humps	Jan-12	£15,000	N/A	0	0.00	N/A	0	0		0.00	0.00	0.00		0.00
	4	Hillfort Road, Derry	Provision of Road Humps	Jan-12	£10,000	N/A	0	0.00	N/A	1	0		1.00	-1.00	0.00		-1.00
	5	Springtown Road, Derry	Provision of Road Humps and Priority Working System and Road Markings	Jan-12	£15,000	41.40	1	0.33	N/A	0	1		1.00	0.33	-0.67		-0.33
	6	Rosstown Road, Derry	Provision of Road Humps and Traffic Island	Oct-11	£15,000	39.60	4	1.33	N/A	0	0		0.00	1.33	1.33		2.67
	7	Glen Road, Derry	Provision of Pedestrian Crossing Islands and Traffic Islands and road markings	Jun-11	£10,000	N/A	2	0.67	43.40	1	0		1.00	-0.33	0.67		0.33
SOUTHERN	1	Bryansford Village	Gateways / road markings / signage	Sep-11	£10,000	45.24	2	0.67	45.20	1	0		1.00	-0.33	0.67		0.33
	2	Maghera Village	Gateways / road markings / signage	Aug-11	£5,000	42.13	0	0.00	38.10	0	0		0.00	0.00	0.00		0.00
	3	Ballykinlar Village	Road Humps	Oct-11	£20,000	35.33	2	0.67	24.50	0	0		0.00	0.67	0.67		1.33
	4	New Harbour Road Portavogie	Road Humps	Jun-11	£22,000	35.18	2	0.67	26.20	0	0		0.00	0.67	0.67		1.33
	5	Upper Greenwell St N'ards	Central Hatching / ped island / road markings	Jun-11	£8,000	36.84	3	1.00	N/A	1	1		2.00	0.00	0.00		0.00
	6	Mourne Esplanade Kilkeel	Road Humps	Oct-11	£13,500	35.74	2	0.67	22.58	1	0		1.00	-0.33	0.67		0.33
	7	Forth Road / Dallan Road / Burren Rd Warrenpoint	Road Humps	Sep-11	£35,500	37.20	4	1.33	21.64	0	0		0.00	1.33	1.33		2.67
	8	Killylea Road Armagh	Gateway feature, traffic islands, central hatching, mini roundabout	Jun-11	£70,000	43.00	2	0.67	27.30	1	1		2.00	-0.33	-0.33		-0.67
	9	Ballygowan Road Banbridge	Gateway, road humps and cushions	Feb-12	£40,000	38.40	0	0	24.40	0	1		1.00	0.00	-1.00		-1.00
	10	Huntly Road Banbridge	Speed cushions, mini roundabout	Mar-12	£58,000	39.10	4	1.33	26.40	1	0		1.00	0.33	1.33		1.67
	11	Annaclone	Gateways low rise humps and speed cushions	Feb-12	£30,000	44.20	1	0.33	24.70	0	0		0.00	0.33	0.33		0.67
	12	Lower Toberhewney Rd Lurgan	Road humps	Jun-11	£20,500	36.00	0	0	23.30	0	0		0.00	0.00	0.00		0.00

Table 20: 2011 / 2012 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	Highest Ave mean speed (mph) BEFORE	COLLISION HISTORY		Highest Ave mean speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
EASTERN	1	Bryson St / Madrid St, Belfast	Road Humps	Jun-11	£19,800	26.10	1	0.33	22.20	0	0		0	0.33	0.33		0.67
	2	Cambrai St, Belfast	Road Humps	May-11	£16,700	30.40	3	1.00	19.60	0	0		0	1.00	1.00		2.00
	3	Circular Road area, Belfast	Road Humps, footway widening & junction improvement	Mar-12	£103,700	36.00	3	1.00	23.70	0	0		0	1.00	1.00		2.00
	4	Newington Ave. area, Belfast	Road Humps	Jan-12	£21,300	13.70	1	0.33	13.60	0	0		0	0.33	0.33		0.67
	5	Tudor Area (S'kill), Belfast	Road Humps	May-11	£37,300	16.10	2	0.67	18.40	1	1		2	-0.33	-0.33		-0.67
	6	Braniel/ Whincroft , C'reagh	Road Humps	Mar-12	£16,600	24.00	0	0.00	17.10	0	0		0	0.00	0.00		0.00
	7	Glen Rd/ Roddens Crescent, Castlereagh	Road Humps	May-11	£35,900	33.50	6	2.00	24.60	2	1		3	0.00	1.00		1.00
	8	Manse Rd, C'duff, C'reagh	Rd Humps & Gateway Sign	Aug-11	£17,000	33.40	1	0.33	24.80	0	1		1	0.33	-0.67		-0.33
	9	Ravenswood Pk, C'reagh	Speed Cushions	May-11	£2,000	20.60	2	0.67	19.90	0	0		0	0.67	0.67		1.33
	10	Alexander Rd area, C'fergus	Road Humps	Mar-12	£74,800	26.90	1	0.33	23.30	0	1		1	0.33	-0.67		-0.33
	11	Regent Ave area, C'fergus	Road Humps	Apr-11	£22,400	21.60	0	0.00	22.10	0	0		0	0.00	0.00		0.00
	12	Rashee Pk area, Ballyclare	Road Humps	Mar-12	£33,400	24.10	0	0.00	19.80	0	0		0	0.00	0.00		0.00
	13	Abbey Ring area, Holywood	Road Humps	Mar-12	£74,700	26.90	2	0.67	22.20	0	0		0	0.67	0.67		1.33
	14	Ballymacconnell Road South area, Bangor	Road Humps & Speed Cushions	Sep-11	£27,800	32.00	1	0.33	20.50	0	0		0	0.33	0.33		0.67
	15	Church View / Spencer St area, Holywood	Road Humps	Feb-12	£18,900	21.90	0	0.00	14.90	1	0		1	-1.00	0.00		-1.00
	16	Skipperstone Rd / Whitehill Drive, Bangor	Road Humps	Jul-11	£119,300	34.90	2	0.67	19.70	0	1		1	0.67	-0.33		0.33
WESTERN	1	Annagher area, Coalisland	Gateways, road humps, speed cushions & red surfacing.	Mar-12	£40,000	30.40	7	2.33	N/A	0	0		0	2.33	2.33		4.66
	2	Grove Terrace / O'Hara Road, Maghera	Speed cushions 20 mph zone & red surfacing.	Apr-11	£9,000	31.00	0	0.00	28.50	0	0		0	0.00	0.00		0.00
	3	Gortallowry Park, Cookstown	Speed cushions 20 mph zone & red surfacing.	Apr-11	£8,000	19.40	0	0.00	18.70	0	0		0	0.00	0.00		0.00
	4	Tullagh Drive, Cookstown	Speed cushions 20 mph zone & red surfacing.	Nov-11	£4,500	31.70	2	0.67	24.10	0	0		0	0.67	0.67		1.33
	5	Coolnafranky Park, Cookstown	Speed cushions 20 mph zone & red surfacing.	May-11	£5,800	20.00	0	0.00	21.90	0	0		0	0.00	0.00		0.00
	6	Drumcree / Fortview, Cookstown	Speed cushions 20mph zone & red surfacing.	Nov-11	£9,000	21.00	0	0.00	19.00	0	0		0	0.00	0.00		0.00
	7	Killen Village	Speed cushions 20 mph zone & red surfacing.	Feb-12	£25,000	50.00	1	0.33	32.20	0	0		0	0.33	0.33		0.67
	8	Drumquin Village	Speed cushions 20 mph zone & red surfacing.	Feb-12	£19,000	43.30	2	0.67	33.20	0	0		0	0.67	0.67		1.33

Table 20: 2011 / 2012 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	Highest Ave mean speed (mph) BEFORE	COLLISION HISTORY		Highest Ave mean speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
WESTERN	9	Sunningdate (outside Sacred Heart College)	Full width ramp with tactile crossing point.	Sep-11	£2,500	N/A	0	0.00	N/A	0	0		0	0.00	0.00		0.00
	10	Carrickmore Phase 2 (Omagh Road, Only)	Speed cushions within existing gateway.	Oct-11	£65,000	45.00	0	0.00	33.70	0	0		0	0.00	0.00		0.00
	11	Seskinore	Speed cushions & red surfacing.	Aug-11	£19,000	49.00	1	0.33	34.60	0	0		0	0.33	0.33		0.67
	46	TOTAL			£1,304,400		78			12	11		23	14.00	15.00		29

