

**ACCIDENT REMEDIES AND TRAFFIC MANAGEMENT PROGRAMME –
MEDIUM SIZED SCHEMES**

To: **Cabinet**

Date: **25th May 2010**

From: **Acting Executive Director: Environment Services**

Electoral division(s): **All**

Forward Plan ref: **Not applicable** *Key decision:* **No**

Purpose: **To review current cost benefit weighting system applied to the assessment scores for medium sized traffic and safety schemes bids.**

Recommendation: **To determine a preferred option to be taken forward as below:**

That the current cost benefit based process is maintained but with the addition that schemes with an unweighted accident score of 7 or above are also brought to Cabinet for consideration as part of the process.

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1. BACKGROUND

- 1.1. The “medium sized traffic management and safety schemes programme”, (commonly known as the ‘October List’) is funded from the Local Transport Plan (LTP). The scheme bids range in value from £30,000 - £500,000. The current budget usually allows for two or three schemes to be added to the programme annually, however, the pressure on the capital programme over the next few years means that a process for prioritising medium sized schemes is important.
- 1.2. The bids ranked according to cost benefits are presented to Cabinet to review and approve the priorities for the following financial year.
- 1.3. The current system generates evaluation scores for each bid in three key areas 1) potential accident savings, 2) effect on road users, and 3) effect on the environment. The total score is divided by its “cost band” based upon the estimated value of the proposed works. This process provides a simplistic but effective cost benefit analysis.
- 1.4. A detailed statement of the scoring system is available as a background document.
- 1.5. At the meeting of Cabinet on 15th December 2009, Cllr Mac McGuire, Deputy Leader of the Council and Cabinet Member for Highways and Access proposed a review of the current weighting system, and investigation of the effects of potential alternatives. This was supported and officers were tasked with reporting the results back to an early Cabinet.

2. REVIEW OF ASSESSMENT PROCESS

- 2.1. There are always many more proposed schemes than available budget; therefore prioritisation of the bids is an essential element of the process. However the current methodology has been in use for several years and a review of whether it still provides the best balance of value against benefits, is due.
- 2.2. **Appendix A** of this report presents the results of three alternative assessment options. The effect of these alternatives on prioritisation is listed alongside those produced using the current system for comparison.
 - **Current system. Applying a weighting factor for cost of scheme to the total of scores for Accident reduction, effect on level of service and environmental effect. The basic elements of the current system are:**
 - Effect on traffic collisions
 - Effect on traffic flows
 - Balancing of traffic flows
 - Effect on Public transport
 - Effect for Pedestrians
 - Effect for Cyclists

- **Effect on Equestrians (where appropriate)**
 - **Environmental effect on: residential properties, schools, hospitals, shops, nursing homes, and historic or environmentally sensitive areas**
 - **Environmental effect of the works, their operation (including air quality and congestion), and maintenance**
 - **Estimated scheme cost**
- **Alternative 1. Removing the weighting factor for cost of scheme;**
 - **Alternative 2. Adding double weighting to accident reduction, but with no cost weighting;**
 - **Alternative 3. Keeping cost weighting but increasing the factor for accident savings.**
- 2.3 In order to establish how the Cambridgeshire procedure aligns with current industry norms and to determine whether more fundamental changes or additions need to be made to the existing system, the practices of a number of other highway authorities were examined. All of these authorities prioritise their programme of works, taking forward those that rank most highly against their criteria. A data led approach including evaluation of accident savings was central to assessment, with some also taking into consideration other factors, for example: effect on non motorised users, traffic flows, environment etc. All of the authorities looked at making value for money or cost benefit analysis a central factor in the prioritisation of works.
- 2.4 An additional element has been suggested whereby those schemes that have an (unweighted) accident score in excess of a set level could be highlighted regardless of cost factors. This would allow members to give special consideration to sites with a notable accident history where they are aware of wider transport or community benefits that would result from implementation of the proposed treatment. This could be implemented as a supplementary element to any ranking systems.
- 2.5 The alternative options were considered and commented upon by the Growth and Environment Policy Development Group on the 17th March 2010, and an extract from the notes of the confidential meeting are appended as Appendix B.

3. SUMMARY OF EFFECTS

- 3.1. **Current system.** Application of a cost weighting ensures some emphasis on value for money and the treatment of the maximum number of road traffic collisions with the money available. However some questions have been raised where proposals with good potential accident reductions are ranked below lower costs schemes with lower savings.
- 3.2. **Alternative 1.** Removing the cost weighting element entirely. This is likely to reduce the overall accident saving achieved by the October List programme.

A simplified example to illustrate this is shown overleaf:

Consider the case where a scheme saving 10 accidents but costing £500,000 is successful at the expense of 2 £250,000 schemes each saving 6 accidents. The inclusion of a cost weighting system also encourages bidders to think carefully about their submission, not just put forward the most expensive solution.

This method does significantly boost the ranking for schemes with reasonable accident savings but high costs, but pushes smaller more cost effective schemes down the list. Schemes with extremely high accident scores, as illustrated by the A1101 bend proposal, tend to come quite high in the ranking whether or not a cost factor is applied.

- 3.3. **Alternative 2.** Addition of a double weighting factor to the accident saving score has the effect of pushing schemes with good accident saving potential up the list even where there may be significant environmental or service disbenefits.
- 3.4. **Alternative 3.** Here the cost weighting has been used but the accident savings are given double weighting. Retaining the weighting factor for costs but introducing a weighting for accident savings balances the competing factors somewhat. Value is still one of the prime factors but this is balanced by increasing the effect of high accident savings. Larger more complex bids will stand a better chance of being prioritised, but should not rule out selection of the most cost effective low costs schemes. This method puts extra emphasis on accident reduction, whilst retaining some element of value and cost benefit.
- 3.5. **Additional Element**
Introducing a set (unweighted) accident score above which a scheme would be brought to Cabinet as identified in paragraph 2.4, regardless of where it features in the priority list, will enable Members to consider locations that are likely to be of specific community interest.

4. CONCLUSION AND RECOMMENDATION

- 4.1. As a local authority, Cambridgeshire County Council has a 'Duty of Best Value' requirement to meet. In addition national road safety strategy suggests that Local Highway Authorities take the approach that best practice and value for money are core elements in road accident casualty reduction and prevention.
- 4.2. The basic elements within our current system are still in line with current best practice, and we should continue to take into account the following within our assessment.
- 4.3. The Council's very good record in reducing the numbers killed or seriously injured on the network demonstrates that the current system works well, and provides the best spread of works across a higher number of sites to target the greatest number of crashes.
- 4.4. Removing the cost weighting element totally would have significant negative effect on delivery of service, and value for money. It provides no encouragement to those proposing schemes to look for cost effective and

innovative solutions. It also decreases the chances of lower costs good value schemes being selected and reduces the options for quality schemes that may be slightly over the threshold for programmes such as Jointly Funded Minor Highway Improvement. Alternatives 1 and 2 remove the valuable cost effectiveness element of the process entirely and, therefore, make it difficult to demonstrate that the Council are delivering value for money in this area.

- 4.5. Alternative 3 would increase the chances of effective higher cost schemes being selected, and does decrease the chances of lower cost schemes, but within some limits.
- 4.6. Highlighting sites with notable accident scores will allow members to see clearly which schemes have merit in accident terms. Where they can demonstrate added value in terms of traffic management or community benefit, or where they are aware of external funding sources these schemes may be cited for special consideration.
- 4.7. If the option in 2.4 above is accepted then it is suggested that any scheme with an accident score of 7 or more is brought to Cabinet under this category. This will ensure that any site that has had 2 or more fatal accidents in a 3 year period is considered.
- 4.8. Considering all of the above the current prioritisation system provides a process which takes account of a range of issues that are important to the Council and enables Cabinet to demonstrate value for money. Adding the option for Cabinet to consider those schemes with an unweighted accident score at or above 7 will ensure that problems that may have a high public interest will be considered as well.

5. SIGNIFICANT IMPLICATIONS

5.1 Resources and Performance

The following bullet points set out details of significant implications identified by officers

- Allocating budget on grounds other than cost benefit introduces higher risk of less than best value returns in casualty reductions.
- Accident reduction targets could be at risk if the most cost effective way of delivering accident savings is not selected.

5.2 Statutory Requirements and Partnership Working

- The Council have a duty to provide a safe highway network, so far as is reasonably practicable. The delivery of October List schemes contributes to the delivery of this duty.

5.3 Climate Change

- The priority process in itself has no Significant Impact in this area,

however, Significant Impacts from individual schemes will be included in the annual report to Cabinet.

5.4 Access and Inclusion

- The priority process in itself has no Significant Impact in this area, however, Significant Impacts from individual schemes will be included in the annual report to Cabinet.

5.5 Engagement and Consultation

- The priority process in itself has no Significant Impact in this area, however, Significant Impacts from individual schemes will be included in the annual report to Cabinet.

