



**COUNCIL EXECUTIVE**

**ACCIDENT INVESTIGATION AND PREVENTION (AIP)  
CASUALTY REDUCTION PROGRAMME 2011/12**

**REPORT BY HEAD OF OPERATIONAL SERVICES**

**A. PURPOSE OF REPORT**

The purpose of this report is to seek approval for the list of proposed prioritised casualty reduction schemes for the 2011/12 programme.

**B. RECOMMENDATION**

It is recommended that the council executive approves the list of prioritised casualty reduction schemes for implementation in 2011/12.

**C. SUMMARY OF IMPLICATIONS**

**I Council Values** Focusing on our customers' needs and working in partnership.

**II Policy and Legal (including Strategic Environmental Assessment, Equality Issues, Health or Risk Assessment)** **Policy:** The Accident Investigation and Prevention (AIP) casualty reduction programme is identified in the Community Safety Strategy and in the Road Safety Plan. The council has a statutory responsibility for road safety under the Road Traffic Act 1988.

**Legal:** None

**III Resources - (Financial, Staffing and Property)** **Financial:** The proposed schemes will be funded from the council's ten year capital investment plan. The road casualty reduction budget over the ten year period is £2.7million with £272,000 allocated in 2011/12.

Maintenance costs relating to the schemes will require to be accommodated in future revenue budgets.

Schemes will be designed to minimise these future revenue costs

as far as is practicable.

**Staffing:** None.

**Property:** None.

#### **IV Consultations**

Consultation will be carried out with Lothian and Borders Police on the programme as a whole and with any frontagers directly affected by any of the proposed schemes.

Schemes which require a traffic regulation order will have additional statutory consultation and a period for objections. Further reports will be prepared for the council executive in these cases.

The report was considered by the Environment PDSP on 7 April 2011. The PDSP recommended that the council executive approves the draft programme.

#### **D. TERMS OF REPORT**

##### **Background**

The council's Road Safety Plan and Community Safety Strategy identify the need for a road casualty reduction programme utilising accident investigation and prevention (AIP) techniques.

The council's commitment to this type of work and its contribution towards achieving the national casualty reduction targets was strengthened with the decision, by the Council Executive, to allocate £2.7million in the ten year capital investment programme to road casualty reduction schemes.

Research for the Department for Transport has found that local safety schemes which tackle proven casualty problems represent very good value for money and make a significant contribution to casualty reduction.

##### **Progress to date**

The current casualty reduction programme commenced in 2007/08 and since then, a total of 31 schemes have been completed. A further 16 schemes are due for completion within the next few weeks.

It is too early to assess fully the effects of all of these schemes on casualty reduction. However, full monitoring has now been carried out for the schemes introduced in 2007/08 and initial monitoring for the schemes introduced in 2008/09.

The results of the first two years are provided in Table 1.

The results of this monitoring are very encouraging and indicate an overall reduction in accidents at treated sites of around 53% giving a first year rate of return of 490%.

Year	Number of schemes	Accident reduction at schemes	First year rate of return
2007/08	10	43%	912%
2008/09 (initial results)	12	64%	329%
<b>2007-2009 Overall</b>	<b>22</b>	<b>53%</b>	<b>490%</b>

**Table 1 – AIP programme monitoring results**

### **Prioritised schemes for 2011/12**

For the 2011/12 programme, officers identified so-called ‘sites for concern’ in three ways. Firstly, nearly 80 single sites where there were four or more accidents in a five year period were identified. Secondly, the accident rates on all class A and class B routes were analysed and the 10 routes with the highest accident rates were investigated in detail. Finally, all residential areas in West Lothian were mapped, the accident rates calculated and detailed investigations carried out on the top five areas.

The investigation / analysis work undertaken involved using the recorded injury accident data collected by Lothian and Borders Police to identify sites for concern and analyse crash patterns to develop remedial measures. The process is used nationally and is endorsed by The Royal Society for the Prevention of Accidents (RoSPA) through its Road Safety Engineering Manual.

The accident patterns at each of these sites for concern were investigated and a total of 21 sites taken forward for development of remedial measures. These remedial measures have been prioritised based upon value for money criteria. Appendix 1 shows the list of schemes taken forward and prioritised.

The available funding will allow the introduction of around 14 schemes in 2011/12, subject to final scheme costs. As the accident data is analysed on an annual basis, the programme will be re-ordered next year to take account of up-to-date accident problems.

It is anticipated that results from the 2011/12 programme will be available in early 2014.

### **Environment PDSP**

The programme was considered by the Environment PDSP at its meeting on 7 April 2011. There was some discussion over which schemes beyond the top 14 would be progressed if there was surplus funding available. Officers confirmed that the most likely ‘reserve’ scheme would be AIP/2011/024 ranked at number 18 on the list. This is because it is the least costly of the remaining schemes.

Councillor Boyle, whilst supporting the programme, expressed a view that it was based upon historical accident data and was therefore a reactive programme.

However, the panel unanimously recommended that the council executive approve the prioritised programme for 2011/12.

## **E. CONCLUSION**

The AIP programme is the council's main opportunity to make a significant impact in meeting casualty reduction targets and this is backed up by national research and local results.

The schemes prioritised for this financial year maximise the council's investment through first year rate of return prioritisation and will deliver improvements across West Lothian.

## **F. BACKGROUND REFERENCES**

Department for Transport (2009). Road Safety Research Report No. 108 – Contribution of Local Safety Schemes to Casualty Reduction. DfT, London. Available from: <http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme5/rsrr108.pdf>

Appendices / Attachments:

Appendix 1 – Casualty Reduction Schemes 2011/12 – Prioritised list

Contact Person: Kevin Hamilton, Team Leader - Road Safety & Traffic Management, Operational Services, County Buildings, Linlithgow.

