

**CAR OWNERSHIP AND PREFERENCE TOWARDS  
TRANSPORTATION MODE FOR SHOPPING PURPOSE IN  
JAKARTA**

Final Project Report

in fulfillment of the requirement for the degree

Bachelor of Civil Engineering

by:

AGUSTINUS L TOBING

Student ID Number: 141315666



**INTERNATIONAL CIVIL ENGINEERING PROGRAM  
DEPARTMENT OF CIVIL ENGINEERING  
FACULTY OF ENGINEERING  
UNIVERSITAS ATMA JAYA YOGYAKARTA  
YOGYAKARTA  
2018**

## STATEMENT

I signed below stating that the final project with the title:

### **“CAR OWNERSHIP AND PREFERENCE TOWARDS TRANSPORTATION MODE FOR SHOPPING PURPOSE IN JAKARTA”**

as the result of my own work and not a result of plagiarism of another people's work. Ideas, research data, and quotes directly or non-directly derived from the writings or ideas of others expressly provided in this Final Project. If it is proven later that this Final Project is the result of plagiarism, the graduation certificate that I received will be canceled and returned to Universitas Atma Jaya Yogyakarta.

Yogyakarta,

Who made the remarks,



Agustinus L Tobing

**APPROVAL**

Final Project Report

**CAR OWNERSHIP AND PREFERENCE TOWARDS  
TRANSPORTATION MODE FOR SHOPPING PURPOSE IN JAKARTA**

by:

AGUSTINUS L TOBING

Student ID : 14 13 15666

Has been evaluated and approved

Yogyakarta, *July 25, 2018*

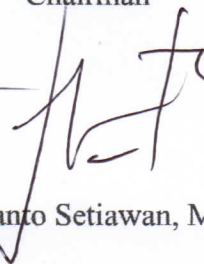
Supervisor,



Ir. P. Eliza Purnamasari, M.Eng.

Department of Civil Engineering

Chairman



Ir. A. Y. Harijanto Setiawan, M.Eng., Ph.D

**APPROVAL**

Final Project Report


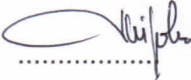
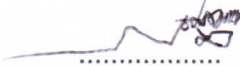
**CAR OWNERSHIP AND PREFERENCE TOWARDS  
TRANSPORTATION MODE FOR SHOPPING PURPOSE IN JAKARTA**



By :

AGUSTINUS L TOBING  
Student ID Number : 14 13 15666

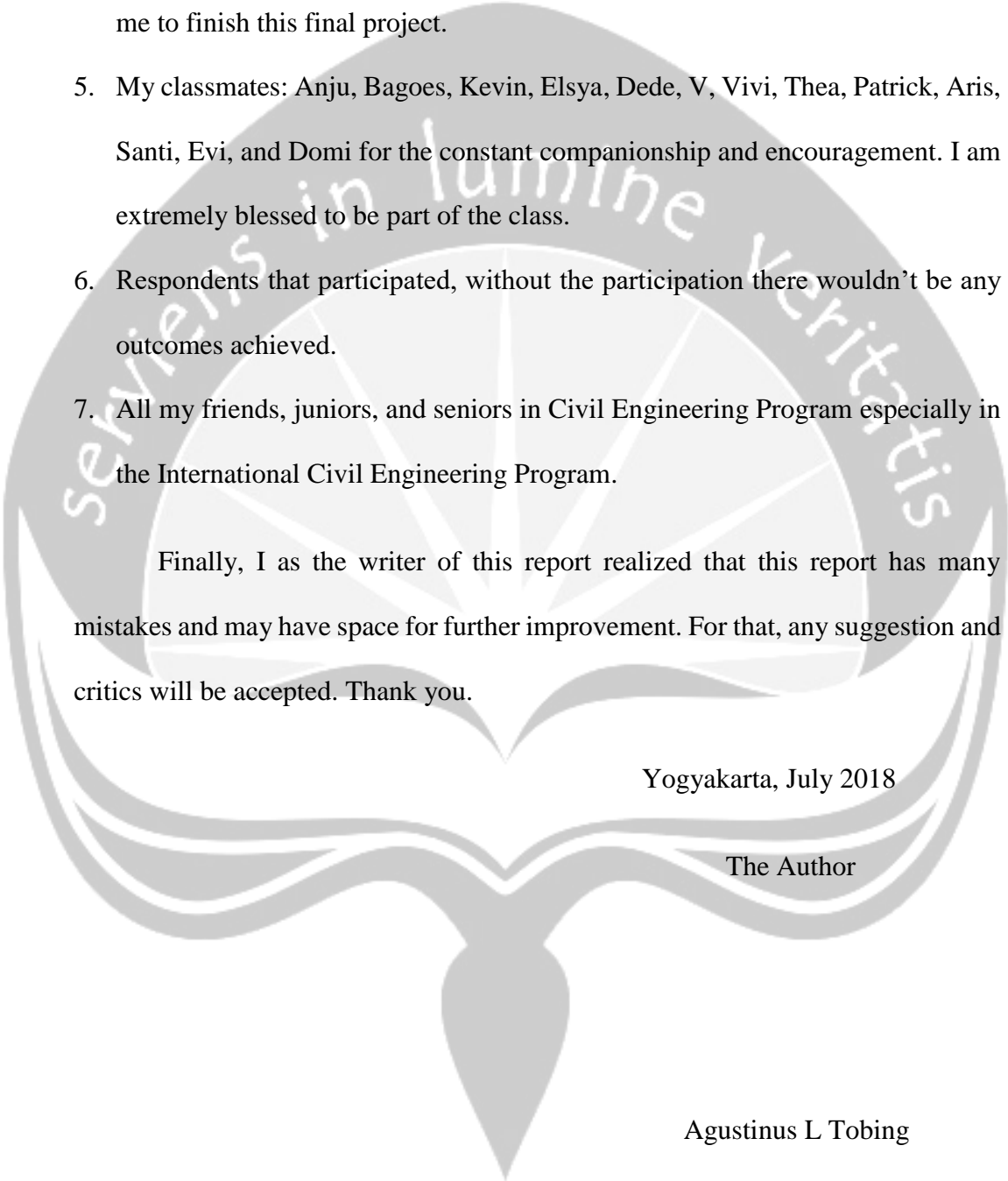
Has been examined and approved by:

