

MONITORING RESULTS OF PBS VEHICLES IN SOUTH AFRICA IN TERMS OF PRODUCTIVITY, SAFETY AND ROAD WEAR PERFORMANCE

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ABSTRACT

As part of a Performance-Based Standards (PBS) research programme for heavy vehicles in South Africa, a need was identified to design, manufacture and operate a number of PBS or Smart Truck demonstration vehicles in order to gain practical experience in the PBS approach and to quantify and evaluate the potential infrastructure preservation, safety and productivity benefits for road freight transport. The Smart Truck demonstration projects have been designed and manufactured to comply with the safety standards of the Australian PBS system. These include directional and non-directional manoeuvres such as acceleration capability, slow speed swept path, static rollover threshold and rearward amplification. The infrastructure performance standards are based on South African bridge and pavement design standards. This paper presents a summary of the monitoring data of 48 PBS demonstration vehicles in the forestry and mining sectors. Initial results indicate a number of improvements in performance of the Smart Trucks compared with the baseline vehicles.