

TRANSPORT FOR LONDON

SURFACE TRANSPORT PANEL

SUBJECT: UPDATE ON THE GUARDRAIL RISK ASSESSMENT FORM

DATE: 12 JULY 2011

1 PURPOSE AND DECISION REQUIRED

- 1.1 The purpose of this paper is to provide the Panel with an update on the Guardrail Risk Assessment Form (GRAF) and to provide an overview of its use in the Pedestrian Guardrail (PGR) removal programme.
- 1.2 The Panel is asked to note the paper.

2 BACKGROUND

- 2.1 The Panel received a presentation at its meeting on 11 May 2011 on Public Realm improvements, which led to a discussion on the GRAF procedure. As a result of discussions, the Panel requested a paper explaining the way GRAF is currently used.

3 GUARDRAIL RISK ASSESSMENT FORM (GRAF)

- 3.1 The purpose of PGR is to guide pedestrians to safer crossing points. However, there is a growing consensus that designers have been recommending PGR in all designs without considering in more detail if it is actually necessary. This has in many cases been at the detriment of both accessibility and the amenity of the urban realm.
- 3.2 The TfL Streetscape Guidance states that *'Pedestrian guardrails have been installed for a number of incorrect reasons in the past and they can significantly detract from the quality of the streetscape. Their continued use should be based solely on maintaining or improving safety'*.
- 3.3 In October 2007, the 'Assessment of the Use of PGR' Procedure (SQA-0234) was produced to aid designers in their work. The purpose of the procedure was to describe the method used by TfL to make an assessment on the use of pedestrian guard railing on the Transport for London Road Network (TLRN). The two main scenarios that the procedure aimed to address were:
 - (a) If already in place, should guardrailing remain; or
 - (b) Should guardrailing be installed at a new site?
- 3.4 The intention of the GRAF is to guide engineers (who have appropriate engineering experience) to make a balanced decision on the merits of PGR at a specific location. This process involves an assessor visiting the relevant site and giving a numerical score for such characteristics as the number of traffic lanes, proximity to a school, crossing facilities as well as carriageway widths

and turning movements. The process also requires consideration to be given to the collision history and any other relevant factors observed on site.

- 3.5 The total score is then compared to a threshold at which PGR should remain, not be installed, or be removed. This threshold was set at 43 following a number of trials in 2007 that involved safety auditors reviewing sites which had been scored with a GRAF. A final decision regarding the appropriateness of PGR is then based on considering both the 'scored' and 'unscored' elements of the GRAF.
- 3.6 As with any other permanent changes to the TLRN, proposals to remove PGR arising from the GRAF process are subjected to TfL's Road Safety Audit (RSA) Procedure (SQA-0170). RSA helps identify potential road safety problems arising from proposals and recommends measures to eliminate or mitigate the safety problems.
- 3.7 The locations of sections of PGR removed should be recorded in the Traffic Accident Diary System (TADS). TADS monitors the change in collisions over time.

4 LEGAL POSITION

- 4.1 TfL, as the highway authority for the TLRN, has powers under the Highways Act 'to install barriers, rails or fences for the purpose of safeguarding persons using the street'. There is no specific legal requirement to provide PGR at any given location, however, highway and traffic design guidance documents, including those produced by DfT, recommend that highway authorities consider its installation. Highway authorities also have a duty under the Road Traffic Act 1988 to 'carry out accident studies, and, in light of those studies, to take such measures as appear appropriate to prevent accidents'. This has often led to the installation of PGR.

5 GRAF AND THE PGR REMOVAL PROGRAMME

Experience to date

- 5.1 Since April 2009, all 204km of PGR on the TLRN have been assessed using the GRAF process. By the end of June 2010, a total of 63.4km had been removed (31 percent of the total PGR on the TLRN).
- 5.2 The PGR removal programme has provided a thorough testing ground for the GRAF, although it must be brought to the Panel's attention that the GRAF was not produced to be used for such a large scale programme and was largely untried before the start of the programme. A number of issues have been identified through discussions with those involved with both assessing and auditing. The main issues found were:
 - (a) Over-reliance on the 'scoring' element of the GRAF Procedure has led to apparently 'arbitrary' decisions being made that do not take full account of all of the relevant factors;
 - (b) There is no scope to consider alternatives to PGR i.e. the GRAF focuses exclusively on PGR and does not consider more 'urban realm-friendly' measures that could do the safety job just as well;