Name	Signature	Date
Chairman : Ir. P. Eliza Purnamasari, M.Eng.		July 25, 2018
Member : Dr. Ir. J. Dwijoko Anusanto, M.T.		July, 25, 2018
Member : Ir. Yohanes Lulie, M.T.		July, 25 2018

## ACKNOWLEDGEMENTS

First of all, I would like to convey recognition of the constant efforts and services I received from the beginning until the end of this final project. The blessings that have given to me, prayers and thoughts that have been addressed to me had strengthen and encourage me to finish this study. Secondly, I would like to express my gratitude to my supervisor. I couldn't count the help, teaching, and kindness from my supervisor during this study. The purpose of the final project with the title "Car Ownership and Preference Toward Transportation Mode for Shopping Purpose in Jakarta" is to complete the requirement of undergraduate program (S-1) in International Civil Engineering Program, Department of Civil Engineering, Faculty of Engineering, Universitas Atma Jaya Yogyakarta. For the completion and outcomes of this final project, required helps and guidance from many individuals and I feel privileged to have got this all along the study, I would not forget to thank them:

1. Johan Ardianto, S.T., M.Eng., as the Coordinator of International Civil Engineering Program.
2. Ir. P. Eliza Purnamasari. M.Eng., as my supervisor for her advice, patient, and kindness that given to me during the final project. Her supports and advice have been invaluable.
3. All the lectures in the Civil Engineering Department, especially in International Civil Engineering Program. Also, I'd like to extend sincere thankfulness to all staffs and everyone in University of Atma Jaya Yogyakarta.

- 
4. My parents and my family, Tulang Markus and Tulang Valdo and their family, my brothers, and sister for the endless love, support, and advices that given to me to finish this final project.
  5. My classmates: Anju, Bagoes, Kevin, Elsy, Dede, V, Vivi, Thea, Patrick, Aris, Santi, Evi, and Domi for the constant companionship and encouragement. I am extremely blessed to be part of the class.
  6. Respondents that participated, without the participation there wouldn't be any outcomes achieved.
  7. All my friends, juniors, and seniors in Civil Engineering Program especially in the International Civil Engineering Program.

Finally, I as the writer of this report realized that this report has many mistakes and may have space for further improvement. For that, any suggestion and critics will be accepted. Thank you.

