



# **COST EFFECTIVE MEASURES TO IMPROVE TRAFFIC MANAGEMENT IN THE JA-ELA TOWN AREA**

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This thesis was submitted to the Department of Civil Engineering  
University of Moratuwa in partial fulfillment of the requirement for the  
Degree of Master of Engineering

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## **DECLARATION**

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***UOM Verified Signature***

Professor Amal S.Kumarage

## **ABSTRACT**

Vehicular transportation activities dominate the movement of passengers as well as freight in Sri Lanka. Road network improvements take place all over the country under development projects. Enormous funds have been allocated for improving roads in order to facilitate the increasing number of vehicles. In order to establish an efficient transport system traffic management measures should be improved in line with the current development programs in the country. Serious thought should be given to such measures where a higher contribution to economic development falls in line with road transportation.

The Ja-ela town is located on A3 road within the Western Province and a part of the northern bound traffic is routed through this town. Economically important places of the country are served by the A3 road and reducing delays on this major arterial road is essential. In drafting methodologies to achieve the said perspective urban cities within the A3 road corridor should be given priority. The objective of this research was to find “Cost effective measures to improve traffic management in the Ja-ela town area”.

Present activities around the town area were broadly considered in drafting development scenarios for traffic improvement. Different modes of transport were considered and survey data were collected for necessary analysis. In addition, pedestrian movements, private vehicular parking and road improvements were identified as essential elements in developing methodical strategies for the new development. Bus transportation was given special consideration in developing these schedules and reducing waiting times. The private bus operating system needs a few changes in route 187 to operate in a more efficient manner. The possibility of extending this particular route to the Tudella junction is one of the major findings of the research. The

owners and users of private buses would yield the benefits of the proposal.

To improve the above areas of influence new construction proposals have been brought forward. These proposals are recommended to be implemented in two stages to reduce the burden on administrative authorities in budgetary allocations. Stage construction will be encouraged by the society due to minimum interruptions to main road traffic. Supportive approach should be needed from different administrative authorities in implementing the proposed development plans.

Cost and benefits over the project life have been considered in the economic evaluation. It is evident from this economic evaluation that the proposed new development plans to improve delays on A3 road enhance benefits to the society. All economic indicators are in favor of the new proposal. Similar studies in other urban areas should be done to find out the possibilities of developing similar scenarios in contributing to the improvement of traffic management measures in the National Road Network.

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## **LIST OF ABBREVIATIONS**

DSD	- District Secretariat Division
AGA	- Assistant Government Agent
FTZ	- Free Trade Zone
ADT	- Average Daily Traffic
UC	- Urban Council
RDA	- Road Development Authority
PCU	- Passenger Car Unit
VOT	- Value of Time
ADB	- Asian Development Bank
NPV	- Net Present Value
BCR	- Benefit Cost Ratio
EIRR	- Economic Internal Rate of Return
A3	- Peliyagoda Puttalam Road
A33	- Ja-ela - Ekala - Gampaha - Yakkala - Road