Table 21: 2010 / 2011 TRAFFIC CALMING SCHEMES

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS					
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL		
NORTHERN	1	Bridge Street, Dunloy	Road Humps	Oct-10	£15,000	N/A	2	0.67	20.20	0	0	0	0	0.67	0.67	0.67	2	
	2	Ballytromery Road, Crumlin	Road Humps	Apr-10	£7,000	32.20	0	0.00	N/A	0	0	0	0	0	0	0.00	0	
	3	Greystone Estate, Antrim	Road Humps	Feb-11	£10,000	23.10	2	0.67	N/A	0	0	0	0	0.67	0.67	0.67	2.00	
	4	Upper Cairncastle Rd/Linn Rd Phase 1	Road Humps, speed tables, speed cushions	year 11/12	-	N/A	-	-	See 2011 / 12	-	-	-	-	See 2011 / 12	-	-	-	See 2011 / 12
	5	Church Rd, Randalstown	Road Humps	Apr-10	£13,000	N/A	1	0.33	N/A	0	0	0	0	0.33	0.33	0.33	1.00	
	6	Hawthorn Terrace, Derry	Provision of Rd Humps	Jan-10	£12,000	N/A	1	0.33		0	1	0	1	0.33	-0.67	0.33	0.00	
	7	Eastway, (Demense Avenue) Derry	Provision of Ped crossing Islands/ Traffic Islands and Rd markings	Mar-10	£25,000	N/A	0	0.00	N/A	0	1	0	1	0.00	-1.00	0.00	-1.00	
SOUTHERN	1	Ardmore Armagh	Speed cushions, speed tables, road humps, gateway feature	Apr-10	£41,000	42.00	1	0.33	27.00	0	0	0	0	0.33	0.33	0.33	1.00	
	2	Acton village	Gateway, road humps and cushions	Jan-11	£20,000	40.00	1	0.33	28.70	0	0	0	0	0.33	0.33	0.33	1.00	
	3	Mill Hill Waringstown	Gateway, road humps and cushions	May-10	£235,000	40.00	1	0.33	32.00	0	0	0	0	0.33	0.33	0.33	1.00	
	4	East Street / West Street Newtownards	Road Humps	Mar-11	£30,000	33.62	6	2.00	22.10	1	1	3	5	1.00	1.00	-1.00	1.00	
	5	Forkhill Village	Road Humps / Gateway features	Aug-10	£48,000	38.38	1	0.33	22.02	0	1	0	1	0.33	-0.67	0.33	0.00	

Table 21: 2010 / 2011 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
EASTERN	1	Cupar Way, Belfast	Road Humps & Cycle facilities	Jun-10	£55,200	37.90	2	0.67	25.60	1	1	0	2	-0.33	-0.33	0.67	0.00
	2	Finaghy Road North, Belfast	Channelisation	Mar-11	£5,440	34.40	6	2.00	34.30	1	4	1	6	1.00	-2.00	1.00	0.00
	3	Culcavy / Halftown areas, Lisburn	Gateway Signage	May-10	£8,300	41.80	5	1.67	44.70	1	0	1	2	0.67	1.67	0.67	3.00
	4	Hillsborough area, Lisburn	Gateway Signage	May-10	£4,300	41.50	3	1.00	41.60	3	2	0	5	-2.00	-1.00	1.00	-2.00
	5	Laurelhill Road, Lisburn	Road Humps	Mar-11	£27,900	34.60	1	0.33	23.30	0	0	1	1	0.33	0.33	-0.67	0.00
	6	Ballybog Road / Seymour Hill area, Lisburn	Road Humps & junction improvement	Jun-10	£120,900	33.50	1	0.33	25.10	2	1	1	4	-1.67	-0.67	-0.67	-3.00
	7	Ballyrobert Village area, Newtownabbey	Gateway Signage	Apr-10	£7,500	N/A	2	0.67	38.70	0	0	1	1	0.67	0.67	-0.33	1.00
	8	Carnmoney Road North / The Glade, N'abbey	Road Humps	Feb-11	£38,000	30.30	2	0.67	26.20	1	2	0	3	-0.33	-1.33	0.67	-1.00
WESTERN	1	Upperlands Village	Gateways, speed cushions & red surfacing.	Apr-11	£16,000	41.00	2	0.67	28.00	1	0	0	1	-0.33	0.67	0.67	1.00
	2	Queens Avenue	Speed cushions 20 mph zone & red surfacing.	Mar-11	£32,000	33.00	0	0.00	24.00	0	0	0	0	0.00	0.00	0.00	0.00
	3	Milburn/Princess Avenue,	Speed cushions 20 mph zone & red	Jan-11	£29,000	26.30	1	0.33	24.50	0	0	0	0	0.33	0.33	0.33	1.00
	4	Fintona Phase 2	Gateways, speed cushions & red surfacing.	May-10	£35,000	37.80	3	1.00	31.80	1	1	0	2	0.00	0.00	1.00	1.00
	5	Hillview, Enniskillen	Road Humps, speed cushions, 20mph zones & red surfacing.	Mar-11	£20,000	36.00	0	0.00	N/A	0	0	0	0	0.00	0.00	0.00	0.00
	6	Gortgonis, Coalisland	Road Humps, speed cushions, 20mph zones & red surfacing.	Apr-10	£36,209	38.90	6	2.00	N/A	1	0	0	1	1.00	2.00	2.00	5.00
25	TOTAL			£891,749		59			13	15	8	36	3.67	1.67	8.67	14	

Table 22: 2009 / 2010 TRAFFIC CALMING SCHEMES

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
NORTHERN	1	Rathenraw Estate Antrim	Road humps and pedestrian refuge islands	Oct-09	£29,000	35.40	0	0.00	N/A	0	0	0	0	0.00	0.00	0.00	0.00
	2	Toome Village	Road humps and pedestrian refuge island	Mar-10	£16,500	38.20	0	0.00	N/A	0	0	0	0	0.00	0.00	0.00	0.00
	3	Glynn Village	Road humps	Oct-09	£8,000	34.60	2	0.66	N/A	0	0	0	0	0.66	0.66	0.66	2.00
	4	Martinstown Village	Ladder hatching, footway link and pedestrian refuge islands	Jun-09	£88,000	41.30	1	0.33	35.60	1	1	0	2	-0.67	-0.67	0.33	-1.00
	5	Knockwellan Park, Derry	Provision of speed tables and speed cushions	Mar-10	£15,000	36.00	0	0.00	N/A	0	0	0	0	0.00	0.00	0.00	0.00
	6	Carnhill, Derry	Provision of speed tables and speed cushions	Mar-10	£5,000	34.00	1	0.33	N/A	0	0	0	0	0.33	0.33	0.33	1.00
	7	Temple Rd Strathfoyle, Derry	Crossing islands and build outs - reduction in speed limit	Jan-10	£15,000	38.00	3	1.00	N/A	3	0	2	5	-2.00	1.00	-1.00	-2.00
SOUTHERN	1	Saul Street / Saul Street Downpatrick	Road Humps	Apr-09	£34,000	40.11	2	0.67	29.18	0	2	1	3	0.67	-1.33	-0.33	-1.00
	2	Ballynahinch Town	Enhanced G'way/School Signage & Rd Markings	Feb-10	£41,000	41.31	7	2.33	39.82	5	4	10	19	-2.67	-1.67	-7.67	-12.00
	3	Circular Road / Bunkers Hill Castlewellan	Road Humps	Aug-09	£12,000	31.91	0	0.00	24.10	0	0	0	0	0.00	0.00	0.00	0.00
	4	Cumber Road Drumanness	Road Humps	Aug-09	£14,000	42.03	0	0.00	28.90	0	0	0	0	0.00	0.00	0.00	0.00
	5	Strangford Road Downpatrick	Enhanced Gateway & Road Markings	Feb-10	£8,000	46.20	1	0.33	44.04	1	3	0	4	-0.67	-2.67	0.33	-3.00
	6	Drumaness Village	Road Humps	Jun-09	£12,000	None	2	0.67	None	0	0	0	0	0.67	0.67	0.67	2.00
	7	South/ Central Promenade N'castle	Enhanced Gateway Signage	Mar-10	£12,000	35.10	2	0.67	34.77	1	2	0	3	-0.33	-1.33	0.67	-1.00
	8	Westwinds (Remedial Work)	Road Humps	May-09	£15,000	None	0	0.00	None	1	3	0	4	-1.00	-3.00	0.00	-4.00
	9	Victoria Ave, Newtownards	Road Humps	Dec-09	£18,000	35.40	0	0.00	23.90	0	0	1	1	0.00	0.00	-1.00	-1.00
	10	Rubane	Enhanced Gateway/School Signage & Road Markings	Mar-10	£8,600	48.60	0	0.00	None	0	0	0	0	0.00	0.00	0.00	0.00
	11	Newry Road Camlough	Enhanced Gateway & Road Markings	Jun-09	£20,000	45.23	10	3.33	41.16	5	10	1	16	-1.67	-6.67	2.33	-6.00
	12	Dorans Hill Newry	Road Humps	Aug-09	£13,000	34.00	2	0.67	27.62	0	0	0	0	0.67	0.67	0.67	2.00
	13	Scrogg Road Kilkeel	Road Humps	Aug-09	£20,000	49.96	1	0.33	34.38	1	0	0	1	-0.67	0.33	0.33	0.00
	14	Catherine Street Newry	Enhanced Gateway/School Signage & Road Markings	Aug-09	£3,000	31.40	2	0.67	23.61	0	0	0	0	0.67	0.67	0.67	2.00
	15	Courtney Hill Newry	Enhanced Gateway/School Signage & Road Markings	Aug-09	£3,000	36.80	3	1.00	35.54	0	0	0	0	1.00	1.00	1.00	3.00
	16	Dublin Road Newry	Enhanced Gateway / road markings, traffic islands, central hatching	Oct-09	£25,000	42.04	5	1.67	38.96	2	0	3	5	-0.33	1.67	-1.33	0.00
	17	Cloughmore Road Rostrevor	Road Humps	Mar-10	£19,500	41.19	2	0.67	23.18	0	0	0	0	0.67	0.67	0.67	2.00
	18	Armagh Road Charlemont	Gateway features, traffic islands, central hatching, mini roundabout	May-09	42000	43.00	3	1.00	34.00	0	0	1	1	1.00	1.00	0.00	2.00
	19	Granemore Road Keady	Speed cushions, speed table, signs and road markings	Nov-09	49000	41.00	2	0.40	28.00	0	1	1	2	0.40	-0.60	-0.60	-0.80
	20	Madden Row Keady	Gateway feature, speed cushions, road hump	Jan-10	20000	38.00	0	0	29.00	0	0	0	0	0.00	0.00	0.00	0.00
	21	Dromore Street/Rd Banbridge	Traffic islands, build-outs & central hatching	Jun-09	64000	44.00	4	1.33	43.00	0	0	1	1	1.33	1.33	0.33	3.00
	22	Newry Street Rathfriland	Speed cushions, sheltered parking & road marking	Sep-09	20000	30.00	3	1.00	24.00	1	0	0	1	0.00	1.00	1.00	2.00
	23	Seapatrick Road Banbridge	Gateway, road humps and cushions	Nov-09	17000	38.00	0	0	29.00	0	1	0	1	0.00	-1.00	0.00	-1.00
	24	North Circular Road Lurgan	Speed cushions, build outs and road markings	Aug-09	29500	37.00	1	0.33	30.00	0	0	0	0	0.33	0.33	0.33	1.00

Table 22: 2009 / 2010 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
EASTERN	1	Alexandra Gardens, Belfast	Road Humps	Sep-09	£9,000	33.80	0	0.00	25.10	0	0	0	0	0.00	0.00	0.00	0.00
	2	Ballysillan Park, Belfast	Road Humps and Speed Cushions	Nov-09	£54,000	40.00	3	1.00	34.00	0	3	1	4	1.00	-2.00	0.00	-1.00
	3	Bilston Road, Belfast	Road Humps	Sep-09	£20,500	38.00	0	0.00	28.60	0	2	0	2	0.00	-2.00	0.00	-2.00
	4	Jellicoe Avenue, Belfast	Speed Cushions	Dec-09	£9,500	34.00	1	0.33	27.50	0	0	0	0	0.33	0.33	0.33	1.00
	5	Cabin Hill Park, Belfast	Road Humps	May-09	£8,000	30.00	0	0.00	26.40	0	0	0	0	0.00	0.00	0.00	0.00
	6	Martinez Avenue, Belfast	Road Humps	Feb-10	£11,000	44.00	0	0.00	26.40	0	0	0	0	0.00	0.00	0.00	0.00
	7	Friendly Street, Belfast	Road Humps	Mar-10	£8,000	21.90	2	0.67	21.80	0	0	0	0	0.67	0.67	0.67	2.00
	8	Cairnshill Pk/ Burnside Pk, C'reagh	Road Humps & Speed Cushions	Mar-10	£21,000	33.40	0	0.00	23.90	0	0	0	0	0.00	0.00	0.00	0.00
	9	Beechill Road, Castlereagh	Road Humps	Mar-10	£36,500	44.50	0	0.00	32.00	0	1	1	2	0.00	-1.00	-1.00	-2.00
	10	Merok Crescent, Castlereagh	Road Humps	Oct-09	£17,500	38.60	2	0.67	24.50	0	0	0	0	0.67	0.67	0.67	2.00
	11	Newtownbreda Road, C'reagh	Road Humps & Speed Cushions	Mar-10	£16,000	41.00	1	0.33	32.30	0	0	0	0	0.33	0.33	0.33	1.00
	12	Gregg Street, Lisburn	Road Humps	Dec-09	£21,000	35.80	0	0.00	26.50	0	0	0	0	0.00	0.00	0.00	0.00
	13	Hawthorne Way/ Ollerdale Pk, Ballyclare	Road Humps	Oct-09	£12,500	32.50	2	0.67	24.20	0	0	0	0	0.67	0.67	0.67	2.00
	14	Castle Park Road, Bangor	Road Humps	Apr-09	£38,500	34.60	5	1.67	27.60	0	1	0	1	1.67	0.67	1.67	4.00
	15	Ballyclare Gateways	Gateway Signing	Mar-10	£11,000	N/A	19	6.33	N/A	2	7	8	17	4.33	-0.67	-1.67	2.00
WESTERN	1	Mountfield	Gateways, speed cushions & red surfacing.	Mar-10	£15,000	45.00	1	0.33	28.90	0	0	0	0	0.33	0.33	0.33	0.99
	2	Queens Parade, Omagh	Speed cushions 20 mph zone & red surfacing.	Mar-10	£40,000	32.00	4	1.33	25.00	0	0	0	0	1.33	1.33	1.33	3.99
	3	Castletown Road,	Gateways, speed cushions, 20 mph	Mar-10	£25,000	38.00	4	1.33	33.20	0	0	0	0	1.33	1.33	1.33	3.99
	4	Irvinestown	Gateways, speed cushions, 20 mph zone & red surfacing.	Mar-10	£45,000	44.00	11	3.66	N/A	0	3	0	3	3.66	0.66	3.66	7.98
	5	Northland Drive , Moneymore	Speed cushions 20 mph zone & red surfacing.	Mar-10	£9,000	34.00	0	0.00	31.00	0	0	0	0	0.00	0.00	0.00	0.00
	6	Lambrook Road, Omagh	Speed cushions 20mph zone & red surfacing.	Apr-09	£5,700	N/A	0	0.00	28.90	1	0	0	1	-1.00	0.00	0.00	-1.00
	7	Castledawson	Gateways, mini-roundabout, build-outs & red surfacing	Feb-10	£35,000	N/A	5	1.66	33.30	0	1	1	2	1.66	0.66	0.66	2.98
53	TOTAL			£1,164,800		119			24	45	32	101	15.37	-5.63	7.37	17	

Table 23: 2008 / 2009 TRAFFIC CALMING SCHEMES

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
NORTHERN	1	Gortgore Road, Greysteel.	Cushions and Junction Platforms	Mar-09	£66,000	39.40	1	0.33	-	0	0	0	0	0.33	0.33	0.33	1
	2	Shore Road, Cushendall.	Cushions and Junction Platforms	Nov-08	£30,000	36.00	1	0.33	-	0	0	0	0	0.33	0.33	0.33	1
	3	Benview Estate	Provision of Speed tables and speed	Mar-09	£15,000	28.00	1	0.33	21.00	0	0	0	0	0.33	0.33	0.33	1.00
	4	Bishop Street area Londonderry	provision of speed tables, buildouts and sheltered parking	Mar-09	£15,000	28.00	5	0.83	22.00	0	0	0	0	0.83	0.83	0.83	2.50
	5	Woodburn/ Blackburn area Londonderry	provision of speed cushions and build outs	Mar-09	£20,000	30.20	8	1.33	28.00	0	0	0	0	1.33	1.33	1.33	4.00
	6	Stiles Estate/Stile's Way	Road humps and pedestrian refuge islands	Nov-08	£36,000	36.00	3	1.00	N/A	0	1	0	1	1.00	0.00	1.00	2.00
	7	Randalstown	Road humps and speed cushions	Sep-08	£36,000	40.00	5	1.67	N/A	1	0	0	1	0.67	1.67	1.67	4.00
	8	Cargan Village	Ladder hatching, footway links and pedestrian refuge islands	Feb-09	£58,000	43.00	0	0.00	38.50	1	1	0	2	-1.00	-1.00	0.00	-2.00
	9	Seacliff Estate Larne	Road humps	Jul-09	£23,000	36.00	2	0.67	N/A	0	0	0	0	0.67	0.67	0.67	2.00
	10	Eastermede and Model Rd B'money	Road humps and speed cushions	Aug-08	£17,000	36.00	0	0.00	N/A	0	0	0	0	0.00	0.00	0.00	0.00
SOUTHERN	1	Old Ballygowan Road Comber	Enhanced Gateway/School Signage & Road Markings	Sep-08	£2,500	36.26	0	0.00	35.90	0	0	0	0	0.00	0.00	0.00	0.00
	2	Parsonage Rd Kircubbin	Enhanced Gateway Signage	Jun-08	£2,500	36.17	1	0.33	39.14	2	0	0	2	-1.67	0.33	0.33	-1.00
	3	Lougheries Village	Enhanced Gateway/School Signage & Road Markings	Dec-08	£10,000	45.00	2	0.67	36.47	1	0	1	2	-0.33	0.67	-0.33	0.00
	4	Abbey Road / Moss Road Millisle	Enhanced Gateway Signage	Oct-08	£14,000	55.30	2	0.67	40.30	1	0	3	4	-0.33	0.67	-2.33	-2.00
	5	Ballywalter Village	Enhanced Gateway Signage	Dec-08	£12,000	38.60	15	5.00	-	1	2	1	4	4.00	3.00	4.00	11.00
	6	Strangford Heights Newtownards	Road Humps	Aug-08	£12,000	37.80	0	0.00	25.30	0	0	0	0	0.00	0.00	0.00	0.00
	7	Loughinisland Village	Road Humps, Priority Give/Take Island & Enhanced Gateways & signage	Oct-08	£17,200	42.20	0	0.00	29.00	0	0	1	1	0.00	0.00	-1.00	-1.00
	8	Clough Village	Enhanced Gateway Signage	May-08	£7,000	34.90	4	1.33	31.51	0	1	1	2	1.33	0.33	0.33	2.00
	9	Seaforde Village	Enhanced Gateway Signage	Jun-08	£7,000	53.09	1	0.33	51.00	0	0	0	0	0.33	0.33	0.33	1.00
	10	Killyleagh Village	Enhanced Gateway Signage	Oct-08	£5,000	43.00	4	1.33	44.10	1	1	5	7	0.33	0.33	-3.67	-3.00
	11	Bryansford Rd Newcastle	Enhanced Gateway/School Signage & Road Markings	Oct-08	£5,000	42.64	0	0.00	40.87	1	0	2	3	-1.00	0.00	-2.00	-3.00
	12	Derrymore Rd Bessbrook	Road Humps, Priority Give/Take Island & Gateways & signage	Jan-09	£19,000	41.80	0	0.00	28.14	0	0	0	0	0.00	0.00	0.00	0.00
	13	Newcastle Rd / Greencastle St Killeel	Enhanced Gateway/School Signage & Road Markings	Sep-08	£5,500	41.66	23	7.67	40.47	5	7	3	15	2.67	0.67	4.67	8.00

