

**MITIGATING IMPACTS ON WILDLIFE DUE TO
CONSTRUCTION OF EXPRESSWAYS IN SRI LANKA**

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August 2023

DECLARATION

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any in other University or Institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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The above candidate has carried out research titled “Mitigating impacts on wildlife due to construction of Expressways in Sri Lanka” for the Masters under my supervision.

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DEDICATION

This study is solely dedicated for my work organization Road Development Authority for facilitating me to do a Master of Science in Project Management degree course

&

Those who are willing to have environmental friendly Expressways

ACKNOWLEDGEMENT

I would like to take this opportunity to convey my special thanks and appreciation to the persons below who direct and guide me at every point to write this Literature Review.

First and foremost, I pay my gratitude to the Head of the Department of Building Economics, as well as my Supervisor Prof. (Ms.) K. G. Anuradha Waidyasekara who directed me giving guidance, support, and assistance for writing this dissertation amidst her busiest duties as the Head of the Department. Further, I would be gratitude to the former Head of the Department of Building Economics Prof. (Ms.) Y.G. Sandanayake for her guidance in preparation of this dissertation.

I wish to extend my sincere thanks to the Senior Lecturer and Industrial Training & Extension Programme Coordinator, Mr. L.D.I.P. Senevirathne and the former programme Coordinator and senior Lecturer, Mr. P.A.P.V.D.S Disarathna and all other academic staff who gave the knowledge and guidance to success this research.

I would be much appreciated the support given by all the non-academic staff for their support in providing facilities.

Last, but not least, I give my immeasurable thanks to my family, especially for my husband who encourages me when I am thinking of giving up the further studies, and extending his fullest support morally to make this dissertation successful.

ABSTRACT

MITIGATING IMPACTS ON WILDLIFE DUE TO CONSTRUCTION OF EXPRESSWAYS IN SRI LANKA

There should be a good road network to have better economic development in a country. Therefore, massive road construction projects like expressway construction have been initiated island wide to achieve development goals. These new projects should be environmental friendly and more concerns should be paid on minimizing the damage to the environment and wildlife while implementing them. During the design, construction and operation and maintenance stage of expressway, wildlife is subjected to many impacts and they lost their habitats. Therefore it is considerable to mitigate the impacts on wildlife due to construction of expressways while ensuring safe travel mode.

This research study aimed to mitigate impacts on wildlife due to construction of expressways in Sri Lanka. Wildlife Vehicle Collision has become a major cause of accidents in operational expressways in Sri Lanka. The study revealed that accidents have been caused for the road mortality of wildlife, grievous and non-grievous injuries for the humans and property damages. As a result of this, the safety of road users getting deteriorated while involving high maintenance cost for accident repairs. Mainly specific wildlife categories have been affected most and it seems that this problem hasn't been addressed at the design stage.

A qualitative research approach was adopted following a case study to analyze the impact on wildlife on operational expressways. Semi structured interviews were conducted with the experts in expressway construction and maintenance field over telephone as well as face to face direct interviews. The collected qualitative data were analyzed using manual content analysis.

This study investigated that the main causes of Wildlife Vehicle Collision, current mitigation methods, new mitigation methods, lapses in designs, lessons learn and maintenance issues. Based on the analysis six major complications were identified from the content analysis and with relevant to that, issues and factors affected were discussed in depth. The important of wildlife considerations at the design stage, mitigation issues at construction stage and administrative matters in operating expressways were identified. Monitoring and maintaining records has played a major role in evaluating the effectiveness of current strategies and requirement of new strategies and based on that mitigation measures has been proposed to reduce wildlife mortality and upgrade the road safety.

Finally this research provides strategies to mitigate the impacts on wildlife by alleviating the identified complications. Any how the study revealed that mitigation of wildlife should be considerable but it cannot be 100% avoidable.

Key words: Expressways, impacts, mitigation, strategies, Wildlife Vehicle Collision

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LIST OF ABBREVIATIONS

| Abbreviation | Description |
|--------------|---------------------------------|
| ALAN | Artificial light at night |
| AVC | Animal Vehicle Collision |
| DVC | Deer Vehicle Collision |
| EIA | Environmental Impact Assessment |
| GIS | Geographic information system |
| ROW | Right of Way |
| RDA | Road Development Authority |
| WVC | Wildlife Vehicle Collision |

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