

REVISITING THE STATUS QUO OF ROAD SAFETY AUDITS IN SOUTH AFRICA 2019

L de VILLIERS ROODT
(Presented by K LABUSCHAGNE)

Roodt Transport Safety, 21 Lucy Crescent, Stanford, 7210
Tel: 082 575 3130; Email: ldvroodt@gmail.com

ABSTRACT

A Draft South African Road Safety Audit Manual (SARSAM) was published in 1999 under the guidance of the Committee for Land Transport Officials (COLTO). Early researchers lamented the lack of urgency in implementing road safety audits (Labuschagne, van As & Roodt, 2002). One of the constraints was the lack of training opportunities (van As, Steynberg, van Biljon & Scheepers, 2003). Sporadic training was provided by *inter alia* the CSIR (1999), Stellenbosch University (2010) and consulting engineering firms. The Education and Training Committee of the South African Road Federation (SARF) became involved in course presentation in 2014. Following the publishing of the second edition of the SARSAM (RTMC, 2012), the SARF course was revised in 2015/16.

To determine the status quo of road audits in South Africa, a survey was conducted of road safety auditors in the country. The current situation with respect to training and the execution of such audits was assessed. The paper did not investigate the quality of road safety audits reports or findings which will require in-depth research. The findings indicate the time auditors spend in the industry, their backgrounds, their level of satisfaction with courses as a whole, the presentations and the training material. There is general consensus that the prices tendered for audits is too low to ensure good quality service, but, notwithstanding, the low prices, clients receive good value for money. There is a concern that all processes, especially formal feedback, are not followed and completed.

1. INTRODUCTION

A Draft South African Road Safety Audit Manual (SARSAM) was published in 1999 under the guidance of the Committee for Land Transport Officials (COLTO, 1999). Chapter 4 deals with road safety audits. Phillip Jordan of Victoria Roads, Australia presented the first training course at the CSIR in the late 1990s.

Early researchers lamented the lack of urgency in implementing road safety audits and lack of training opportunities (Labuschagne, et al, 2002). Van As, et al (2003), undertook a project on road safety audits for the Gauteng Department of Public Transport, Roads and Works (Gautrans). It was concluded that road safety audits could add value in improving road safety. Various recommendations were made during the project, namely that:

- road authorities consider implementing road safety audits on all projects;
- all levels of projects preferably be audited;
- road safety audits become a standard practice with the intention of auditing all plans and designs for changes to the road network;

- the term *road safety assessment* be reserved for the traditional approach to the safety evaluation of existing roads;
- the procedure developed for site inspections be applied;
- road safety audits not be undertaken without reference to the checklist developed during the project (referred to as a reminder list);
- the reminder list be incorporated in local audit methodologies;
- a road safety audit not be used as a check against design standards;
- road safety audits and road safety assessments not be used for the location and prioritising of roads in need of safety improvements, which should be done using traditional hazardous location studies;
- road safety audits be restricted to planning and design projects only (as well as construction activities); and
- audits only be undertaken on existing roads if such investigations form part of planning or design phase audits.

Road safety audits were also conducted in other provinces, but the results and safety benefits were not reported.

Grosskopf, Labuschagne & Moyana (2010) presented a paper describing the results of the literature review of the international road safety audit guidelines, the experiences of road safety practitioners and a workshop under the chairmanship of the RTMC. A position paper with proposed revisions to the SA Road Safety Audit guidelines was prepared and distributed role players in the road safety industry, including road and local authorities. This led to the second edition of the SARSAM in 2012.

The implementation of road safety audits in South Africa became institutionalised at the South African National Roads Agency (SANRAL) in 2015. SANRAL also commissioned the development of NETSAFE, a network safety management system, based on a local composite index of road geometry, road side condition, traffic and crash statistics.

2. TRAINING AND ACCREDITATION

In 2010, the University of Stellenbosch provided sporadic training. In December 2012 Aurecon arranged a course presented by Australian John Grotler. It was also attended by client organisations. The training committee of the South Africa Road Federation (SARF) became involved in 2014 with a course presented by Stephan Lötter. Following the publication of the second edition of the SARSAM (RTMC, 2012), Bernard van Biljon and Jaco de Vries revised the SARF training course in 2015/16.

The list of persons who have undertaken training, as kept by SARF, currently stands at 412 names. The list does not differentiate between persons who only attended the 2-day orientation course for management and the complete 5-day course.

The attendance list indicates the following:

- 182 government officials, comprising 11 from national government, 75 SANRAL, 38 provincial road authorities (25 from Western Cape Province) and 58 from municipalities (31 from City of Cape Town).
- Four from the RTMC.

- 210 persons from the consulting engineering profession, with 20 each from multinationals Aurecon, RHDHV and SMEC, nine from AECOM and six from the WSP Group. Smaller firms with six persons each include Gibb, ITSE and TS Consulting.
- 20 from other SADC countries.

This information formed the basis for the survey undertaken to determine the status quo of road safety audits in South Africa. The paper did not investigate the quality of road safety audits reports or findings which will require in-depth research.

3. STATUS QUO 2019 PART 1

This part of the paper reviews aspects of the current situation with respect to profiles of participants, training and involvement in road safety audits. The 412 persons who had attended training (as mentioned above) had attended 2-day or 5-day courses, as prescribed in most tenders and quotations, specifically SANRAL tenders.

The survey questionnaire was distributed to the entire population of trained auditors (as listed above) and 41 responded. The results of the survey cannot be extrapolated to the population, as the sample was too small, and the error would be in the order of 15% at the 95th percentile confidence interval. It is further assumed that the results were skewed by a higher proportion of responses from persons actively involved in road safety audits, while those not actively involved deemed it unnecessary to respond.

Road safety auditors are generally well experienced, the survey indicates. The survey results are shown in Figure 1.

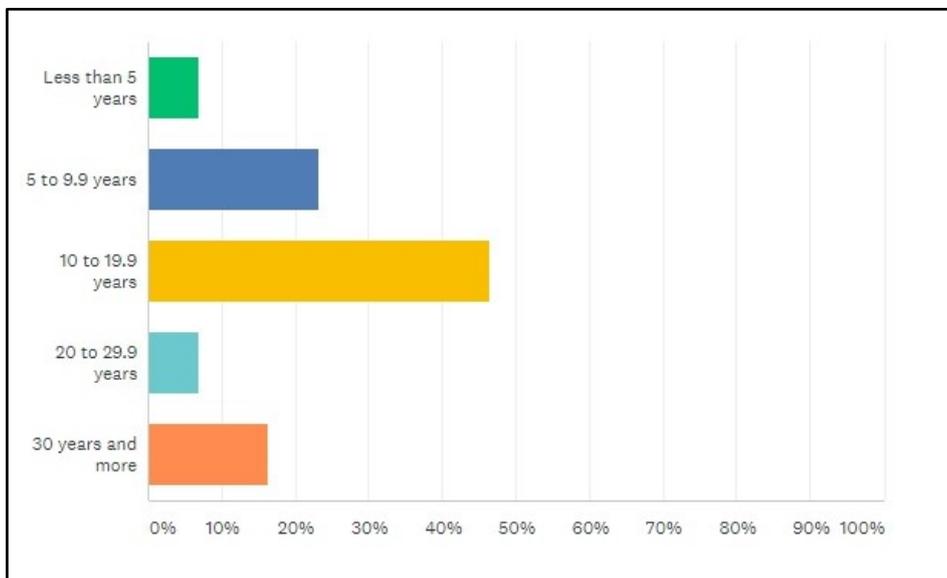


Figure 1: Number of years in traffic and transportation engineering

The time a typical auditor has spent in the traffic and transport engineering is 10 to 19 years (median value of 46%). A total of 24% of auditors have spent less than 10 years, while 17% have more than 30 years in the industry.

Their backgrounds are primarily technical. Only one auditor from a commercial and one from a policing field responded.

Road safety auditors' qualifications are mostly B Eng. or B Eng. Hons degrees. The survey results are as follows:

- Matric SAQA Level 5 2.44%
- Diploma SAQA Level 6 9.76%
- B Degree SAQA Level 7 31.71%
- B Hons. Degree SAQA Level 8 31.71%
- M Degree SAQA Level 9 19.51%
- D Degree SAQA Level 10 4.88%

Most of the auditors were SARF-trained: 40% were trained in 2017 and in 2018 50%. Other local courses were attended by 7%. Only one person had completed an international course.

The respondents described the course as worthwhile (Extremely 34%, Very 34% and Somewhat 22%): see Figure 2.

