

4. Other Impacts of Scheme

- 4.1 A site visit was undertaken in November 2006 in order to assess the changes that may have taken place, and to clarify the traffic surveys which have been outlined in previous sections.
- 4.2 The site visit also incorporated a general visual survey in order to observe highway conditions relating to the other concerns raised by local residents and other stakeholders' pre- construction.
- 4.3 An Appraisal Summary Table (AST; see, Annex B) was compiled as part of the scheme's consideration before opening, setting out the key consequences of the scheme against the five Government objectives for transport of environment, safety, economy, accessibility and integration. Some of those objectives are further divided into a number of additional sub-objectives, reflecting the wide variety of impacts arising from transport projects.
- 4.4 The success of most of the mitigation measures is not clear at the present time due to the short time frame since opening, they will be considered in more detail in the year after Study. However a number of points can be noted:
- ◆ **Landscape** – Planting was taking place along the middle stretch of the bypass during the site visit, with some planting still to be done. Planting both at junctions and the highway boundaries will need to be monitored in the One Year After Study and beyond as trees and shrubs will take time to establish and mature.
 - ◆ **Severance** – The reduction in traffic has made a visible difference to the village; the road no longer has a constant stream of traffic. The reduction of traffic has improved access to the Primary school for children from the other side of the Bedford Road.
 - ◆ **Pedestrians and others** – The AST states that the removal of most of the traffic would greatly improve the condition for pedestrians and make the bypassed route more attractive for cyclists. Analysis in chapter 3 has indicated that 77% of traffic has been removed from Great Barford as a result of the bypass. Figure 4.1 shows Great Barford during the day, the road now has less traffic and there are two pedestrian crossing points in the village to aid crossing.
 - ◆ **Noise and Local air quality** –The AST states that the removal of traffic through Great Barford will improve both the noise and local air quality in the village. Site observations suggest the removal of traffic through Great Barford has improved the noise and local air quality for people in the village. The reduction in HGV's through Great Barford is a significant contributor to this. Noise from the bypass can not generally be heard from the village as the majority of the bypass is hidden by the gradient of the land. Figure 4.2 is facing the bypass from Great Barford which shows that it is not visible from most parts of the village. An assessment of local air quality conducted by Bedfordshire County Council found that Great Barford (A421) exceeded the annual mean objectives for Nitrogen Dioxide (NO₂) levels before the scheme opened. The results of local air quality testing for NO₂ found that the annual mean objective of 40 µg/m³ was exceeded in 2003 and 2005 also and our One-Year After Report will seek to quantify the improvements in local air quality.

- ◆ **Traffic Volumes** – Concern was given to the volume of traffic that would be using Black Cat Roundabout once the bypass has opened, with concern that the roundabout would be over capacity and therefore queuing would result. Traffic counts suggest that there has been a 2% increase in 24 hour traffic volumes using this roundabout; however this will be monitored in the One-Year After Report.

Key Points from Section 4:

- ◆ **Although the bypass is open some of the landscaping has not yet been completed, therefore this will be considered in the one-year after study;**
- ◆ **The reduction in traffic volume has reduced severance for villagers; this has made crossing the A421 easier for pedestrians; and**
- ◆ **The removal of traffic from Great Barford has resulted in improved local air quality and reduced noise pollution, the extent of this will be analysed in more detail in the One-Year After Report.**

Figure 4.1 – Great Barford at junction with Bedford Rd, High St and Green End Road



Figure 4.2 – East of Great Barford facing the bypass



5. Conclusions

5.1 Opened in August 2006, the Great Barford Bypass aimed to improve the quality of life in Great Barford by the removal of through-traffic. The main objectives of the scheme were:

- ◆ **To improve local air quality and reduce traffic noise through the villages by removing longer distance and more local through traffic;**
- ◆ **To reduce the number of accidents along the A421;**
- ◆ **To provide an improved strategic access from the M1 to the A1, east of Bedford;**
- ◆ **To make the detrunked route safer for pedestrians and cyclists and improving reliability for local buses; and**
- ◆ **To improve journey times and reliability for trunk road traffic.**

5.2 The aim of this report was to illustrate the traffic data collected and site observation as part of this Traffic Impact Study (TIS). The main observations that can be drawn from the findings are:

- ◆ There are 25,600vpd using the Great Barford Bypass;
- ◆ Up to 76% of traffic has been removed from Great Barford as a result of the opening of the bypass from 26,200vpd to 6,200vpd. This is in line with the aim outlined in the AST of reducing traffic on the existing route by 75%;
- ◆ Renhold had 1,300vpd before the opening of the bypass; this has increased to 2,100vpd after opening, most likely due to local traffic accessing the bypass via this route;
- ◆ Screenline analysis has shown that there has been an increase of traffic at each of the screenlines, with the most significant increase located through the centre of the scheme where there was an increase of 4,300vpd. However, at most sites there had been a decrease in traffic but the additional bypass traffic resulted in an overall increase;
- ◆ Journey time surveys have indicated that on average 2.5-6.5 minutes can be saved by using the bypass rather than the A421 through Great Barford. This satisfies the objective of introducing the bypass to improve journey times and reliability for trunk road travellers, this in turn will reduce driver stress, another aim of the scheme;
- ◆ The number of HGV's travelling through Great Barford has reduced from approximately 1300vpd to 150vpd travelling through the village, this has contributed to the aims of the AST;
- ◆ Great Barford had an issue with road safety due to the high level of accidents occurring in the vicinity of the A421. Although no accident analysis has been carried out for this study, general site observations and volumetric data indicate that there are low levels of traffic through Great Barford. Two pedestrian crossing points and traffic calming measures (speed cameras) throughout the village which will help to improve safety for the villagers;
- ◆ By reducing traffic through Great Barford it may make it safer for pedestrians and cyclists, contributing to one of the main objectives of the scheme; and

- ◆ Noise and local air quality are likely to have been improved due to the reduction in traffic through the village. The bypass has also been screened well so that noise from the bypass is minimised. This is contributing to meeting the objective to improve local air quality and reduce traffic noise, as well as helping to reduce NO₂ in line with government objectives through Great Barford.

5.3 These are the recorded impacts three months after the opening of the bypass and therefore represent initial views. All of these issues and more will be considered fully in the One Year After evaluation. The One Year After evaluation will also analyse accident data to establish any safety improvements as a result of the scheme and other issues which have been addressed in overview within this report. The One Year After evaluation will be started in summer 2007 and reported in early 2008.

