

**THE EVALUATION OF FACTORS INFLUENCING  
BICYCLE TRIPS IN A HERITAGE CITY (A CASE  
STUDY ON CYCLING TOURIST IN ANURADHAPURA  
ANCIENT CITY)**

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Degree of Master of Science

Department of Civil Engineering

University of Moratuwa

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Dissertation submitted in partial fulfilment of the requirements for the degree Master  
of Science in Transportation

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## **DECLARATION OF THE CANDIDATE AND SUPERVISOR**

“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 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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Date: 2023/04/09

The above candidate has conducted research for the master’s Dissertation under my supervision.

Name of the supervisor: Dr G.L.D.I. De Silva

Signature of the supervisor: \_\_\_\_\_

Date: 2023/04/10

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I consider myself lucky to have been given this opportunity to conduct this research on traveller perspectives on travel conditions in cycling tourism as a case study on finding motivational factors to promote cycling to backpack tourist in Anuradhapura ancient city. I have been able to apply my knowledge and theory to this topic and it has helped me to conduct a sound and accurate research. Finally, I would like to also extend my gratitude to my family for the everlasting support provided.

## ABSTRACT

The leisure cycling is an environmentally friendly tours by a bicycle alone a route while experiencing nature and blending with the local neighbourhood. As one of the one of Sri Lanka's top tourist destinations, Anuradhapura is an ancient city with a historical significance. This research study is aiming to analyse the factors affecting the tourist on leisure cycling. The study had designed into two phases.

The phase I of the study was conducted using questionnaire survey with a sample of 112 foreign/local tourist. The factorial analysis using principal component analysis method has used to extract eight factors i.e., connectivity, automobile interaction, road signs, street lighting, secured parking, rentability, cycle renting cost, and guided tours. A stated preference survey was conducted by providing two hypothetical cycling options created based on the attributes obtained from phase I and respondents were requested to select the option based on their preference.

The phase II analysis had conducted with a sample of 870 choice responses. The findings revealed that automobile interaction, secure parking, and guided tours have considerable impact on local tourists in choosing leisure cycling within the ancient city of Anuradhapura. Five attributes, i.e., connectivity, automobile interaction, road signs, street lighting, guided tour has created higher level of impact on foreign tourist in cycling selection. The covid 19 pandemic and economic crisis caused a limitation in tourist population hence convenient sampling approach was adopted. The further developments can be done by increasing the number of observations to increase the model best fitness. This study has taken a broad look at the aspects that may influence the development of cycling within the ancient city of Anuradhapura to provide sustainable mobility.

**Keywords:** *Leisure cycling, Tourist, Stated preference*

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## **LIST OF ABBREVIATIONS**

<b>Abbreviation</b>	<b>Definition</b>
<b>ADB</b>	Asian Development Bank
<b>CLPEM</b>	Control Limits Performance Evaluation Method
<b>FA</b>	Factorial Analysis
<b>IPA</b>	Important Performance Analysis
<b>PCA</b>	Principal Component Analysis
<b>PEM</b>	Performance Evaluation Method
<b>SCDP</b>	Strategic Cities Development Project
<b>SP survey</b>	Stated Preference Survey
<b>SLTDB</b>	Sri Lanka Tourism Development Authority
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization