

**A605 / B671 ELTON SAFETY SCHEME**

**To: Cabinet**

**Date: 26<sup>th</sup> September 2006**

**From: Deputy Chief Executive, Environment and Community Services**

**Electoral division): Norman Cross**

**Forward Plan ref: N/a** *Key decision: No*

**Purpose: Following previous consideration by Cabinet, to consider the options for measures to improve safety at the junction of the A605 / B671 following a further safety evaluation.**

**Recommendation: Cabinet is asked to;**

- i) Note the findings of an independent investigation into additional measures at the A605/B671 junction;**
- ii) Consider the approach to be taken in relation to the potential improvement of this junction;**
- iii) Investigate with the Parish Council the potential to introduce a ban of right turns onto the A605;**
- iv) Consider the provision of road side “casualty number” information signs in the area; and**
- v) Support the introduction of a small scale scheme through the Jointly Funded Minor Improvement Schemes budget (JFMI) process should such a scheme come forward.**

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## **1. BACKGROUND**

- 1.1 At its meeting on the 28<sup>th</sup> February 2006, Cabinet resolved to approve the deferral of the A605 / B671 Elton Major Safety Scheme and recommended a further evaluation of possible additional measures to improve safety at the junction.
- 1.2 As requested by Cabinet, a further evaluation of the junction has been undertaken by an independent safety expert. The findings of that work are detailed below as well as officers' recommendations of the way forward based on those findings.

## **2. SAFETY REVIEW OF THE JUNCTION**

- 2.1 As previously discussed with Cabinet, the current accident figures show one fatal, one serious and four slight accidents at the junction from the year 2000 to the present day. Although any accidents are regrettable, the number at this location means that it is not defined as a county accident site on the basis of our standard criteria. A county accident site is defined as a junction or 100 metre length of road with a minimum of five personal injury accidents in a three year period.
- 2.2 Previous assessment has demonstrated that although there may be a number of factors contributing to these accidents, the speed of vehicles and traffic turning right continues to be the dominant factor affecting safety.

### **Independent safety Report and officer assessment**

- 2.3 Following the Cabinet meeting on 28<sup>th</sup> February, an independent safety report was commissioned from Hyder Consulting. The brief for this was to assess:
  - the full range of possible schemes from simple low cost measures to a major safety scheme that could be applied at the junction;
  - the effectiveness of those schemes measured in accident savings per annum. What is termed the First Year Rate of Return (FYRR), a common method for assessing safety schemes, has also been calculated, although as a measure, this is more suited to minor rather than major schemes.
- 2.4 The final report from the consultants is 18 pages long and would be appendix 1. However due to its size it has not been included with this report on the published agenda but can be found at the following link:

<http://www2.cambridgeshire.gov.uk/db/council2.nsf/af8076762df199c580256b14003ef043/a4e4d0a0b1dab1ea802571ea0042cc07?OpenDocument>

Hard copies are also available on request from Rob Sanderson, Democratic Services telephone 01223 718943. The range of schemes considered in the safety report is contained in Table 1 overleaf in ascending order of price, along with a brief commentary on their effectiveness.

**Table 1 – Proposed safety schemes**

| <b>Scheme and cost</b>               | <b>Comments</b>   |
|--------------------------------------|---|
| Banned right turn (£2,500)           | Banning right turns out of the junction would be extremely effective and would require minimal cost, but may be difficult to enforce.   |
| Rumble strips (£3,000)               | Rumble strips would be cheap to install but would create a noise nuisance to local residents. These may, however, reduce speeds and therefore the severity of accidents.  |
| Anti-skid surfacing (£6,500)         | As with rumble strips, this could reduce the severity of accidents but would not remove the cause of the accidents.   |
| Signs and markings (£8,000)          | Additional signs could warn of the dangers but again would not address the root cause of the problems at the junction.  |
| Interactive signing (£8,000)         | This could also warn of dangers, but again wouldn't address the root cause of the accidents and there may be a diminishing effect over time.  |
| Central islands (£55,000)            | These would highlight the presence of the junction and prevent overtaking but wouldn't address the root cause of accidents and may create some additional accidents.  |
| Long traffic islands (£95,000)       | This would partially address the accident problems but would not address the root cause.  |
| Parallel left turn slip (£175,000)   | This may address some of the issues at the site but wouldn't address the root cause of the problem.   |
| Single lane dualling (£250,000)      | This would prevent overtaking and would highlight the presence of the junction but would not directly address the cause of accidents. However it does offer additional protection for vehicles turning right from Elton onto the westbound carriageway. |
| Wide single lane dualling (£300,000) | This would have much the same effect as single lane dualling.   |
| Signalisation (£300,000)             | Traffic signals would regulate the flow of traffic at the junction but could also cause additional accidents.   |
| Roundabout (£750,000+)               | A roundabout would address the conflict issues and speed related accidents but evidence suggests could also create additional rear shunt accidents, which are generally slight injury accidents.  |

2.5 Table 2 overleaf contains details from the safety report on the predicted extent to which each of the schemes would reduce accidents and the First Year Rate of Return that could be expected based upon standard accident valuations.