Tel: 01506 282341, e-mail: [kevin.hamilton@westlothian.gov.uk](mailto:kevin.hamilton@westlothian.gov.uk)

3 May 2011

## APPENDIX 1 – CASUALTY REDUCTION SCHEMES 2011/12 – PRIORITISED LIST

Schemes have been prioritised using an economic assessment method known as First Year Rate of Return (FYRR). It is a simple way of calculating whether a scheme can be justified in economic terms.

The FYRR is calculated using the formula:

$$\%FYRR = \frac{\text{Annual\_Accident\_Savings} \times 100}{\text{Scheme\_cost}}$$

The annual accident savings are calculated using accident costs from Road Accidents Scotland 2009 and are weighted based upon whether the site is in an urban or rural location. This mechanism reflects that the cost to society of road accidents is higher in rural areas. As a decreasing number of identified sites include fatal or serious accidents, the severity weighting applied in previous years has not been used.

An estimated FYRR of more than 100% indicates that the scheme benefits will outweigh the costs within the first year. An estimated FYRR of less than 100% indicates that the scheme is still beneficial but the benefits take more than a year to outweigh the costs.

Schemes will be implemented in priority order until the available funding is exhausted. It will not be possible to implement every scheme in 2011/12 due to budget constraints. It is anticipated that around 14 schemes will be implemented this year.

Rank	Ref	Location	Ward	Proposals	Estimated Scheme Cost	Estimated Annual Cost Saving to Society <sup>1</sup>	Estimated FYRR (%)
1	AIP/2011/033	A71 @ A899 (Lizzie Brice Roundabout)	4	Queues Likely Warning Signs	£2,000	£57,428	2871.4
2	AIP/2011/061	C21 Dechmont Hill Road at Burnhouse	2	Bend Warning Vehicle Activated Sign	£5,000	£32,738	654.8
3	AIP/2011/008	A801 @ A89 (Heatherfield Roundabout) Near Armadale	8, 9	Renew Anti-skid Surface Treatment and Circulatory Markings	£5,500	£32,738	595.2
4	AIP/2011/051	A899 Livingston East Roundabout	3, 5	Road Markings, Direction signs, relocate signal head	£20,000	£73,846	369.2
5	AIP/2011/016	B7015 East of Junction With Freeport Village	6	Warning Signage, Verge Markers, Surfacing Investigation	£14,000	£49,231	351.6
6	AIP/2011/045	Peel Roundabout, Alderstone Road, Livingston	4	Chevrons, replaced ADS, refresh markings	£5,500	£15,603	283.7
7	AIP/2011/063	Deans North Road @ Knightsridge West Road, Livingston	3	Roundabout Markings and Red Coloured Surface Treatment	£6,500	£15,603	240.1

<sup>1</sup> The cost savings identified are not directly recouped by the council but are savings to society as a whole. The costs include both human costs and direct economic costs.

Rank	Ref	Location	Ward	Proposals	Estimated Scheme Cost	Estimated Annual Cost Saving to Society <sup>1</sup>	Estimated FYRR (%)
8	AIP/2011/065	Drumshoreland Road east of Pumpherstons	5	Signs, Markings and Surfacing Investigation	£16,500	£32,738	198.4
9	AIP/2011/003	B9080 @ C20 Auldhill Road, Bridgend	1	Remove Junction Islands and Tighten Up Junction	£14,000	£24,615	175.8
10	AIP/2011/072	B8046 Mid Calder	5	Signs, Verge Markers, Surfacing Investigation and Drainage improvements	£10,600	£15,603	147.2
11	AIP/2011/010	A89 @ B715, Blackridge	9	Buildouts to Relocate Give way and Improve Visibility	£10,000	£11,732	117.3
12	AIP/2011/013	A706 @ B7015 Near Fauldhouse	6	Traffic Signals	£80,000	£65,477	81.8
13	AIP/2011/057	A899 West Main Street @ Station Road, Broxburn	2	Pedestrian Refuge Island	£20,000	£15,721	78.6
14	AIP/2011/047	Ladywell East Road @ Howden West Road Link, Livingston	3	Build-out, signs and skid resistance investigation	£20,000	£14,078	70.4
15	AIP/2011/005	A706 @ A801, Near Torphichen	9	Traffic Signals and Associated Street Lighting	£200,000	£98,462	49.2
16	AIP/2011/085	C9 Bangour to Drumcross Road	8	Overlay Existing Surface to Improve Vertical Alignment	£85,000	£41,108	48.4
17	AIP/2011/046	A705 Off-Slip Road @ Howden West Road	4	Junction reconfiguration - roundabout	£120,000	£54,670	45.6
18	AIP/2011/024	B792 @ Inchmuir Road, Bathgate	8	Remove Island and Slip Lane Tighten Junction	£52,000	£15,638	30.1
19	AIP/2011/048	Ladywell West @ Moss Interchange, Livingston	3	Left turn slip lane removal, markings refresh and direction signs	£60,000	£15,251	25.4
20	AIP/2011/049	Houstoun Road @ Knightsridge East	3	Left turn slip lane removal, markings refresh and direction signs	£60,000	£15,251	25.4
21	AIP/2011/064	Houston Road @ Grange Road @ Nettlehill Road, Livingston	5	Signal Controlled Staggered Junction	£100,000	£15,650	15.7