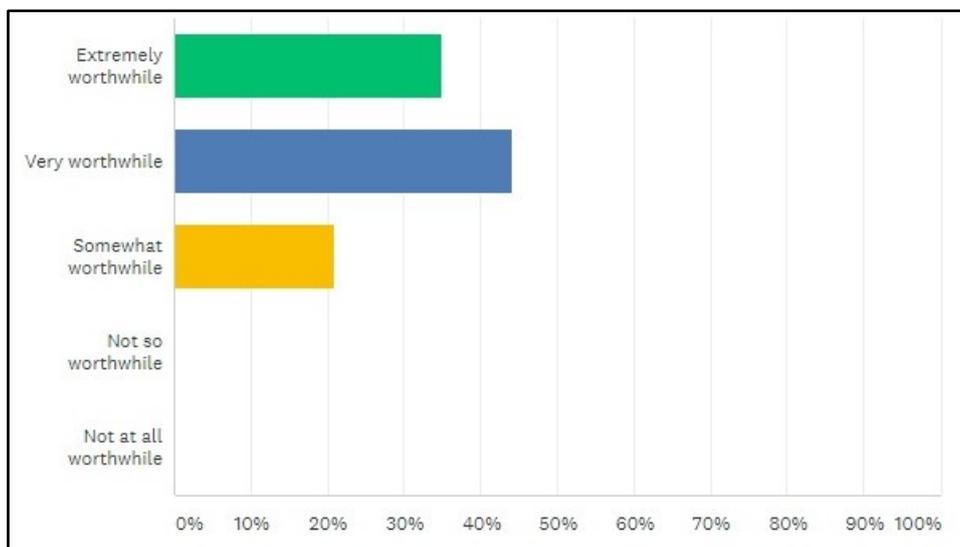


Figure 2: Value of the training course

Course participants were more than highly satisfied with the quality of the course presentations (Very highly 27% and Highly 63%): see Figure 3.

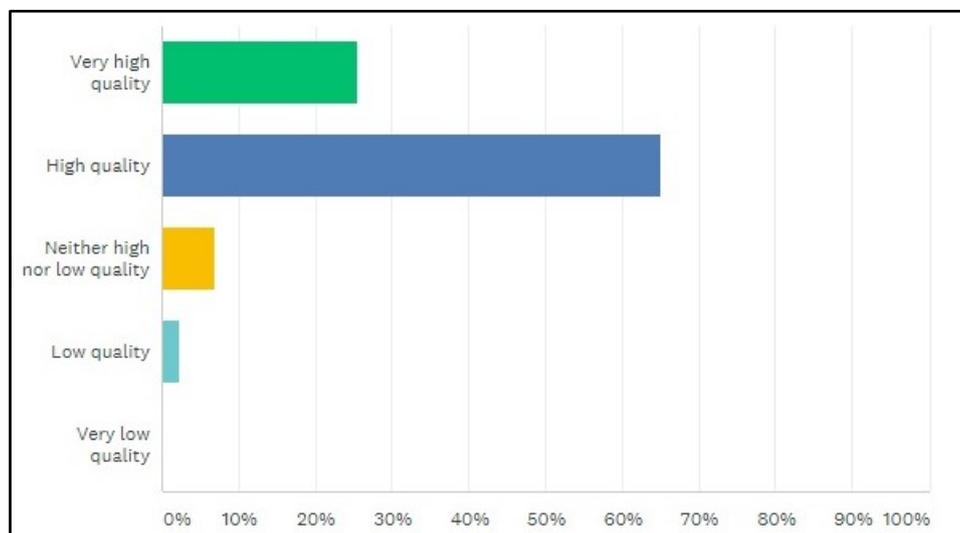


Figure 3: Satisfaction with quality of course presentations

The relevance of the training material was evaluated as Extremely relevant (22%), Very relevant (66%) and Somewhat relevant (12%): see Figure 4.