Table 23: 2008 / 2009 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
SOUTHERN	14	Rathfriland Road Newry	Enhanced Gateway/School Signage & Road Markings	Mar-09	£18,000	29.45	8	2.67	34.10	5	2	2	9	-2.33	0.67	0.67	-1.00
	15	Chapel Hill Mayobridge	Enhanced Gateway/School Signage & Road Markings, traffic islands	Nov-08	£8,000	38.45	0	0.00	39.73	0	0	0	0	0.00	0.00	0.00	0.00
	16	Clonallen Road	Road Humps	Nov-08	£14,000	41.00	1	0.33	28.93	1	0	0	1	-0.67	0.33	0.33	0.00
	17	Upper Dromore Road Warrenpoint	Enhanced Gateway/School Signage & Road Markings including traffic islands	Feb-09	£20,000	37.04	10	3.33	39.84	2	2	0	4	1.33	1.33	3.33	6.00
	18	Rostrevor Road Warrenpoint	Enhanced Gateway Signage and Road Markings	Oct-08	£10,000	44.05	3	1.00	43.60	1	3	0	4	0.00	-2.00	1.00	-1.00
	19	Newtownhamilton Village	Enhanced Gateway/School Signage & Road Markings including traffic islands	Dec-08	£20,000	42.61	5	1.67	41.10	1	1	1	3	0.67	0.67	0.67	2.00
	20	Laurelvale	Gateway features, speed cushions, give take feature mini r'about	Dec-08	£60,500	41.00	2	0.40	25.00	0	0	1	1	0.40	0.40	-0.60	0.20
	21	Newry Street Markethill	Gateway feature, traffic island and road markings	Sep-08	£21,500	35.00	0	0.00	31.00	0	0	0	0	0.00	0.00	0.00	0.00
	22	Drumbreda Walk Armagh	Gateway feature, road humps and give take feature	May-08	£21,500	33.00	0	0.00	20.00	0	0	0	0	0.00	0.00	0.00	0.00
	23	Newry Road Armagh	Gateway features, traffic islands and central hatching	Dec-08	£47,000	42.00	4	1.33	34.00	0	1	0	1	1.33	0.33	1.33	3.00
	24	Cathedral Road Armagh	Gateway feature, traffic islands, central hatching and footpath	Mar-09	£24,000	36.00	5	1.00	35.00	1	0	1	2	0.00	1.00	0.00	1.00
	25	Commercial Road Banbridge	Road hump, cushions, build-outs and central hatching.	Mar-09	£22,500	33.00	0	0.00	23.80	0	1	0	1	0.00	-1.00	0.00	-1.00
	26	Pound Hill/Diamond Road Dromore	Gateway feature, road humps and tables	Mar-09	£28,000	40.00	1	0.33	27.30	0	0	0	0	0.33	0.33	0.33	1.00
	27	Donard View Loughbrickland	Gateway, road humps and cushions	Oct-08	£7,500	34.00	0	0.00	21.00	0	0	0	0	0.00	0.00	0.00	0.00
	28	Tullygally Road Craigavon	Gateway feature, traffic islands buildouts and road marking	Apr-08	£35,000	44.00	4	0.80	24.40	0	0	0	0	0.80	0.80	0.80	2.40
	29	Bachelors Walk Portadown	Speed cushions and ramps	Oct-08	£10,000	33.00	3	1.00	26.00	1	0	0	1	0.00	1.00	1.00	2.00
30	Brownlow Road Craigavon	Traffic islands and central hatching	Jul-08	£42,000	44.00	3	1.00	37.00	0	3	0	3	1.00	-2.00	1.00	0.00	
31	Cecil Street Area Portadown	Road humps	Mar-09	£29,000	31.00	0	0.00	20.00	0	0	1	1	0.00	0.00	-1.00	-1.00	

Table 23: 2008 / 2009 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
EASTERN	1	Lepper St / Spamount Street	Road Humps	Mar-09	£31,000	37.00	6	2.00	26.60	0	3	1	4	2.00	-1.00	1.00	2.00
	2	North Boundary Street Area	Taper Sided and Kerb to Kerb Humps	Mar-09	£17,750	25.00	0	0.00	19.00	0	0	0	0	0.00	0.00	0.00	0.00
	3	Sydenham Avenue	Road Humps, speed cushions	Nov-08	£29,010	34.10	2	0.67	26.20	0	0	1	1	0.67	0.67	-0.33	1.00
	4	Kensington Road Area	Roads Humps, Priority Junction with pinch point. Cycle by-pass	Nov-08	£34,724	36.50	1	0.33	26.00	0	0	0	0	0.33	0.33	0.33	1.00
	5	Tamar Street / Witham Street	Road Humps	Mar-09	£18,000	30.30	2	0.67	20.40	0	0	0	0	0.67	0.67	0.67	2.00
	6	Clarawood Park	Road Humps, provision of parking facilities, reduction of RADII	Jun-08	£37,384	35.90	0	0.00	22.00	1	1	0	2	-1.00	-1.00	0.00	-2.00
	7	Earlswood Rd / Belmont Church Rd	Road Humps	Oct-08	£37,493	34.00	0	0.00	25.90	1	1	0	2	-1.00	-1.00	0.00	-2.00
	8	Euston Street	Road Humps	Mar-09	£36,962	N/K	0	0.00	22.60	0	0	0	0	0.00	0.00	0.00	0.00
	9	Coolnasilla Park East and South	Road Humps	Mar-09	£6,000	32.20	1	0.33	23.70	0	0	0	0	0.33	0.33	0.33	1.00
	10	Maryville Park / Myrtlefield Park	Road Humps	Nov-08	£30,211	32.80	2	0.67	25.20	0	0	0	0	0.67	0.67	0.67	2.00
	11	Barn Road/ Elizabeth Avenue	Humps	Nov-08	£76,339	22.00	0	0.00	22.90	0	0	3	3	0.00	0.00	-3.00	-3.00
	12	Lower Braniel Road	Speed Cushions, Elongated kerb to kerb , taper side humps	Nov-08	£29,888	42.20	8	2.67	30.30	1	1	0	2	1.67	1.67	2.67	6.00
	13	Wynchurch Road	Taber Sided and kerb to kerb humps	Jun-08	£18,059	30.90	1	0.33	24.30	0	1	0	1	0.33	-0.67	0.33	0.00
	14	Magheralave Road	Kerb to Kerb Humps, Taper Sided	May-08	£73,242	39.40	8	2.67	26.00	0	0	1	1	2.67	2.67	1.67	7.00
	15	Low Road	Central Hatching, traffic islands, raised table junction	Sep-08	£23,075	38.70	2	0.67	39.00	1	2	1	4	-0.33	-1.33	-0.33	-2.00
	16	Skyline Drive	Road Humps	Mar-09	£45,055	33.00	2	0.67	27.70	0	1	0	1	0.67	-0.33	0.67	1.00
	17	Causeway End Road	Taper Sided Hump, Speed cushions	May-08	£7,185	37.80	1	0.33	29.00	0	1	1	2	0.33	-0.67	-0.67	-1.00
	18	Lagmore Ave & Dale	Speed Cushions, taper sided humps	Nov-08	£8,246	38.00	1	0.33	29.30	0	1	0	1	0.33	-0.67	0.33	0.00
	19	Straid Village	Village Gateway	Feb-08	£12,992	N/A	0	0.00	N/A	0	0	0	0	0.00	0.00	0.00	0.00
	20	Bracken Drive	Humps	Apr-08	£40,000	28.60	0	0.00	23.80	0	0	0	0	0.00	0.00	0.00	0.00
	21	Hazelburn Road	Humps	Feb-09	£20,404	22.20	2	0.67	19.10	0	0	0	0	0.67	0.67	0.67	2.00
	22	Grays Hill	Humps	Jun-08	£14,645	29.00	3	1.00	23.50	1	0	0	1	0.00	1.00	1.00	2.00
	23	Drumhirk Drive	Humps	Aug-08	£51,544	N/K	3	1.00	29.20	1	0	0	1	0.00	1.00	1.00	2.00
	24	Ballymagarry Lane	Taper Sided Kerb to Kerb 50mm	Apr-08	£23,537	37.50	0	0.00	23.50	0	0	0	0	0.00	0.00	0.00	0.00

Table 23: 2008 / 2009 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
WESTERN	1	Ballyronan Village	Gateways, speed cushions & red surfacing	May-08	£23,000	37.00	1	0.33	36.00	0	0	0	0	0.33	0.33	0.33	1.00
	2	Ardboe Village	20mph Zone, Gateway Signs, Red Surfacing, Road Humps & Cushions	May-08	£32,000	43.00	2	0.67	31.00	0	0	0	0	0.67	0.67	0.67	2.00
	3	Blackpark Road, Creagh	Gateways, speed cushions & red surfacing	Jun-08	£19,000	39.00	6	2.00	37.00	0	0	0	0	2.00	2.00	2.00	6.00
	4	Leckagh & Killowen estates, Magherafelt	20mph Zone, Gateway Signs, Red Surfacing, Road Humps &	Jan-09	£22,000	32.00	3	1.00	29.00	0	0	0	0	1.00	1.00	1.00	3.00
	5	Mourne Park Newtownstewart	Speed humps & cushions, 20mph zone & red surfacing.	Mar-09	£15,000	N/A	3	1.00	N/A	0	0	0	0	1.00	1.00	1.00	3.00
	6	Fountain Street Strabane	Gateways, speed cushions, humps, red surfacing & 20mph zone	Mar-09	£25,000	29.00	5	1.67	25.30	0	0	0	0	1.67	1.67	1.67	5.00
	7	Ardstraw	Gateway signs, speed cushions & red surfacing.	Mar-09	£15,000	48.60	2	0.67	31.00	0	0	0	0	0.67	0.67	0.67	2.00
	8	Allen Park Donemana	20mph Zone, speed humps, junction plateau & red surfacing	May-08	£18,000	30.00	1	0.33	33.80	1	0	0	1	-0.67	0.33	0.33	0.00
	9	Killyclogher	Gateways, cushions, humps, islands & red surfacing.	Jan-09	£40,000	37.00	4	1.33	29.60	4	2	2	8	-2.67	-0.67	-0.67	-4.00
74	TOTAL			£1,804,945		199				37	40	33	110	25.70	22.70	29.70	78

Table 24: 2007 / 2008 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
NORTHERN	1	Roemill Road, Limavady	Junction Platform, Speed Cushions, and Pedestrian Refuge.	Nov-08	£100,000	39.50	5	1.67	N/A	0	1	0	1	1.67	0.67	1.67	4.01
	2	Southway, Creggan, Londonderry	Road Humps, Priority System, central hatching, crossing islands	Mar-08	£42,000	50.50	4	1.33	31.00	0	0	3	3	1.33	1.33	-1.67	1.00
	3	Church Road Phase II	Road humps, Priority Working System	Mar-08	£11,000	33.00	0	0.00	29.00	0	0	0	0	0.00	0.00	0.00	0.00
	4	Irish Street Estate Londonderry	Road humps, Priority System,	Mar-08	£18,000	34.00	2	0.67	27.00	0	0	1	1	0.67	0.67	-0.33	1.00
	5	Ballykeel I and 2 Ballymena	Road Humps and Speed Cushions	Oct-07	£37,000	40.00	7	2.33	34.00	1	0	0	1	1.33	2.33	2.33	6.00
	6	Crumlin Phase 2	Road Humps, speed cushions and mini roundabouts	Mar-08	£22,000	36.00	7	2.33	29.00	2	2	2	6	0.33	0.33	0.33	1.00
	7	Drumahoe Road Millbrook Larne	Road Humps and mini roundabout	Dec-07	£29,000	46.00	3	1.00	33.00	0	0	0	0	1.00	1.00	1.00	3.00
	8	Upper Waterloo Road area Larne	Road Humps and speed cushions	Dec-07	£15,000	33.00	4	1.33	26.00	0	0	0	0	1.33	1.33	1.33	4.00
	9	Ballycarry Village Larne	Road humps, ladder hatching and pedestrian refuge island	Oct-07	£7,000	36.00	2	0.67	36.90	0	0	0	0	0.67	0.67	0.67	2.00
	10	Castlehill Ballymoney	Road humps and speed cushions	Dec-07	£9,000	36.00	1	0.33	25.50	0	1	0	1	0.33	-0.67	0.33	0.00
SOUTHERN	1	Killinchy	Enhanced Gateway & School Signage	Dec-07	£5,000	39.90	0	0.00	38.30	1	0	0	1	-1.00	0.00	0.00	-1.00
	2	Donaghadee	Enhanced Gateway/School Signage & Road Markings	Mar-08	£25,000	45.30	20	6.67	40.40	3	3	4	10	3.67	3.67	2.67	10.00
	3	Balloo	Enhanced Gateway Signage	Apr-08	£2,500	35.80	1	0.33	40.10	1	2	0	3	-0.67	-1.67	0.33	-2.00
	4	Lisbane	Enhanced Gateway Signage	Apr-08	£2,500	41.70	4	1.33	41.20	0	1	2	3	1.33	0.33	-0.67	1.00
	5	Crossgar	Enhanced Gateway/School Signage & Road Markings	Jun-07	£10,000	43.20	11	3.67	42.70	2	3	3	8	1.67	0.67	0.67	3.00
	6	King Street Newcastle	Speed Humps, Table & Enhanced signage	Sep-08	£25,000	28.30	1	0.33	25.50	0	0	0	0	0.33	0.33	0.33	1.00
	7	Rathkeltair Road/ Bullseye Road Downpatrick	Speed Humps, Table, Kerb Build-out, Priority Give/Take Island & Enhanced signage	Jun-07	£10,000	35.60	0	0.00	26.50	0	0	0	0	0.00	0.00	0.00	0.00
	8	Belleek Village	Enhanced Gateway & School Signage	Jul-07	£22,000	41.00	0	0.00	34.51	0	0	0	0	0.00	0.00	0.00	0.00
	9	Quarter Road, Camlough	Speed Humps, Priority Give/Take Island & Enhanced signage	Jan-08	£24,000	46.60	0	0.00	29.55	1	0	0	1	-1.00	0.00	0.00	-1.00
	10	Chapel Street, Newry	Enhanced Gateway & School Signage	Aug-07	£5,000	38.56	3	1.00	36.43	1	0	0	1	0.00	1.00	1.00	2.00
59	TOTAL			£1,372,750		165			21	29	28	78	29.25	21.25	22.25	73	