Yogyakarta, July 2018

The Author

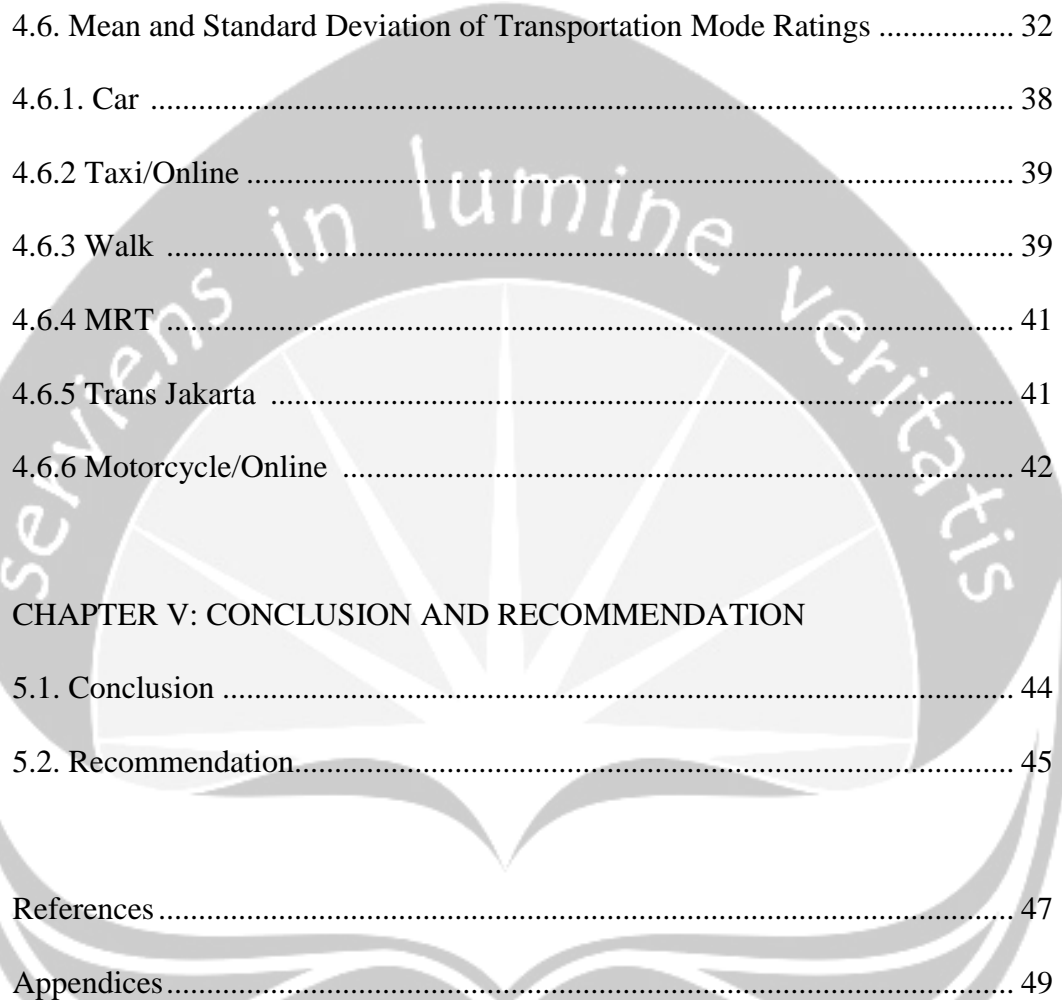
Agustinus L Tobing

## TABLE OF CONTENT

Title .....	i
Statement.....	ii
Approval.....	iii
Approval of Examiner.....	iv
Acknowledgement.....	v
Table of Content.....	vii
List of Table .....	x
List of Attachment.....	xi
Abstract .....	xii
<b>CHAPTER I: INTRODUCTION</b>	
1.1. Background .....	1
1.2. Problem Statement .....	4
1.3. Problem Limitation .....	4
1.4. Research Objectives .....	4
1.5. Expected Benefits.....	4
1.6. Skeleton.....	5
<b>CHAPTER II: LITERATURE REVIEW &amp; THEORY</b>	
2.1. Transportation Mode.....	6
2.2. Definition of Traffic Congestion.....	7