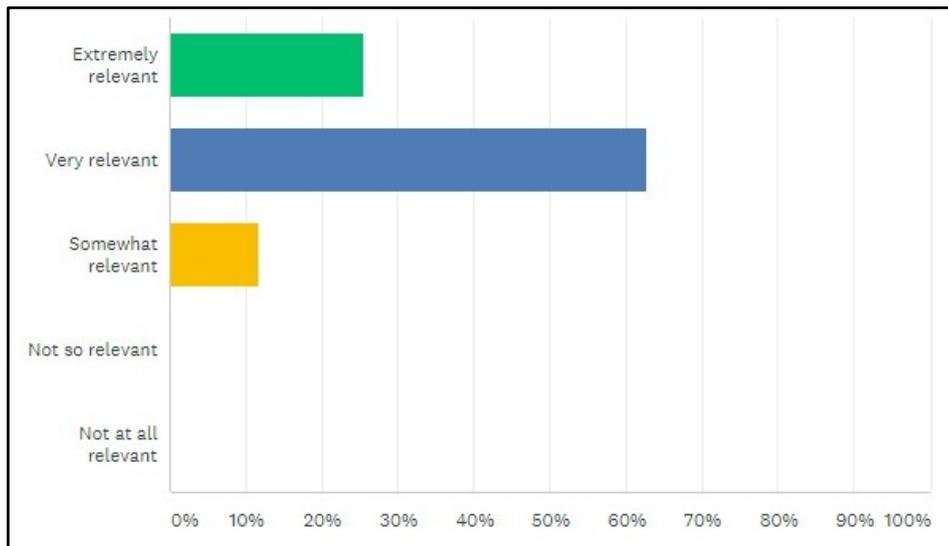


Figure 4: Relevance of course material

Of the respondents, 27% indicated that their attitudes towards road safety had been adequately positive before attending the course, 34% indicated that their attitudes had been changed significantly and 29% not significantly. This is encouraging, as positive attitudes towards safety filter through to planning and design. See Figure 5.

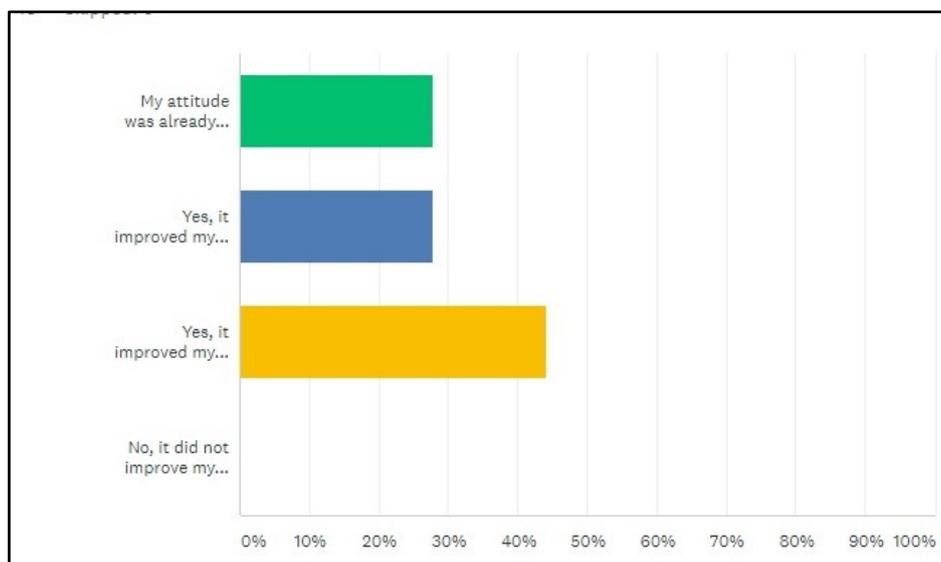


Figure 5: Attitudes towards road safety

Regrettably, 54% of the respondents have not done any audits for gain (not internally) and 68% have not been involved with letting contracts. The execution of road safety audits is dominated by a few consulting engineers: 21% have done one to five audits, 17% have done six to 10 audits and 7% more than 10 audits. The percentages for letting out audits are 29% (one to five), 12% (six to ten) and 2% (one consultant) more than 10.

4. STATUS QUO 2019 PART 2

The second part of the survey was on execution of road safety audits. Only 30 persons responded, with some questions being skipped as these applied to either clients or consultants. The primary roles of the respondents were:

- As road authority letting tenders for audits 17.86%
- As consultant letting tenders on behalf of road authorities 7.14%
- As consultant tendering (not successful) 28.57%
- As consultant tendering (successful) 25.00%
- As specialist road safety auditor 21.43%

The responses to road safety audits adding value were 57% Agreed Strongly, 35% Agreed and 7% were Neutral. There were no responses that indicated Disagree. See Figure 6.

