



Assessing the Feasibility of a National Road Classification

Executive Summary

The Intergovernmental Committee of Surveying & Mapping (ICSM) formed the Roads Working Group (RWG) arising from Resolution R05/05/01 in May 2005. The Working Group was established to promote and develop a nationally consistent approach to the classification of roads and associated infrastructure information. At this initial meeting the Terms of Reference were discussed, refined and finalised. A major objective was to:

Develop and promote a nationally consistent classification and attribution scheme for the representation of roads and associated infrastructure.

Irrespective of the type of road hierarchy being developed, it is important to emphasise that the process is not an exact or precise science. In principle, there is a diversity of ways of defining and classifying street and road types, and no single variable will ever be sufficient to completely describe a class of roads².

This paper, initially released in October 2006, represents the initial research phase towards a national road classification. Its purpose is to investigate the feasibility of developing a new nationally consistent road classification hierarchy; its objective is to provide recommendations to improve the existing national road classifications to better meet the requirements of expected future clients.

An investigation was undertaken into current road classification hierarchies applied by mapping and road traffic authorities, throughout Australia and internationally. Each of these classification hierarchies was reviewed to identify their positive and negative attributes, in an attempt to distil and qualify how best to develop an Australian national classification hierarchy.

The research, undertaken into classifications applied both nationally and internationally, highlighted that no single classification appears to be perfectly applicable. Rather, they all exhibit certain flaws and beneficial elements with respect to fundamental classification characteristics.

This research also indicated that the PSMA classification has, above all other existing Australian road classifications, the potential to be applied as the national model. However, the research did identify several considerations that could improve the PSMA model, that warrant further investigation. These led to the following recommendations:

It is also worth noting that this report represents the initial research phase towards a national road classification and investigates the feasibility of developing a new nationally consistent road classification hierarchy and process. Furthermore, none of the recommendations contained in this report advise for the 'adoption' of a particular approach at this stage. The recommendations are activities that could potentially improve the utility and usefulness of the current PSMA classification for national applications, and therefore warrant further investigation.

Further investigation for recommendations 1, 2, 3, 4 and 6 was undertaken by the Roads Working Group during the period January 2007 to November 2008. (Recommendations 5 and 7 were dependent upon these first recommendations being completed.) The Roads Working Group concluded the following:

Recommendation 1: *To further investigate the utility and practicality of a rural/urban segregation of the PSMA road classification hierarchy, through discussion with relevant road transport & traffic authorities. An urban/rural divide may have potential but may best be handled by amalgamation with appropriately classified meshblocks from the Australian Bureau of Statistics or cadastre / planning datasets from jurisdictions. There may also be links with urban/rural addressing standards.*

Recommendation 2: *To refine the existing PSMA Road classification to enable better differentiation of local and State roads through liaison with relevant government representatives.*

A significant majority of local government agencies can differentiate between state-managed and locally-managed roads either directly or indirectly through a combination of different attributes held in local roads databases. The RWG felt that state road traffic authorities also know which roads they manage through their own asset management systems, so between these two sources it should be possible to identify and maintain a record of a road controlling "authority". A full report on this survey is now available for public comment.

Recommendation 3: *That additional variables of traffic volume, design speed, travel distance, route numbering, population measures and structural considerations, be investigated for possible inclusion as additional determinants of road classification type, either within the classification itself or in additional guidelines or decision trees.*

Many jurisdictions in Australia are incorporating common geometries for road centrelines with relevant road traffic authorities (RTAs). An identifier which links the geometry to RTA asset management systems is also being incorporated. This should be expanded to cover all jurisdictions in Australia and New Zealand to provide national consistency. Additional variables such as those listed in the

recommendation could be used on an ad-hoc basis to assist with road classification but apart from route numbering may not be nationally or even jurisdictionally consistent. A full report on this survey is now available for public comment.

Recommendation 4: *To engage road traffic and transport authorities to investigate the feasibility of the periodic supply of coordinated higher order roads network classifications from road transport and traffic authorities (RTAs).*

RTA information can not be applied blindly to road classifications as some RTA-controlled roads would be regarded as “minor” roads in a nationally-consistent functional road classification. RTA-controlled roads can be used to verify the identification and maintenance of higher-order roads in functional classifications developed by mapping agencies. RTA-controlled roads would be identified using a separate field outside of the classification system.

Recommendation 5: *To develop additional guidelines that contain decision-tree diagrams, supplementary instructions and examples that aid in the interpretation of road classification.*

Guidelines for assisting road classification will be developed as part of ongoing discussions.

Recommendation 6: *To consult with National Parks, State Forests and Indigenous Lands authorities to gauge their requirements for attribution of lower order roads for possible inclusion into a national classification, or in a separate attribute field in such a classification.*

Responses received from users in emergency management, resource management and land management suggested that the current two-class system (2WD in fair-weather, and 4WD only) was satisfactory. They recognised expansion of the classification could result in more maintenance overheads. Seasonality and reclaimability were not seen as necessary despite anecdotal evidence to the contrary; however there were considerations around surface construction which may need to be explored in the future. A full report on this survey is now available for public comment.

Recommendation 7: *To adopt a cooperative approach between all levels of government (to agree) to implement a mutually acceptable national road classification system.*

This recommendation will form part of an overall engagement strategy with all levels of government and industry – part of the fourth term of reference for the Roads Working Group.

Roads Working Group

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