Table 24: 2007 / 2008 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMP-LETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
SOUTHERN	11	Hawthorn Hill / Glen Hill Newry	Road Humps & Signage	Sep-07	£26,000	30.60	0	0.00	23.40	0	0	0	0	0.00	0.00	0.00	0.00
	12	Loughgall Village	Gateway features, traffic islands and road markings	Sep-07	£10,000	39.00	1	0.33	36.00	1	0	1	2	-0.67	0.33	-0.67	-1.00
	13	Milford Village	Gateway features, road humps, traffic islands and sheltered parking	Sep-07	£25,000	29.00	1	0.20	22.00	0	0	0	0	0.20	0.20	0.20	0.60
	14	Convent Road Armagh	Road humps	Nov-07	£10,000	31.00	0	0.00	22.00	0	0	0	0	0.00	0.00	0.00	0.00
	15	Desart Lane Armagh	Road humps and speed table	Feb-08	£21,500	36.00	0	0.00	24.00	0	0	0	0	0.00	0.00	0.00	0.00
	16	Mountnorris Village	Gateway features, traffic islands, buildouts and road marking	Feb-08	£24,000	41.00	0	0.00	37.00	0	0	0	0	0.00	0.00	0.00	0.00
	17	Fort Street Banbridge	Mini roundabout, road humps and road marking	Feb-08	£35,000	40.00	1	0.33	27.00	0	0	1	1	0.33	0.33	-0.67	0.00
	18	Hilltown Road Rathfriland	Gateway feature, traffic island and road markings	Mar-08	£10,000	46.00	2	0.67	43.00	0	1	0	1	0.67	-0.33	0.67	1.00
	19	Waringsford Village	Gateway features, mini r'about and road marking	Sep-07	£28,000	42.00	0	0.00	36.00	0	0	0	0	0.00	0.00	0.00	0.00
	20	Castleview Gilford	Road humps and speed table	Mar-08	£29,000	33.00	0	0.00	20.00	0	0	0	0	0.00	0.00	0.00	0.00
	21	Kernan Road Portadown	Road markings	Nov-07	£15,000	38.00	3	0.60	39.00	0	0	1	1	0.60	0.60	-0.40	0.80
	22	Gibsons Hill Craigavon	Gateway features and road marking	Mar-08	£22,000	47.00	4	0.80	45.00	0	1	1	2	0.80	-0.20	-0.20	0.40
	23	Mourne Road Lurgan	Road humps	Mar-08	£20,000	31.00	3	1.00	23.00	0	0	0	0	1.00	1.00	1.00	3.00
EASTERN	1	Ballymurphy Street	80mm Taper Sided Humps, Giveaway Markings, 8 Junctions	Feb-08	£34,547	27.10	1	0.33	16.70	1	2	2	5	-0.67	-1.67	-1.67	-4.00
	2	Lemberg Street	80mm Taper Sided 50mm Kerb/ Kerb Junction	Feb-08	£22,000	15.10	1	0.33	14.50	0	0	0	0	0.33	0.33	0.33	1.00
	3	Irwin Avenue	Road Humps	Dec-07	£33,560	27.90	2	0.67	21.50	0	1	0	1	0.67	-0.33	0.67	1.00
	4	Ardenlee Avenue	Road Humps, speed cushions, footway buildouts	Nov-07	£39,632	43.40	0	0.00	29.70	0	0	0	0	0.00	0.00	0.00	0.00
	5	Lockview Road Area	Road humps widening of footway	Sep-07	£73,992	35.50	2	0.67	25.30	0	0	1	1	0.67	0.67	-0.33	1.00
	6	Holland Drive	Road Humps, Speed Cushions	Jun-07	£23,574	35.80	0	0.00	22.50	0	0	0	0	0.00	0.00	0.00	0.00
	7	Ballyregan Road	Taper Sided Humps, Gateway Signs, Central Hatch	Mar-07	£12,626	34.70	2	0.67	29.50	0	0	1	1	0.67	0.67	-0.33	1.00
	8	Lenaghan Area	Road Top Taper Sided, Speed Cushions, Kerb/ Kerb Junction	Nov-07	£10,252	38.60	0	0.00	27.80	0	0	0	0	0.00	0.00	0.00	0.00

Table 24: 2007 / 2008 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
EASTERN	9	Stirling Avenue	Footway Buildouts, Taper Sided Humps, 50mm Kerbs	Aug-07	£28,477	36.40	1	0.33	27.40	0	1	0	1	0.33	-0.67	0.33	0.00
	10	Ballinderry Village Upper	Village Gateway, Speed Limit Treatment, Road Narrowings	Oct-07	£11,063	41.60	0	0.00	36.60	2	1	0	3	-2.00	-1.00	0.00	-3.00
	11	Ballycreen Drive	80mm Taper Sided Humps, 50mm Kerb/ Kerb Junction	Aug-07	£15,023	32.60	1	0.33	26.00	1	0	0	1	-0.67	0.33	0.33	0.00
	12	Lisbane Drive	Humps	Feb-08	£8,101	34.60	0	0.00	23.50	0	0	0	0	0.00	0.00	0.00	0.00
	13	Church Road	Humps	Feb-08	£14,283	35.90	4	1.33	27.40	0	0	0	0	1.33	1.33	1.33	4.00
	14	Clandeboyne Road	Channelisation / Island, Kerb Realignment	Jun-07	£6,813	36.50	10	3.33	38.20	1	0	0	1	2.33	3.33	3.33	9.00
	15	Ballyholme Road	Humps	Oct-07	£49,688	35.30	7	2.33	34.90	1	1	0	2	1.33	1.33	2.33	5.00
	16	Rathmore Road	1 mini roundabout, humps	Jul-07	£21,633	32.60	2	0.67	29.10	0	1	0	1	0.67	-0.33	0.67	1.00
	17	Victoria Rd / Clifton Rd	Humps	Mar-07	£67,986	30.50	1	0.33	27.40	1	0	0	1	-0.67	0.33	0.33	0.00
18	Broadway	Humps, priority Junction	Mar-08	£20,000	39.90	0	0.00	34.90	0	1	0	1	0.00	-1.00	0.00	-1.00	
WESTERN	1	Clady Village	Gateway signs, humps, cushions, 20mph zone & red surfacing	Mar-08	£15,000	38.00	3	1.00	35.00	0	0	0	0	1.00	1.00	1.00	3.00
	2	Ederney Village	Gateway Signs, Red Surfacing Road Humps and Speed Cushions	Mar-08	£30,000	39.00	4	1.33	37.00	0	1	0	1	1.33	0.33	1.33	2.99
	3	Fintona Village Ph 1	Gateway signs,humps,cushions,	Mar-08	£40,000	38.70	8	2.66	30.00	0	0	1	1	2.66	2.66	1.66	6.98
	4	Derrychara, Enniskillen	20mph Zone, Gateway Signs, Red Surfacing, Road Humps &	Mar-08	£20,000	33.00	3	1.00	33.00	0	1	1	2	1.00	0.00	0.00	1.00
	5	Clabby Village	Gateway Signs, Red Surfacing Road Humps and Speed Cushions	Nov-07	£30,000	48.50	4	1.33	35.40	0	0	0	0	1.33	1.33	1.33	3.99
	6	Kevlin Road	Humps & cushions.	Aug-07	£20,000	34.00	2	0.66	32.00	0	0	0	0	0.66	0.66	0.66	1.98
	7	Donaghmore	Gateway Signs, Red Surfacing Road Humps and Speed Cushions	Mar-08	£10,000	41.20	5	1.00	35.00	1	1	2	4	0.00	0.00	-1.00	-1.00
	8	Killyman Rd / Killymeal Rd, Dungannon	Gateway Signs, Red Surfacing Road Humps and Speed Cushions	Feb-08	£18,000	38.40	12	1.00	33.50	0	3	1	4	1.00	-2.00	0.00	-1.00
59	TOTAL			£1,372,750			165			21	29	28	78	29.25	21.25	22.25	73

Table 25: 2006 / 2007 TRAFFIC CALMING SCHEMES

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMP-LETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
NORTHERN	1	Cullybackey Vilage	Gateways, ladder hatching	Mar-07	£10,000	35.00	10	3.33	37.00	1	1	5	7	2.33	2.33	-1.67	3.00
	2	Crumlin Village Phase 1	Road humps, mini rmbt, ladder hatching	Aug-06	£38,000	36.00	7	2.33	40.00	See	Phase	Two	0				
	3	Gracehill Vilage	Road humps	Feb-07	£20,000	39.00	2	0.67	30.00	0	0	0	0	0.67	0.67	0.67	2.00
	4	Edenmore Road from Greystone to Mountden	Pedestrian Islands, right turn pockets, hatching and red surfacing	Apr-07	£40,000	46.00	4	1.33	35.20	0	3	0	3	1.33	-1.67	1.33	1.00
	5	Church Road Phase 1	Road humps and a Priority Working System	May-06	£20,000	42.00	3	1.00	31.00	0	0	0	0	1.00	1.00	1.00	3.00
	6	Elmwood St, Cable St	Road humps and speed cushions	May-06	£10,000	33.00	2	0.67	24.00	0	0	0	0	0.67	0.67	0.67	2.00
SOUTHERN	1	Killough	Road Humps, Gateways	Nov-06	£79,000	34.60	3	1.00	26.00	1	1	2	4	0.00	0.00	-1.00	-1.00
	2	Saintfield	Road Humps, Gateways	Nov-06	£68,000	35.50	13	4.33	24.50	4	5	8	17	0.33	-0.67	-3.67	-4.00
	3	Portaferry	Gateways	Jan-07	£10,000	33.20	7	2.33	32.20	1	2	0	3	1.33	0.33	2.33	4.00
	4	Railway Street Comber	Road Humps	Mar-07	£15,600	34.20	3	1.00	31.40	0	0	1	1	1.00	1.00	0.00	2.00
	5	Upper Movilla Street / Old Movilla Rd	Road Humps	Mar-07	£12,000	38.20	7	2.33	37.60	0	0	0	0	2.33	2.33	2.33	7.00
	6	Harbour Road Kilkeel	Road Humps	Aug-06	£20,000	34.00	5	1.67	24.00	0	0	0	0	1.67	1.67	1.67	5.00
	7	Newry Road Kilkeel	Gateway Signage	Aug-06	£4,600	44.00	3	1.00	29.00	3	4	1	8	-2.00	-3.00	0.00	-5.00
	8	Bridal Loanan Warrenpoint	Road Humps, Cushions	Mar-07	£26,000	36.00	2	0.67	31.90	0	0	0	0	0.67	0.67	0.67	2.00
	9	Drumnacavy Village	Gateway features and road marking	Dec-06	£8,000	42.00	2	0.67	38.00	0	0	0	0	0.67	0.67	0.67	2.00
	10	Meadowbrook Craigavon	Speed humps and tables	Oct-06	£10,000	36.00	1	0.33	22.00	1	0	0	1	-0.67	0.33	0.33	0.00
	11	Mill Hill Waringstown	Gateway features, build-outs and sheltered parking	Oct-06	£15,000	38.00	4	1.33	39.00	1	2	2	5	0.33	-0.67	-0.67	-1.00
	12	Poyntzpass Village	Gateway features and road marking	Mar-07	£25,000	43.00	3	1.00	36.00	1	1	1	3	0.00	0.00	0.00	0.00
	13	Scarva Street Banbridge	Kerb build-outs, sheltered parking and road markings	Mar-07	£10,000	31.00	3	1.00	29.00	3	0	4	7	-2.00	1.00	-3.00	-4.00
	14	Lawrencetown Village	Gateway features, road marking and short length of footpath	Mar-07	£15,000	42.00	4	1.33	42.50	0	0	2	2	1.33	1.33	-0.67	2.00
	15	Moneyslane Village	Gateway features and road marking	Mar-07	£15,000	48.00	2	0.67	44.00	0	0	1	1	0.67	0.67	-0.33	1.00

Table 25: 2006 / 2007 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
EASTERN	1	Burnside Village	Village gateway type signing in conjunction with red surfacing	Oct-06	£9,051	N/A	N/A	N/A	40.60	1	2	2	5	N/A	N/A	N/A	N/A
	2	Ballyeaston Village	Village gateway type signing in conjunction with red surfacing	Oct-07	£14,741	50.20	0	0.00	45.10	0	0	0	0	0.00	0.00	0.00	0.00
	3	Harberton Park	Various tapered sided road humps and raised junctions	Nov-06	£95,063	38.60	2	0.40	32.60	0	0	0	0	0.40	0.40	0.40	1.20
	4	Moss Road	Elongated road humps with tapered sides and raised junction	Jan-07	£16,819	44.90	1	0.33	29.20	0	0	0	0	0.33	0.33	0.33	1.00
	5	Gransha Road	Gateway type signing in conjunction with red surfacing	Oct-06	£6,932	44.20	1	0.33	42.20	0	0	0	0	0.33	0.33	0.33	1.00
	6	Duncairn Gardens	Reduction in lane widths by providing build outs.	Mar-07	£16,301	36.00	4	1.33	39.80	1	0	0	1	0.33	1.33	1.33	3.00
	7	Erinvale Avenue	Standard tapered sided roads humps and 50mm kerb to kerb road humps	Mar-07	£15,210	32.30	1	0.33	22.10	0	0	0	0	0.33	0.33	0.33	1.00
	8	Benmore Drive	Standard tapered humps and 50mm kerb to kerb humps and mini RAB	May-07	£49,595	30.10	1	0.33	18.40	1	0	0	1	-0.67	0.33	0.33	0.00
	9	Backwood Road	Standard tapered sided road humps, raised junctions and cycle route	Apr-07	£21,482	35.40	2	0.67	24.70	0	0	0	0	0.67	0.67	0.67	2.00
	10	Cranley Road	Standard tapered sided road humps and 50mm kerb to kerb road humps	Nov-06	£4,968	36.30	0	0.00	30.10	0	0	0	0	0.00	0.00	0.00	0.00
	11	Knockenagh Avenue	Flat topped speed cushion, lay-by and new footway	Nov-06	£47,434	37.60	1	0.33	28.70	0	0	0	0	0.33	0.33	0.33	1.00
	12	Cashel Drive	Various kerb to kerb road humps, standard tapered sided road humps	Oct-06	£11,422	37.90	0	0.00	32.70	1	0	0	1	-1.00	0.00	0.00	-1.00
	13	Carnhill Road	Various kerb to kerb road humps, standard tapered sided road humps and provision of footway build out	Mar-07	£21,074	35.30	1	0.33	26.20	0	0	0	0	0.33	0.33	0.33	1.00

Table 25: 2006 / 2007 TRAFFIC CALMING SCHEMES (cont.)

DIVISION	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	85%-ile speed (mph) BEFORE	COLLISION HISTORY		85%-ile speed (mph) AFTER	COLLISIONS AFTER COMPLETION				REDUCTION IN COLLISIONS				
							AV / YEAR		1	2	3	TOTAL	1	2	3	TOTAL	
EASTERN	14	Knockmore Estate	Kerb to kerb road hump, double speed cushion and raised junction	Oct-06	£34,753	N/K	3	1.00	21.50	1	2	1	4	0.00	-1.00	0.00	-1.00
	15	Loopland Park	Elongated road humps and tapered sided road hump	Jun-06	£16,693	37.80	0	0.00	21.50	0	0	0	0	0.00	0.00	0.00	0.00
	16	Ballinderry Village	Gateway signposts, High friction surfacing strips	Dec-06	£6,698	N/A	N/A	N/A	40.90	0	0	1	1	N/A	N/A	N/A	N/A
	17	Dunraven Park area	Road humps, speed cushions, raised junction, build outs, parking lay-bys,	Feb-07	£60,342	37.30	4	1.33	24.40	0	0	0	0	1.33	1.33	1.33	4.00
	18	Downshire Road	Tapered sided road humps and the provision of footway build outs.	Dec-06	£9,563	41.50	2	0.67	28.70	0	0	0	0	0.67	0.67	0.67	2.00
	19	Burney's Lane	Tapered road humps, standard kerb to kerb humps Footway build-out	Mar-07	£45,869	34.5	1	0.33	26.30	0	0	0	0	0.33	0.33	0.33	1.00
	20	Cupar Street Upper	Tapered sided road humps and standard kerb to kerb road humps	Feb-07	£5,044	N/A	N/A	N/A	23.20	0	0	1	1	N/A	N/A	N/A	N/A
WESTERN	1	Castlecaulfield, Dungannon	Gateways, speed cushions & red surfacing	Mar-07	£35,000	35.20	6	2.00	32.00	0	0	0	0	2.00	2.00	2.00	6.00
	2	Ballycolman Phase 2	20mph Zone, Gateway Signs, Red Surfacing, Road Humps & Cushions	Mar-07	£67,000	N/A	5	1.66	N/A	0	0	0	0	1.66	1.66	1.66	4.98
	3	Brackaville Road, Coalisland	Gateways, speed cushions, flat top ramps & red surfacing	Mar-07	£50,000	39.20	0	0.00	31.00	2	0	3	5	-2.00	0.00	-3.00	-5.00
	4	Brookeborough, Fermanagh	Gateway Signs, Red Surfacing Road Humps and Speed Cushions	Mar-07	£30,000	33.00	2	0.67	N/A	0	0	1	1	0.67	0.67	-0.33	1.01
	5	Carland Road, Dungannon	Gateways, speed cushions & red surfacing	Mar-07	£25,000	38.90	9	3.00	32.00	1	0	2	3	2.00	3.00	1.00	6.00
	6	Carrickmore, Omagh	Gateway Signs, Red Surfacing Road Humps and Speed Cushions	Mar-07	£50,000	N/A	7	2.33	N/A	1	1	0	2	1.33	1.33	2.33	4.99
	7	Coleshill & Rossorry Church Road, Enniskillen	Red Surfacing, Road Humps and Speed Cushions	Mar-07	£30,000	34.00	2	0.67	29.00	0	0	1	1	0.67	0.67	-0.33	1.01
	8	Draperstown/Straw, M'felt	20mph Zone, Gateway Signs, Red Surfacing, Road Humps & Cushions	Mar-07	£25,000	41.00	7	2.33	35.00	2	4	1	7	0.33	-1.67	1.33	-0.01
	9	Tirkane Road & parks, Maghera	20mph Zone, Gateway Signs, Red Surfacing, Road Humps & Cushions	Mar-07	£40,000	38.50	6	2.00	21.00	0	0	0	0	2.00	2.00	2.00	6.00
	10	Windmill Heights, Enniskillen	20mph Zone, Gateway Signs, Red Surfacing, Road Humps & Cushions	Mar-07	£25,000	N/A	0	0.00	N/A	0	0	0	0	0.00	0.00	0.00	0.00
51	TOTAL			£1,357,255		158				27	28	40	95	24.06	24.06	14.06	62

Table 26: Summary of Traffic Calming Schemes from 2000/01 – 2013/14

Year	Expenditure (£)	Number of Schemes	Collision History	Average Yearly Reduction In Collisions
2000/01	896,437	31	331	35
2001/02	1,508,611	50	374	41
2002/03	1,513,773	50	474	59
2003/04	1,930,200	65	478	61
2004/05	2,567,142	79	308	44
2005/06	2,836,961	66	189	31
2006/07	1,357,255	51	158	21
2007/08	1,372,750	59	165	24
2008/09	1,804,945	74	199	26
2009/10	1,164,800	53	119	6
2010/11	891,749	25	59	5
2011/12	1,304,400	46	78	14*
2012/13	464,034	18	29	7**
2013/14	305,842	25	34	***
Total	19,918,899	692	2,995	

Notes: * 2011/12 schemes have monitoring data for two-years
 ** 2012/13 schemes have monitoring data for one-year
 *** 2013/14 schemes have no available data

