**MIROS Road Accident Analysis and Database System (MROADS)**

A prerequisite for achieving safer roads is thru assessment of the current traffic situation and identification of the associated factors. Therefore, availability of a comprehensive road accident database is crucial for understanding the pattern of accident causation. As part of the Malaysia's Road Safety Plan 2006-2010 strategy, a national road accident database system is crucially needed to provide information and intelligence to guide in planning for road safety initiatives.

Understanding the needs, the Malaysian Institute of Road Safety Research (MIROS) developed a system called MIROS Road Accident Analysis and Database System (MROADS). The system serves as an intelligence system to provide road safety stakeholders with accurate, continuous and comprehensive information on road accidents. MROADS use input from the existing nationwide road accident data collected by traffic police to generate analysis and findings.

Among the built-in functions in MROADS are accident record management, cross tabulation, accident location ranking, kilometre-post analysis and report generation. The main function, cross tabulation, is useful to describe the distribution of two or more accident record variables simultaneously. Cross tabulation help researchers to understand the current road safety issues and situation, to plan for high-impact research areas and to plan for appropriate interventions and policies that can help to save lives.

High impact road safety interventions were introduced based on facts and evidence produced by MROADS. For example, Automated Enforcement System (AES) was introduced in 2007 to tackle the issues of speeding and traffic light violation. Road accident data through MROADS was used to identify 700 locations throughout the country with high fatalities and accidents due to speeding or traffic light violation. Electronic enforcement cameras will be installed at these locations and warning signs will alert drivers to the enforcement camera ahead, motivating them to slow down to the speed limit or obey the traffic light. It is estimated that AES may reduce overall fatalities by 9%.

In addition, MROADS helps enforcement agencies with enforcement strategies thru the concept of 'Evidence-based Enforcement'. The concept utilizes accident data to provide intelligence on main issues of road safety and how enforcement can help. For example, motorcyclists are found to have a high fatality rate in Malaysia – the result of their vulnerability and involvement in 'out of control' and 'side impact' collisions. Further investigation identified that most injuries were to the head, suggesting helmet wearing should be enforced. The specific location and timing for the enforcement can also be identified. MROADS helped to revolutionize enforcement by reforming the strategy to be evidence-based instead of being done intuitively.

The development of MROADS has simplified the use of accident data to provide intelligence. Existing and future accident data can be easily uploaded to MROADS database thus would enable up-to-date data analysis. Focus or targeted programmes, derived from the data can provide effective treatment to specific road safety issues. Hence, with the development of MROADS, road accident data will be fully utilised to its potential and will no longer be use for record keeping only.