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JTRC PROGRAMME OF WORK (2007-2009)

Project 3 (A). Heavy vehicles: regulatory, operational and productivity improvements

Outline: The study will investigate the recent safety performance of heavy vehicle operations in member countries, in the context of increasing volumes of freight being carried by road transport. It will examine the safety and environmental impacts of current heavy vehicle operations procedures and make an inventory of regulatory measures and enforcement practices. The effects of changes in heavy vehicle weight and dimensions, articulation and technology on their safety, their environmental sustainability and their compatibility with the road infrastructure and other road users will be assessed. Based on these insights the project will conclude by evaluating the potential effects of improved regulatory and controlling measures aiming at improving the safety and environmental performance of heavy goods vehicles while recognizing and supporting the demand for higher productivity.

Major tasks. The study will encompass the following major tasks:

1. *Safety.* A benchmarking study across JTRC member states of the safety performance of their road transport industry, using available data on truck operations, risk exposure and crash, fatality and injury outcomes (per vehicle km and per registered vehicle). It will explore the characteristics of truck crashes and the major factors at stake (*e.g.* fatigue, speed and infrastructure).
2. *Operations.* An examination of the effect on heavy vehicle safety (accident risks and severity) and environmental sustainability (fuel consumption and air pollution) of current operational practices and procedures, such as speed, loads, driving hours, use of the road network.
3. *Effects of Regulatory Measures.* A benchmarking of the rules and legislations and enforcement practices currently used in JTRC member states to regulate the safety and environmental impact of heavy vehicles and their interaction with the road infrastructure. This task will produce an inventory of regulatory and controlling measures and the experiences and effects that they have brought under various national conditions.
4. *Potential Changes.* An assessment of the impact of foreseeable changes to heavy vehicle performance conditions (*e.g.* increasing mass and dimension limits, modified trailer configurations, improved suspension systems etc.). This task will consider safety effects as well as environmental impacts (*e.g.* the potential for increased fuel efficiency of advanced truck configurations with lower speed limits). Also, the compatibility of such changes with current road standards and pavement designs and the need for operational limitations/road modifications will be highlighted.
5. *Possible Regulatory and Operational Improvements.* A study of the likely safety and environmental results of possible operational improvements through rapidly developing ITS systems and centralized command and control, of more effective safety and environmental regulation and of compliance enforcement activities. The approaches considered will include the wider use of “chain of responsibility”

regulatory arrangements which make senior and operational managers as well as drivers responsible for compliance (*e.g.* with speed limits, truck loads and driving hours).

Background/issues. Work was undertaken in Australia in 2000 to benchmark the safety performance of Australia's road transport sector against the safety performance of similar industries in a range of OECD countries. A limitation of this work was the lack of access to comparable data from other countries. Undertaking the benchmarking as a JTRC research initiative could be expected to improve data access and also ensure that comparisons made and the recommendations developed identify areas where practical safety improvements applicable to all participating countries are achievable. A separate issue is the possible future role and regulatory framework of larger and heavier ("modular") goods vehicles.

References/relevant research underway: The DIVINE project emphasised the importance of road authorities taking a broader view on the societal economics of heavy goods vehicle operations. It also facilitated load increases allowed by improved vehicle-pavement interaction. A number of countries are interested in the safety as well as economic and environmental aspects of any increases in vehicle mass and dimension limits. The Australian NTC report identified safety improvements to commercial vehicle operations (<http://www.ntc.gov.au/DocView.aspx?page=A02304405400240020>) which could be achieved through infrastructure improvements, low-cost safety treatments and vehicle design measures targeting truck occupants and other road users. It also identified areas where data collection and research is needed. The IRU and EC are currently undertaking a joint study on European Truck Accident Causation (ETAC).

Working Method and and Expected timing: Working Group project. Could begin in 2007 and be completed in late 2008 or 2009.