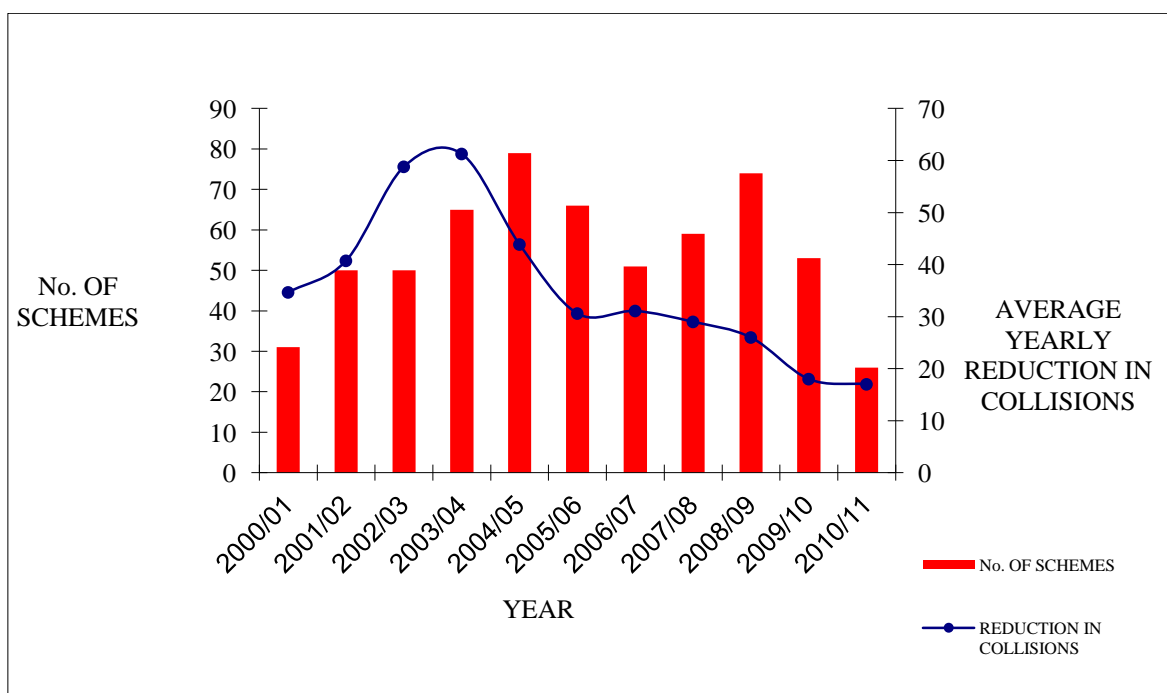


Fig 8 : Summary of Traffic Calming Schemes from 2000/01 – 2010/11

Example of Traffic Calming Scheme



Lower Ballinderry Village, Lisburn (Before)



Lower Ballinderry Village, Lisburn (After)

Fig. 9: Road humps implemented to reduce volume and speed of traffic in urban areas.

Appendix III

Vehicle Activated Signs Details of Signs Installed In 2006/07 – 2013/14

No Vehicle Activated Signs programmes were implemented during the following financial years.

- 2013 /14
- 2012 /13
- 2011 /12
- 2009 /10

Table 27: 2010 /11 VEHICLE ACTIVATED SIGNS

DIVISION	SCHEME NO.	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION YEAR				REDUCTION IN COLLISIONS YEAR			
						HISTORY	YEARS	AV/YEAR	1 (11/12)	2 (12/13)	3 (13/14)	TOTAL	1	2	3	TOTAL
NORTHERN																
	1	B18 Roguery Road, Moneyglass, Toome	VAS to address high speed collisions on slight bend	Mar-11	£3,000	3.00	3.00	1.00	0	0	0	0	1.00	1.00	1.00	3.00
EASTERN																
		N/A														
SOUTHERN																
		N/A														
WESTERN																
		N/A														
TOTAL	1				£3,000	3.00	3.00		0	0	0	0	1.00	1.00	1.00	3.00

Table 28: 2008 /09 VEHICLE ACTIVATED SIGNS

DIVISION	SCHEME NO.	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION YEAR				REDUCTION IN COLLISIONS YEAR			
						HISTORY	YEARS	AV/YEAR	1 (09/10)	2 (10/11)	3 (11/12)	TOTAL	1	2	3	TOTAL
NORTHERN																
	1	A2 Culmore Rd at Ardan Rd	Bend & junc warning pictogram with "slow down" on northern approach to junction	Mar-09	£2,300	3.00	3.00	1.00	0.00	-	-		-	-	-	
	2	Kilmoyle School Benvardin Ballymoney	Pilot scheme – 20mph variable School limit at Schools	Aug-08	£50,000	1	3	0.34	0.00	0.00	0.00	0.00	0.34	0.34	0.34	1.02
	3	Largy Rd Randalstown to Portglenone	Speed Reactive Junction Warning Signs at Kilknock Cross	Dec-09	£44,000	5	3	1.66	2.00	0.00	1.00	3.00	-0.34	1.66	0.66	1.98
EASTERN																
		N/A														
SOUTHERN																
		N/A														
WESTERN																
		N/A														
TOTAL	3				£96,300	9.00	9.00		2.00	0.00	1.00	3.00	0.00	2.00	1.00	3.00

Table 29: 2007 /08 VEHICLE ACTIVATED SIGNS

DIVISION	SCHEME NO.	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION YEAR				REDUCTION IN COLLISIONS YEAR			
						HISTORY	YEARS	AV/YEAR	1 (08/09)	2 (09/10)	3 (10/11)	TOTAL	1	2	3	TOTAL
NORTHERN																
		N/A														
EASTERN																
	1	Malone Road	30mph roundel and "Slow Down" message	Nov-07	£12,790	9.00	3.00	3.00	2.00	3.00	2.00	7.00	1.00	0.00	1.00	2.00
SOUTHERN																
		N/A														
WESTERN																
		N/A														
TOTAL	1				£12,790	9.00	3.00		2.00	3.00	2.00	7.00	1.00	0.00	1.00	2.00

Table 30: 2006 /07 VEHICLE ACTIVATED SIGNS

DIVISION	SCHEME NO.	SCHEME LOCATION	SCHEME DESCRIPTION	COMPLETION DATE	COST	COLLISION HISTORY			COLLISIONS AFTER COMPLETION YEAR				REDUCTION IN COLLISIONS YEAR			
						HISTORY	YEARS	AV/YEAR	1 (07/08)	2 (08/09)	3 (09/10)	TOTAL	1	2	3	TOTAL
NORTHERN																
		N/A														
EASTERN																
		N/A														
SOUTHERN																
		N/A														
WESTERN																
	1	A509, Derrylin Road @ "Fatts Cross"	VAS installed, 2 No. Bend warning sign & "Slow Down" message	Mar-06	£25,000	1.00	3.00	0.33	1	0	0	1	-0.67	0.33	0.33	0.00
TOTAL	1				£25,000	1.00	3.00		1	0	0	1	-0.67	0.33	0.33	0.00

Definitions

Road Traffic Collision (Formerly Road Traffic Accident)	Is a situation resulting in personal injury that has occurred on a public road (including cycle and footpaths) in which a vehicle is involved.
Casualty	A person who sustains a slight, serious or fatal injury as result of a road traffic collision.
Collision Remedial Scheme	An engineering solution to an identified road traffic collision problem.
Traffic Calming Scheme	Self-enforcing engineering measures implemented to reduce the volume and speed of traffic in urban areas and improve the environment. Traffic calming may also include implementing non self-enforcing advisory 20-mph zones such as stand-alone 20-mph speed limit signs with limited or no engineering
Target Collision	Is the term used to describe a collision, the type of which is to be addressed by the remedial works
Intervention Level	Is a numerical value of a measure of a collision problem. If the values for a particular location exceed the relevant intervention level then that road shall be subject to more detailed analysis and if appropriate, subsequent treatment.
Collision Cluster	An area within a limited radius in which a number of road traffic collisions have occurred.
Collision Cluster Review	An annual review of collision clusters that have reached the intervention level.
FYERR	Is an estimate of the monetary benefits to be gained in collision savings in the first year set against the cost of a scheme (Percentage for staff costs 1.2 added). $FYERR = \frac{\text{Average injury collision cost} \times \text{proposed collision reduction}}{\text{Estimated cost of works} \times 1.2}$
Safety Audit	A system for checking the safety aspects of road engineering schemes.
Urban Road	A road that has a speed limit of 40mph or less.
Rural Road	A road that has a speed limit greater than 40mph.
Single Site	A specific site with a higher than average concentration of collisions of a particular type.
Route Site	Addressing a number of problems on one or more routes i.e. adjoining road sections with broadly similar characteristics and traffic.
Mass Action Site	A number of single sites with a common collision problem.
Area-Wide Site	An area approximately one-kilometre square.
RPI	Official measure of the general level of inflation as reflected in the retail price of goods and services
Regression to Mean	The tendency for collision frequencies to fluctuate around an average value.

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Should you require this document in an accessible format e.g. Braille, audio cassette, minority ethnic language etc, please contact the Traffic Information Control Centre as above.