

Wuttipong Boonyanusasna 2009: Improvement of Thailand Pavement Management System; TPMS (Budgeting Module) Case Study: Implementation on Central Thailand Highway Network. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Associate Professor Chavalek Vanichavetin, Ph.D. 132 pages.

Highways are the main infrastructures which support land transportation and induce economic growth. Due to extensive road network and limitation on government budget, the maintenance of road deterioration is insufficient. Department of Highways (DOH) has therefore introduced the modified TPMS which conforms to Thailand condition to maximize the limited budget. To support the advanced data collection and assessment of pavement conditions including a new GIS database an improvement of TPMS is necessary which is therefore the objective of this study. The new features of TPMS will not only enhance the efficiency of the pavement management but also user friendly. This improved version of TPMS was then implemented on the Central Thailand highway network pavement management project.

The result showed that the allocated budget covered only 26% of road maintenance expenses required. Prioritization, based on B/C ratios for economic justification, was necessary to prepare pavement management plan to suit available budget.

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