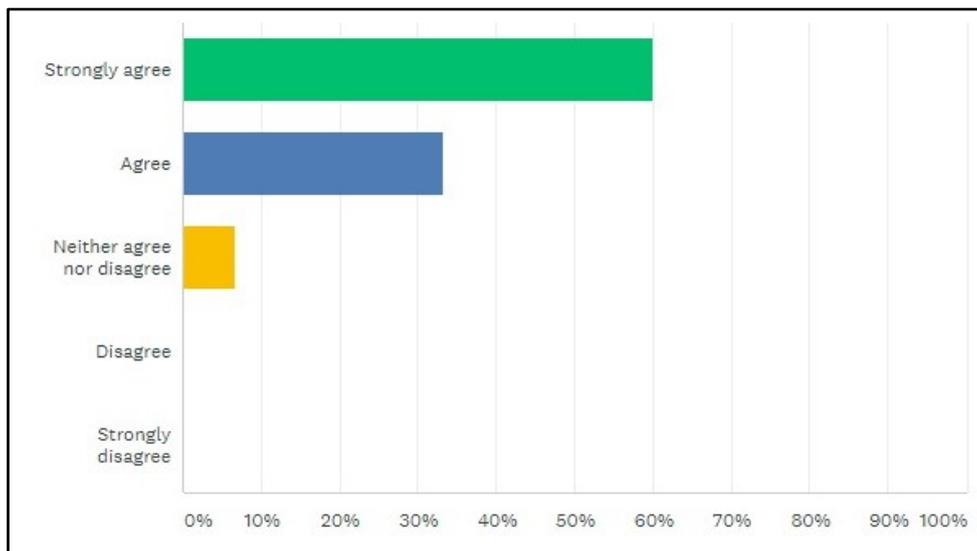


Figure 6: Road Safety Audits add value to projects

There was general agreement that the prices tendered for audits were too low to ensure good quality (57%), but notwithstanding the low prices, clients received good value for money. See Figure 7.

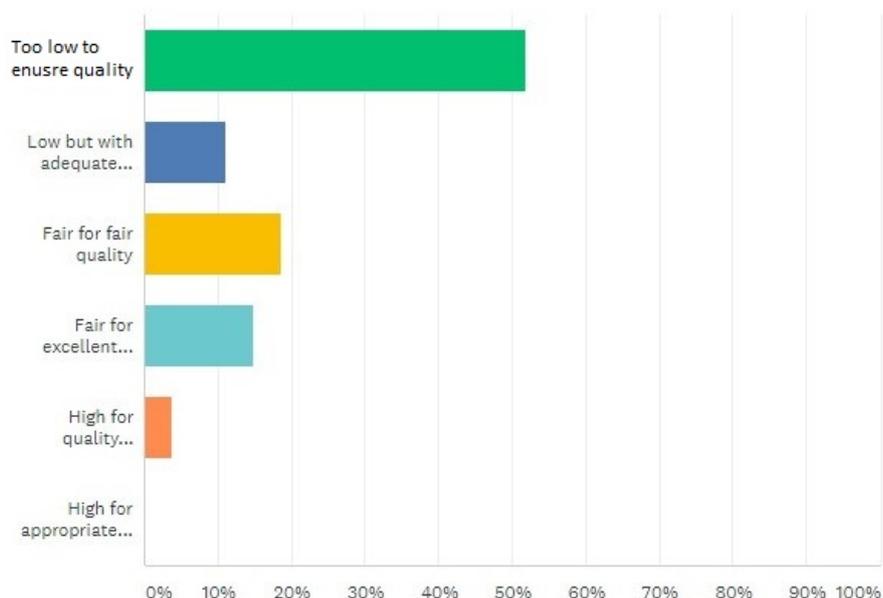


Figure 7: Price of road safety audits relative to quality

Responses from road authorities or consultants working for them indicated that 63% had not issued road safety audits, 27% had issued between one and five and 9% between six and 10 audits. Consultants tendered unsuccessfully on one to five audits (67%), on six to 10 audits (21%) and on 11 to 20 audits (9%). Consultants tendered unsuccessfully on all (48%), successfully on one to five audits (36%), six to 10 audits (12%) and 11 to 20 audits (4%). With 48% of consultants never winning a tender and 16% winning six and more tenders, it seems that the audit industry is dominated by a few players.