**Table 2 – Evaluation of schemes**

| Scheme                         | Cost            | Number of Accidents Saved Per Annum* | Accident Cost Saving Per Annum | FYRR        |
|--------------------------------|-----------------|--------------------------------------|--------------------------------|-------------|
| Banned Turns                   | £2,500          | 0.42                                 | £38,462                        | 1538%       |
| Rumble Strips                  | £3,000          | 0.21                                 | £19,231                        | 640%        |
| Antiskid Surfacing on Approach | £6,500          | 0.08                                 | £7,326                         | 112%        |
| Signs and Markings             | £8,000          | 0.12                                 | £10,989                        | 137%        |
| Interactive Signing            | £8,000          | 0.21                                 | £19,231                        | 240%        |
| Central Islands                | £55,000         | 0.12                                 | £10,989                        | 20%         |
| Long Traffic Islands           | £95,000         | 0.17                                 | £15,568                        | 16%         |
| Parallel Left Turn Slip        | £175,000        | 0.08                                 | £7,326                         | 4%          |
| Single Lane Dualling           | £250,000        | 0.21                                 | £19,231                        | 6%          |
| Wide Single Lane Dualling      | £300,000        | 0.42                                 | £38,462                        | 13%         |
| Signalisation                  | £300,000        | 0.00                                 | N/A                            | N/A         |
| <i>Roundabout</i>              | <i>£750,000</i> | <i>0.17</i>                          | <i>£15,201</i>                 | <i>2%**</i> |

2.6 Based upon these tables, the conclusions from the safety report are that the effectiveness of the range of schemes considered varies significantly. The most effective would be to ban right turns out of the B671. The least effective solution has been assessed as signalisation of the junction as this would create one form of accident whilst solving others.

### **Evaluation against current County Council policies and funding methods**

2.7 To complete the analysis of these potential schemes, an officer appraisal of each has been undertaken against two criteria:

- (i) Funding method - which current funding method could be used (based on estimated scheme costs). With the exception of developer funding streams such as Section 106, there are four methods of funding for junction improvements of this nature – Minor Accident Remedial Schemes (schemes up to £30,000), Jointly Funded Minor Improvement Schemes budget (JFMI) (schemes up to £30,000), Medium Size Traffic and Safety Schemes budget - MSTSS (October List) (schemes up to £500,000) and Major Safety Schemes budget - MSS (schemes over £500,000). Appendix 2 contains a definition of each;

- (ii) Eligibility for funding – could the schemes be justified under the eligibility criteria set in current County Council policy for the relevant funding streams. These funding criteria have been established to ensure that all schemes are considered and assessed consistently and fairly.

2.8 The conclusions from this analysis are set down below.

***Minor Accident Remedial Schemes (schemes up to £30,000)***

2.9 The policy for funding under the Minor Accident Remedial Schemes budget requires an accident site to have had five or more injury accidents in the last three years. As the number of accidents at this site over this period is three, none of the schemes proposed could be delivered under this funding source.

***Jointly Funded Minor Improvements (schemes up to £30,000)***

2.10 To qualify as a JMFI, sites have to be proposed by the local Parish Council. All sites are then scored against a standard set of criteria. In terms of the relevant schemes proposed in the safety report, the analysis shows that there is a justification for funding under the JFMI budget heading. Although schemes are added to this list on an annual basis, it is likely that funding of one of the schemes under JFMI could be justified next year.

***Medium Sized Traffic and Safety Schemes (£30,000 - £500,000)***

2.11 In order to be funded under this heading, a scheme must show a 'demonstrable casualty reduction record'. There is a standard scoring system for schemes that are shown to improve safety to determine which are priorities for implementation.

2.12 Preliminary scoring of the relevant schemes in Table 1 shows that the best of the schemes that falls into the cost range for this funding source would have ranked at around 20th in the 05/06 October list. With only five projects on average being accepted into the programme each year and new projects entering the programme on an annual basis, it is likely that it would be at least five years before any scheme at Elton would rank high enough to be accepted under this funding stream. It should be noted, however, that Projects are re-evaluated each year and the conditions (for example accident rates) at any site can change, so the ranking of that project can also change annually.

***Major Safety Schemes (£500,000 - £3m)***

2.13 The requirement for funding to be considered under the Major Safety Schemes stream is that there must have been five or more injury accidents at the site in the last three years. If eligible, competing schemes are considered on the basis of the level of benefit against cost that they provide.

2.14 In the case of Elton, the site no longer qualifies for this funding stream given the recent improved safety record. However, even assuming the site were considered for funding, a preliminary analysis of benefits against costs demonstrates that it would score low compared to other similar schemes across the county. The site has seen a reduction in accidents since the implementation of the safety camera and the analysis demonstrates that there are at least three other projects in other parts of the county ranked above the roundabout in terms of their effectiveness. As only one Major Safety Scheme is likely to be implemented every two years, unless there is a change in conditions, i.e. the accident rate changes, it is unlikely to be recommended for implementation in the foreseeable future.