2.3. Preferences .....	9
2.4. Theory .....	12
2.4.1. Method of Analysis .....	12
2.4.2 Step of Analyzing.....	14
<b>CHAPTER III: RESEARCH METHODOLOGY</b>	
3.1. Area of Study .....	16
3.2. Field Data Collection Method .....	16
3.3. Questionnaire Composition.....	17
3.4. Flow Chart.....	19
<b>CHAPTER IV: DATA ANALYSIS</b>	
4.1. Introduction .....	20
4.2. Analysis of Chi-square Test of Independence Method .....	20
4.3. Respondend Data .....	21
4.3.1. General Information of Respondent.....	21
4.4. Validity and Reliability of Variables .....	22
4.5. Chi-square Test of Independence Results .....	23
4.5.1. Shopping to Market.....	23
4.5.2. Travel to Work .....	25
4.5.3. Travel Whilst at Work.....	26
4.5.4. Local Leisure Travel .....	27
4.5.5. Visiting Friends and Relatives Locally .....	28





4.5.6. Taking Children to School or Nursery .....	29
4.5.7. Other Local Travel .....	29
4.6. Mean and Standard Deviation of Transportation Mode Ratings .....	32
4.6.1. Car .....	38
4.6.2 Taxi/Online .....	39
4.6.3 Walk .....	39
4.6.4 MRT .....	41
4.6.5 Trans Jakarta .....	41
4.6.6 Motorcycle/Online .....	42
<b>CHAPTER V: CONCLUSION AND RECOMMENDATION</b>	
5.1. Conclusion .....	44
5.2. Recommendation.....	45
References .....	47
Appendices.....	49

## LIST OF TABLES

Table 1.1. Growth of vehicles in Jakarta from 2011-2015 .....	1
Table 3.1 Differential Scale .....	18
Table 4.1. General Information of Respondent.....	21
Table 4.2. Cronbach's Alpha Coefficient .....	22
Table 4.3. Chi-square Calculation for Shopping to Market.....	24
Table 4.4. Distribution Table of Chi-square .....	24
Table 4.5. Chi-square Calculation for Travel to Work .....	26
Table 4.6. Chi-square Calculation for Travel Whilst at Work.....	27
Table 4.7. Chi-square Calculation for Local Leisure Travel .....	28
Table 4.8. Chi-square Calculation for Visiting Friends and Relatives Locally ..	29
Table 4.9. Chi-square Calculation for Taking Children to School or Nursery ...	30
Table 4.10. Chi-square Calculation for Other Local Travel .....	31
Table 4.11. Preference Ratings Toward Transportation Mode for Shopping Purpose.....	33
Table 4.12. Experience Ratings Toward Transportation Mode for Shopping Purpose .....	35

## LIST OF ATTACHMENT

Questionnaire Permission.....	50
Questionnaire of Study.....	51
Respondent Profile.....	56
Section 1: Chi-square Test of Independence .....	59
Section 2: Preference Towards Transportation Mode for Shopping Purpose.....	61
Section 3: Experience Towards Transportation Mode for Shopping Purpose....	87
Distribution Table of Chi-square .....	112

## ABSTRACT

**CAR OWNERSHIP AND PREFERENCE TOWARDS TRANSPORTATION MODES FOR SHOPPING PURPOSE IN JAKARTA**, Agustinus L Tobing, Student ID Number 14.13.15666, year of 2018, Transportation Engineering, International Civil Engineering Program, Department of Civil Engineering, Universitas Atma Jaya Yogyakarta.

---

Cars have been transformed from luxury vehicle into daily use transportation. Moreover, the ownership of car has been increased tremendously in Jakarta for the past 5 years. Therefore, by understanding the preference of both car and non-car owners toward transportation modes including MRT estimated to be operated commercially in 2019, will help the policy maker to sharpen the broad policies and encourage private vehicular to use public transportation modes.

The purpose of this study is intended to obtain the preferences and experiences of people towards transportation mode for shopping purpose in Jakarta as well as understanding the awareness towards environment. The questions are using 7 accompanying structures and group of ages. The respondents are car and non-car owners while the area of study is in Kota Kasablanka (Kokas) Mall, South Jakarta. The chi-square test of independence is performed to obtain the differences of transport mode use frequency based on daily activities. The results then are compared with distribution table of Chi-square. However, mean and standard deviation are used to examine the preference of respondents.

The result of this study shows the preferences with 31 out of 35 questions car owners have higher rating for car usage and there are few significant differences regarding environmental issues/awareness. The respondents appear to give low ratings on suitability of public transportation for elderly people/parents and children. The result indicates that the required amount of walking, goods must be carried, exposed pollution, protection from weather, safety from crime are inducing the low rating on public transportations.

**Key Words:** Car ownership, Environmental awareness, Preference, Shopping.