- (c) The format of the GRAF dictates that the process is performed at a 'micro level' with a single junction subjected to multiple GRAFs i.e. one for each arm. This does not easily allow for wide corridor type examinations and becomes cumbersome when a large area needs to be assessed; and
- (d) Initial inconsistencies in approach from both the GRAF assessors and those conducting the resultant RSAs led to some differences in opinion regarding the safety benefits of some sections of PGR. However, such inconsistencies became less common as all parties involved became more familiar with the process and experience tempered both overly cautious and overly cavalier approaches.

5.3 In general, the GRAF process was found to be most useful in identifying areas where the presence of PGR was not required and hence its removal was relatively uncontroversial. It has proven less successful in assessing challenging sections of PGR often found in high profile locations such as pedestrian crossing 'sheep pens', along central reserves, and at bridges.

Future PGR removal

- 5.4 There is a desire to continue to identify PGR for removal from the TLRN in support of the Mayor's ambitions of enhancing streetscapes, improving the perception of the urban realm and developing 'better streets'.
- 5.5 Valuable data regarding any possible changes in collision rates at the sites where PGR has been removed is not yet available, as three years' post removal/implementation is needed to be statistically significant. Nevertheless, monitoring using TADS continues and will inform the development of the PGR programme in future.
- 5.6 In the meantime, a lessons learnt exercise has been carried out considering why the GRAF sometimes recommended a reduced level of removal than could be expected. The lessons included an appreciation that the GRAF was not being used in the way that it was originally designed, and also involved re-visiting sites (these were mainly sheep pens and spinal PGR) which had previously scored above the threshold of 43 to see if views had changed. It was also agreed that setting a fixed score to guide decision making was too inflexible and did not adequately reflect important local environmental and engineering aspects that need to be taken into consideration in site assessment.
- 5.7 For the next round of PGR removal, it has been agreed that a new, more informed approach will be used and that the GRAF procedure will be reviewed in light of the lessons learnt to ensure it is used in future to fulfil its original purpose, to aid design engineers.
- 5.8 PGR removal will therefore focus on corridors (instead of single locations) that will be assessed from the point of view of *'if there were currently no PGR, where would it be needed?'* A Safety Audit Brief will be issued to a team of experienced Road Safety Auditors stating that all PGR should be removed. The Auditors will conduct Safety Audits on these proposals and recommend where PGR should remain in the interests of road safety.
- 5.9 Following the RSA recommendations, a walkthrough of each corridor will take place with the Highways Team and, where relevant, borough officers with local

knowledge will be invited to attend. Where appropriate, PGR will be programmed to be removed and notices of intent will be put up for 7-14 days on the PGR, which will include contact details. After the above consultation process has been reviewed, a final decision on removing the PGR will be made.

- 5.10 A Stage 3 RSA will be carried out following the removal to ensure the site is operating safely and data will be entered into the TADS to monitor the possible future effects on collisions. If any sites see a disproportionate increase, then the site will be highlighted and further investigation carried out.
- 5.11 An initial estimate is that this approach will identify the possible removal of a further 12km (out of a total of the 39.5km remaining since the previous phase of guardrail removal) of PGR in central London during 2011/12.

6 NEXT STEPS

- 6.1 All TfL procedural documents need to be reviewed regularly to ensure relevance and compliance with current best practice. Following the lessons learnt, a review of the GRAF SQA-0234 will be undertaken to ensure that it provides a relevant and useful tool to aid design engineers.
- 6.2 In addition, it was agreed at the recent Streetscape Review Group meeting to change existing standards for staggered crossing sheep pens contained in the Streetscape Guidance. As such, in future all schemes which include PGR installation in their design will need to seek approval for an exception to be able to proceed.

7 RECOMMENDATION

- 7.1 The Panel is asked to note the paper.

8 CONTACT

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