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Three-pronged strategy cuts N4 toll-road overloading

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Overloading on the N4 Maputo corridor toll-road has decreased dramati- cally. In 2003 only 0,5% to 1% of all heavy vehicles were overloaded, compared to the previous estimate of 15% to 20%.

These figures refer to prosecutable overloading, where the load is over the 5% leeway granted on the permissible legal load.

The National Roads Agency (NRA) is the owner of the toll-road, Trans African Concessions (Trac) the operator and toll-road concessionaire, and BKS the consulting engineer for this particular project.

BKS engineer Dr Martin Slavik says this has been achieved through a three-element system.

The N4 Maputo corridor stretches from Gauteng to Maputo, in Mozambique. The project to reduce overloading currently only covers the South African portion of the N4, as well as all its alternative routes.

The backbone of the project is a set of six traffic-control centres – Komati, Machado, Middelburg West, Middelburg East, MidWit and Farrefontein – each equipped with a 22-m-long four-segment scale, capable of weighing long trucks in one operation.

The second element is three mobile units that can be dispatched to any of eleven lay-bys situated on alternative routes surrounding the N4.

These lay-bys consist of a weighbridge with one deck and a small holding yard.

Element three is efficient software and a network of measuring points that makes use of weigh-in-motion equipment.

As weigh-in-motion equipment is not sufficiently accurate for prosecution purposes, it serves only to identify a possibly overloaded truck to a weighbridge operator in advance of its arrival.

Should a truck be overloaded, it is placed in a holding yard where the load has to be rectified, for example by distributing the load more efficiently over the axles, or until the owner dispatches another truck to share the load.

Slavik says it is often this time delay that serves as the greatest deterrent to overloading, rather than any fine.

The entire system is audited by BKS, with the company presenting monthly reports to NRA and Trac. These reports also indicate, for example, where and when a clearly overloaded truck has been released from the holding yard.

Auditing software that Slavik has developed identifies operational abnormalities. Clearly this has a benefit in terms of reducing offences such as corruption and bribery.

The N4 network to prevent overloading has been in full operation since April 2002, with the exception of the Mozambique portion, where no weighbridges have been installed yet.

NRA senior project manager Ismail Essa says this is because of a lack of funds by the road authorities in Mozambique.

The typical cost of the South African part of the project has been reported to be about R12-million for a permanent weighbridge, and about R2,5-million for a lay-by. Establishing three permanent weighbridges in

Mozambique will cost an estimated R50-million, says Essa.

He says the project to prevent overloading has been very successful and should soon be duplicated on other routes in South Africa.

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