Source Documents	Location
Accident Remedies and Traffic Management Programme - Medium Sized Schemes, Growth & Environment PDG 17 th March 2010.	Mark Kemp Room B307 Castle Court Cambridge

Alternative emphasis options for Traffic and Safety Medium Sized Schemes bids for 2010-11											Appendix A page 1			
Original Priority via Approved assessment	Alt 1 no cost weighting	Alt 2 no cost weighting plus 2x accident saving	Alt 3 with cost weighting plus 2x accident saving	location	description	Cost	cost band (a)	acc (b)	service (c)	env (d)	total (b+c+d)/a	ALT 1 total with no cost weighting (b+c+d)	ALT 2 total with 2 times accident weighting ((2xb)+c+d)	ALT 3 cost weighted total with 2 times accident weighting ((2xb)+c+d)/a
1	1	1	1	A1101 Gypsy bends	bend realignment/widening	£300,000.00	3.0	11.6	1.0	1.0	4.5	13.6	25.2	8.4
2	15	11	2	A1198, Graveley turn, option A	kerb re-alignments, ADS on both approaches and improved lining	£100,000.00	1.0	2.8	0.0	0.0	3.0	2.8	5.6	5.6
3	3	8	9	Newmarket Road Coldhams Lane junction	Full signals upgrade.	£300,000.00	3.0	1.5	4.0	2.0	2.5	7.5	9.0	3.0
4	8	6	3	C309 Cromwell Road/ Weasenham Lane junction	Traffic signals	£200,000.00	2.0	6.5	0.0	-2.0	2.5	4.5	11.0	5.5
5	9	9	7	B1086/B1050 Bridge End,Somersham.	Roundabout, junction improvements and measures to reduce turning accidents.	£200,000.00	2.0	2.4	1.0	1.0	2.0	4.4	6.8	3.4
6	2	2	4	A1301 Cambridge Road junction sawston	traffic signals with pedestrian facilities.	£400,000.00	4.0	8.4	1.5	-2.0	2.0	7.9	16.3	4.1
7	36	37	16	Wimblington, Manea Road	Earth bund and improved signing	£50,000.00	0.5	0.0	0.0	1.0	2.0	1.0	1.0	2.0
8	12	13	12	Wadlows Road just north of Newmarket Road roundabout	speed reducing measures	£200,000.00	2.0	1.6	2.0	0.0	2.0	3.6	5.2	2.6
9	18	15	8	Potton Road, Hilton	Traffic calming and complimentary lighting, through village	£150,000.00	1.5	2.0	1.5	-1.0	1.5	2.5	4.5	3.0
10	5	7	6	A1123 near Huntingdon garden and leisure	junction improvements, accident remedial scheme	£300,000.00	3.0	5.6	0.5	-1.0	1.5	5.1	10.7	3.6
11	10	12	20	Sapley Road, Huntingdon	Traffic calming.	£350,000.00	3.5	1.2	3.0	0.0	1.5	4.2	5.4	1.5
12	19	21	15	C199, Hardwick, Village	carriageway widening, and traffic calming/mini roundabout . Around school and shop.	£150,000.00	1.5	0.5	1.5	0.5	1.5	2.5	3.0	2.0
13	6	3	5	A10 Dunsbridge Turnpike / Frog End, Shepreth –	Traffic signals	£350,000.00	3.5	9.0	-1.0	-3.0	1.5	5.0	14.0	4.0
14	31	33	19	Christchurch Village	Speed management	£100,000.00	1.0	0.3	1.0	0.0	1.5	1.3	1.6	1.6
15	29	32	14	Parsons Lane/Wood Fen Road area, Littleport	Provision of traffic management measures and new lengths of footway outside the new primary school	£100,000.00	1.0	0.5	1.0	0.0	1.5	1.5	2.0	2.0
16	24	28	29	A141 Wyton Roundabout	Left turn lane	£200,000.00	2.0	0.0	3.0	-1.0	1.0	2.0	2.0	1.0
17	20	22	32	Elton Village Junction	Single Lane Dualling	£300,000.00	3.0	0.4	3.0	-1.0	1.0	2.4	2.8	0.9
18	22	23	22	Pidley village	Traffic calming.	£200,000.00	2.0	0.3	1.0	1.0	1.0	2.3	2.6	1.3
19	13	10	18	Rampton Road, Willingham	Traffic calming.	£350,000.00	3.5	2.5	1.0	0.0	1.0	3.5	6.0	1.7
20	4	4	11	A10 Slap up junction-	Traffic signals	£450,000.00	4.5	6.9	1.5	-3.0	1.0	5.4	12.3	2.7
21	21	17	24	A1307 abington to hildersham	speed reducing measures	£300,000.00	3.0	1.4	1.0	0.0	1.0	2.4	3.8	1.3
22	14	20	27	Linton village 30mph	speed reducing measures	£250,000.00	2.5	0.0	3.0	0.0	1.0	3.0	3.0	1.2
23	35	36	10	Huntingdon Road, Girton	Footway	£55,000.00	0.5	0.2	1.0	0.0	1.0	1.2	1.4	2.8

Alternative emphasis options for Traffic and Safety Medium Sized Schemes bids for 2010-11											Appendix A page 2			
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24	33	35	21	A1307 Babraham Crossroads	Accident remedial	£100,000.00	1.0	0.2	2.0	-1.0	1.0	1.2	1.4	1.4
25	28	18	17	B1042 Croydon area	Accident remedial	£175,000.00	2.0	1.8	0.0	0.0	1.0	1.8	3.6	1.8
26	11	16	25	High Street, Melbourn	Traffic calming.	£350,000.00	3.5	0.2	2.0	2.0	1.0	4.2	4.4	1.3
27	7	5	13	Royal cambridge junction	traffic signals	£450,000.00	4.5	6.0	1.0	-2.0	1.0	5.0	11.0	2.4
28	25	29	26	Castermarr wagon lane Street/Northampton Street/Chesterton Lane	possibly including streamlined street furniture, upgrade controller, better pedestrian facilities.	£160,000.00	1.6	0.0	1.0	1.0	1.0	2.0	2.0	1.3
29	30	34	31	water lane and err road (to the railway level crossing), Cambridge	Traffic calming.	£150,000.00	1.5	0.0	1.5	0.0	1.0	1.5	1.5	1.0
30	26	30	30	Dudley Road...	traffic management measures to reduce speeds and rat running.	£200,000.00	2.0	0.0	1.0	1.0	1.0	2.0	2.0	1.0
31	16	14	23	A1198, Graveley turn, Option B	Right turn facility or other junction improvements to reduce turning accidents.	£400,000.00	4.0	2.3	1.5	-1.0	0.5	2.8	5.1	1.3
32	34	26	37	A1307 near county boundary 50mph etc	speed reducing measures	£450,000.00	4.5	1.2	1.0	-1.0	0.5	1.2	2.4	0.5
33	32	27	28	Barnwell Road-Peverel Road Junction	Traffic signals	£150,000.00	2.0	0.8	0.5	0.0	0.5	1.3	2.1	1.1
34	23	25	35	Whitehill Road Area	Traffic calming.	£350,000.00	3.5	0.2	1.0	1.0	0.5	2.2	2.4	0.7
35	27	31	36	Tenison Road Area	Traffic calming.	£350,000.00	3.5	0.0	2.0	0.0	0.5	2.0	2.0	0.6
36	17	19	33	Sturton Street Area	Traffic calming.	£350,000.00	3.5	0.6	2.0	0.0	0.5	2.6	3.2	0.9
37	37	24	34	Marley Road, St Ives	Traffic calming.	£350,000.00	3.5	2.2	0.0	-2.0	0.0	0.2	2.4	0.7
38	38	38	38	A603 Fisher Lane junction, Orwell	Right turn facility	£150,000.00	1.5	0.0	no accidents	no accidents	0.0	0.0	0.0	0.0
39	39	39	39	Barton Village	Traffic calming.	£350,000.00	3.5	0.0	no accidents	no accidents	0.0	0.0	0.0	0.0
40	40	40	40	B1050. Earith Road, Willingham.	Traffic calming.	£250,000.00	2.5	0.0	no accidents	no accidents	0.0	0.0	0.0	0.0
41	41	41	41	Clarkson Avenue	additional speed cushions	£50,000.00	0.5	0.0	no accidents	no accidents	0.0	0.0	0.0	0.0
42	42	42	42	Soham Village College and St Andrews Primary School area	Establishment of School 'Safety Zone'	£50,000.00	0.5	0.0	no accidents	no accidents	0.0	0.0	0.0	0.0
43	43	43	43	A142/Qua Fen Road Junction, Soham	Installation of Street Lighting	£100,000.00	1.0	0.0	no accidents	no accidents	0.0	0.0	0.0	0.0
44	44	44	44	A1307 Bartlow Road Crossroads	Junction remodelling	£100,000.00	1.0	0.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0
45	45	45	45	A1307 Dalehead foods area	road layout changes	£200,000.00	2.0	0.4	-4.5	-1.0	-2.5	-5.1	-4.7	-2.4