Road safety audit processes are important for quality-end products. The respondents were asked to indicate whether the full processes were followed, or which steps were omitted: also see Figure 8.

- All processes followed 36%
- No commencement or completion meeting and no feedback: 16%
- No completion meeting and no feedback 26%
- No feedback 20%

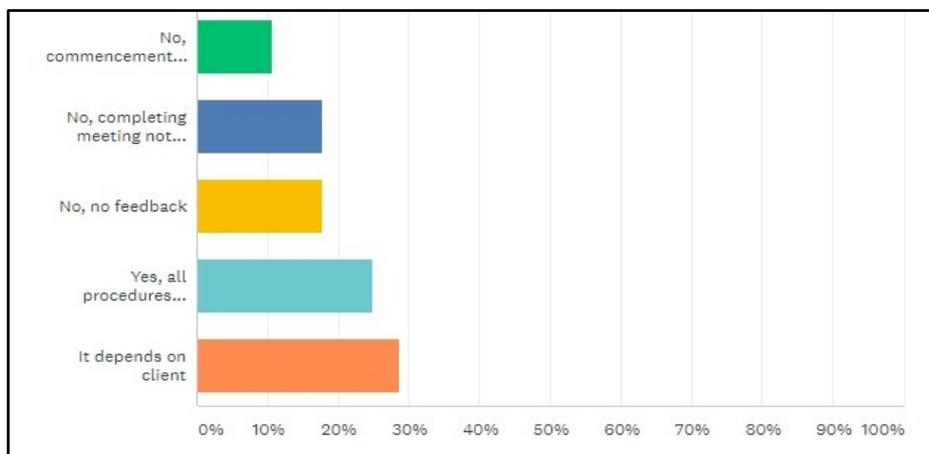


Figure 8: Road safety audit processes followed, or steps omitted

Figure 9 highlights the last and important step of formal feedback from the Client or Designer to the road safety auditor. This step is not only necessary for closure of the specific road safety audit, but to improve the understanding of context and quality of risk analysis and recommendations. Feedback was rarely given to 40% of the respondents and responses to always and usual adds up to only 35%.

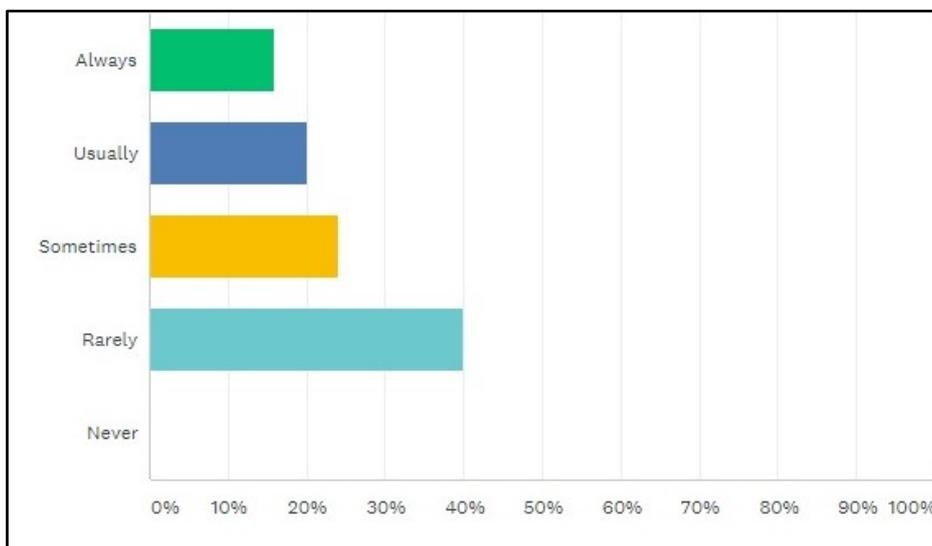


Figure 9: Formal feedback provided by Client or Designer

The provision of sufficient information to do the road safety audits by the design engineer was described as Rarely (8%), Sometimes (56%) and Usually (36%). These findings are worrisome, as the quality of the audits depend significantly on the quality of the input. See Figure 10.