2.15 The key findings of this work are summarised in Table 3.

**Table 3 – Summary of scheme appraisal**

| <b>Scheme</b>             | <b>Funding method</b> | <b>Eligible/Justifiable</b> |
|---------------------------|-----------------------|-----------------------------|
| Banned Turns              | JFMI                  | Yes                         |
| Rumble Strips             | JFMI                  | Yes                         |
| Antiskid                  | JFMI                  | Yes                         |
| Signs and Markings        | JFMI                  | Yes                         |
| Interactive Signing       | JFMI                  | Yes                         |
| Central Islands           | MSTSS                 | No                          |
| Long Traffic Islands      | MSTSS                 | No                          |
| Parallel left turn slip   | MSTSS                 | No                          |
| Single Lane Dualling      | MSTSS                 | No                          |
| Wide Single Lane Dualling | MSTSS                 | No                          |
| Signalisation             | MSSS                  | No                          |
| Roundabout                | MSS                   | No                          |

2.16 The main conclusion from the above analysis and Table 3 is that whilst there is a range of possible funding sources and a range of potential schemes for this site, if County Council policies for allocating each of those sources were followed (these are essentially based upon need and benefit to be derived from improvements to the site), anything other than the low cost schemes (interactive signing and rumble strips for example) could not be justified. This is despite the fact that each of these schemes would improve safety at the junction to a lesser or greater extent.

2.17 In some cases this is because the proposed schemes would be unlikely to meet the eligibility criteria for the relevant funding source. In others it is because there is a significant number of schemes already under the relevant funding criteria that can demonstrate a better case for implementation.

2.18 In effect, this doesn't mean that a medium sized or major safety scheme will never be justified at Elton. Instead, it means that given the current accident record at the site and the range of other schemes across the county that are in prospect, there is no current prospect of such a scheme being justified.

- 2.19 It should also be noted that the safety camera does provide significant safety benefits at the site and low cost measures such as interactive signs should only be implemented alongside the camera or their benefit will be reduced.

### 3. CONCLUSION AND RECOMMENDATION

- 3.1 Based upon the assessment contained in this report, although the past accidents at this site are regrettable, it is concluded that:

- whilst a roundabout would address the key safety issues at the junction, it is not cost effective and can't be justified under existing County Council policy for the appropriate funding stream;
- a range of other substantial safety schemes at the site would also partially address the safety issues at the site, but again can't be justified on the basis of existing County Council policy;
- a range of low cost measures would have an impact on the junction and could be justified under the County Council's policies..

- 3.2 On this basis, it is recommended that Cabinet does not approve a substantial safety scheme at the A605/B671 junction, but:

- (i) that officers investigate with the Parish Council the potential to introduce a ban of right turns onto the A605 from the B671;
- (ii) provision of road side safety information signs in the area is investigated; and
- (iii) the introduction of a small scale scheme such as improved signing be supported if this passes successfully through the JFMI process.

### 4. FINANCIAL AND RISK MANAGEMENT IMPLICATIONS

- 4.1 The funding for recommendations (i), (ii) and (iii) will be from the Council's capital programme. Any scheme to come forward as part of the JFMI programme will need to be fully supported under the criteria for that funding stream.

- 4.2 Members are advised of the following **key** risk management implications arising from this report. These risk issues have been identified using a risk management process carried out in accordance with the Council's risk management strategy.

- a) The measures proposed here are not supported although they could have significant safety benefits. This risk will be managed by maintaining close contact with the Parish Council and ensuring they are aware of the reasons for any decisions taken.
- b) It proves difficult to implement the low cost measures noted above so reducing the ability to prevent any potential future accidents. This risk will also be managed by close working with the Parish Council and local people.

| <b>Source Documents</b>   | <b>Location</b>                       |
|---|---------------------------------------|
| Transport and Waste Services Development Group<br>Major Accident Remedial schemes.<br><br>A605 Elton Junction Accident Investigation Report<br>Hyder Consulting . | Room B312<br>Shire Hall,<br>Cambridge |

## Appendix 2

- 1.0 Minor Accident Remedial Schemes are accident remedial measures as part of the Council's accident reduction strategy
- 2.0 Jointly Funded Minor Improvement Scheme are subject to match funding by the District Council and a contribution from the parishes. The maximum level of funding for any single scheme is £35,000. Parish Councils are invited annually to recommend schemes. The type of schemes to be funded have been defined by the Huntingdonshire Environment and Transport Area Joint Committee as:
- Footways
  - Measures to help cyclists.
  - Improvements to bus stops and shelters
  - Measures to improve safety and reduce speeds in villages
- 3.0 Medium Size Traffic and Safety Schemes , £30,000 - £500,000, (also known as the October list) are also scored annually but on a county wide basis. There are always many more schemes than available budget so a points scoring system is used to rank the schemes in terms of their effectiveness. The basic scoring categories cover the scheme's impact in terms of:
- potential accident reduction;
  - the changes in level of service to road users including pedestrians, cyclists and public transport users; and
  - Environmental impact.
- 4.0 Major Safety Schemes (£500,000 plus) are scored on a cost benefit ratio which allows for the higher capital costs and the longer pay back period for schemes. Schemes are currently programmed for construction on a biyearly basis.

