# DEVELOPING A CONCEPTUAL PLAN FOR ROAD INFRASTRUCTURE USAGE MANAGEMENT WITH USE OF ICT/A STRATEGIC APPROACH

**MASTER OF BUSINESS ADMINSTRATION**

**IN**

**INFORMATION TECHNOLOGY**





**By**

**K W R A K Wijesundara**

Department of Computer Science & Engineering
University of Moratuwa
Sri Lanka

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The Dissertation was submitted to the Department Computer Science & Engineering of the University of Moratuwa in partial fulfilment of the requirement for the Degree of Master of Business Administration in Information Technology.



Supervisors
Prof. J M S J Bandara
Transportation Engineering Division
Department of Civil Engineering

Mr. K Samarasinghe
Department of Electronic and Telecommunication Engineering

Department of Computer Science and Engineering
University of Moratuwa
Sri Lanka

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## Declaration

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any University to the best of my knowledge and belief it does not contain any material previously published, written or orally communicated by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations.

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K W R A K Wijesundara  Date



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Prof. J M S J Bandara  Date

## Abstract

Traffic congestion in Colombo is a major problem facing Sri Lanka, which is being affecting the economic growth of the country. Increased active population, insufficient road infrastructure and lack of user adherence to traffic laws and conducts have being the main reasons for this situation. Currently the government is actively involving in building new road infrastructure, by means of expressways, high ways and upgrading the existing road net work in achieving its economic targets. Considering this situation, it is anticipated the problem will become more severe where an uncontrollable traffic situation that can arise in the future. This research has looked in to the successful measures adopted by other countries and how information and communication technology (ICT) has been used to solve the problem. In making a suitable plan to overcome the congested situation in Colombo, user views about the problem and their suggestions have taken in to account. Considering the current socio-economic situation of Sri Lanka, suitable ICT based solutions and components have been chosen to address the situation in strategic manner, which switching road transportation demand to mass transportation demand. The plan is presented in three dimensions; as measure of solving problems, as systems and plan as changes. It has been described new mechanisms and the role of the ICT that is playing in this suggestion. Anticipated benefits are identified followed by a highlighting of cost components at the plan implementation. Future consideration of the plan has been discussed, which this research can aid for possible investors who can look for investment in transportation and traffic and travel information management arena.

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# List of Abbreviations

| | |
|---|---|
| ATM | Automated Teller Machine |
| ALS | Area Licencing Scheme |
| CBA | Central Business Area |
| CCTV | Closed Circuit TeleVision |
| GPS | Global Positioning System |
| ICT | Information and Communication Technology |
| ITS | Itelligent Transportation Systems |
| IU | In-vehicle Unit |
| KL | Kuala Lampur |
| LCD | Liquid Cristal Diode |
| LED | Light Emitting Diode |
| LRT | Light Rapid Transit |
| MRT | Mass Rapid Transit |
| OCH | Outer Circular Highway |
| RDA | Road Development Authority |
| SLR | Sri Lanka Railway |
| SLTB | Sri Lanka Transport Board |
| SMS | Short Message Service |
| SWOT | Strengths, Weeknesses, Opportunities, Threats |
| UDA | Urban Development Authority |
| VMS | Variable Message Signs |