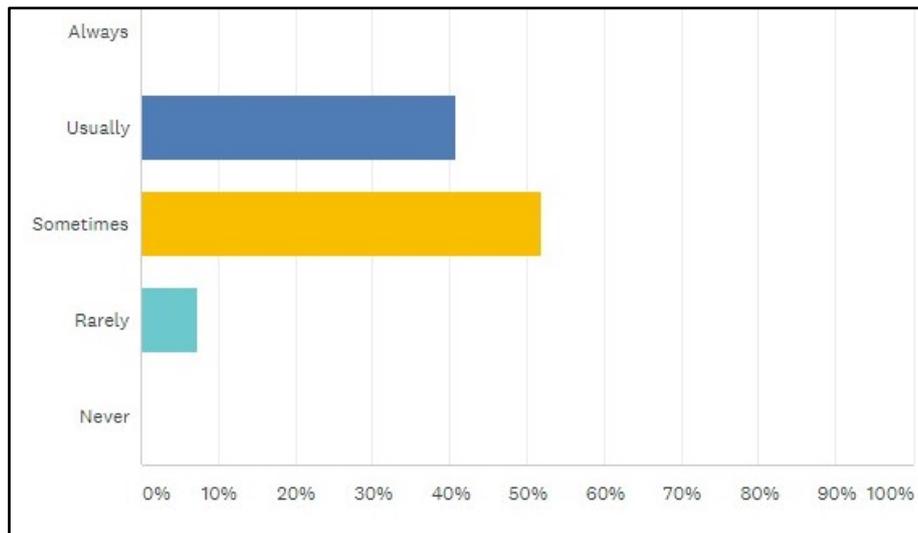


Figure 10: Provision of sufficient information for road safety audits

The implementation of recommendations is an indicator of the quality and relevance of the auditors' assessment of safety, as well as the clients' ability and willingness to rectify safety concerns. Recommendations were implemented Rarely (20%), Sometimes (30%) and Usually (50%). See Figure 11.

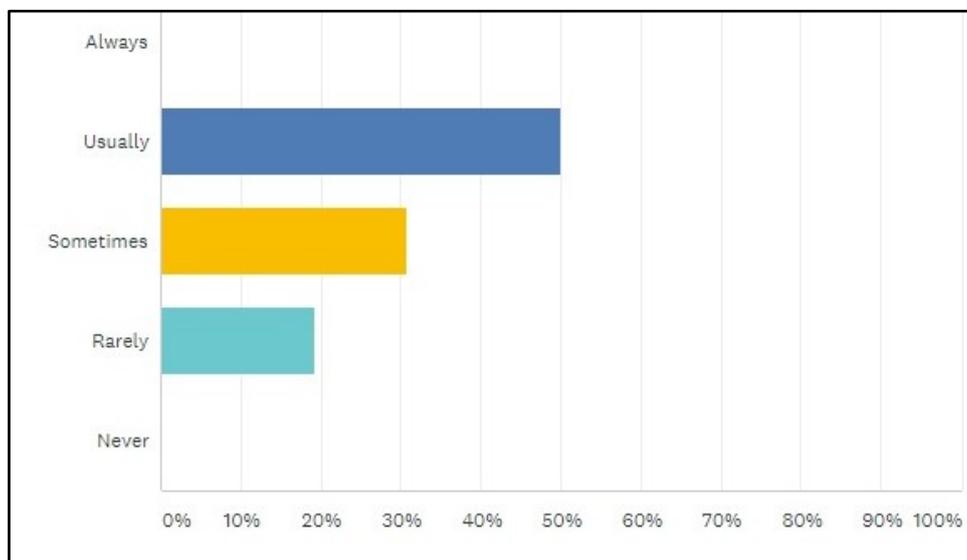


Figure 11: Implementation of recommendations

5. CONCLUSIONS

Training that was lacking in 2002, has reached many road safety professionals, especially since 2015 when the SARF started to present the course.

The fact that 20 accredited road safety auditors are from other SADC countries, indicates progress in the recognition of road safety in a regional context.

Trained auditors are overall satisfied with the training and the course material presented.

Aspects that need attention are the following:

- Auditing process are followed but certain steps are sometimes omitted, i.e. lack of commencement and completion meetings and feedback, recommendations are not always implemented.
- Design engineers do not always provide sufficient information to do the audits.

The status quo of road safety audits in South Africa in 2019 seems to be healthy and improving as the skills set develops and commitments by road authorities become institutionalised. It is, however, reason for concern that the field is dominated by a few players.

6. REFERENCES

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