

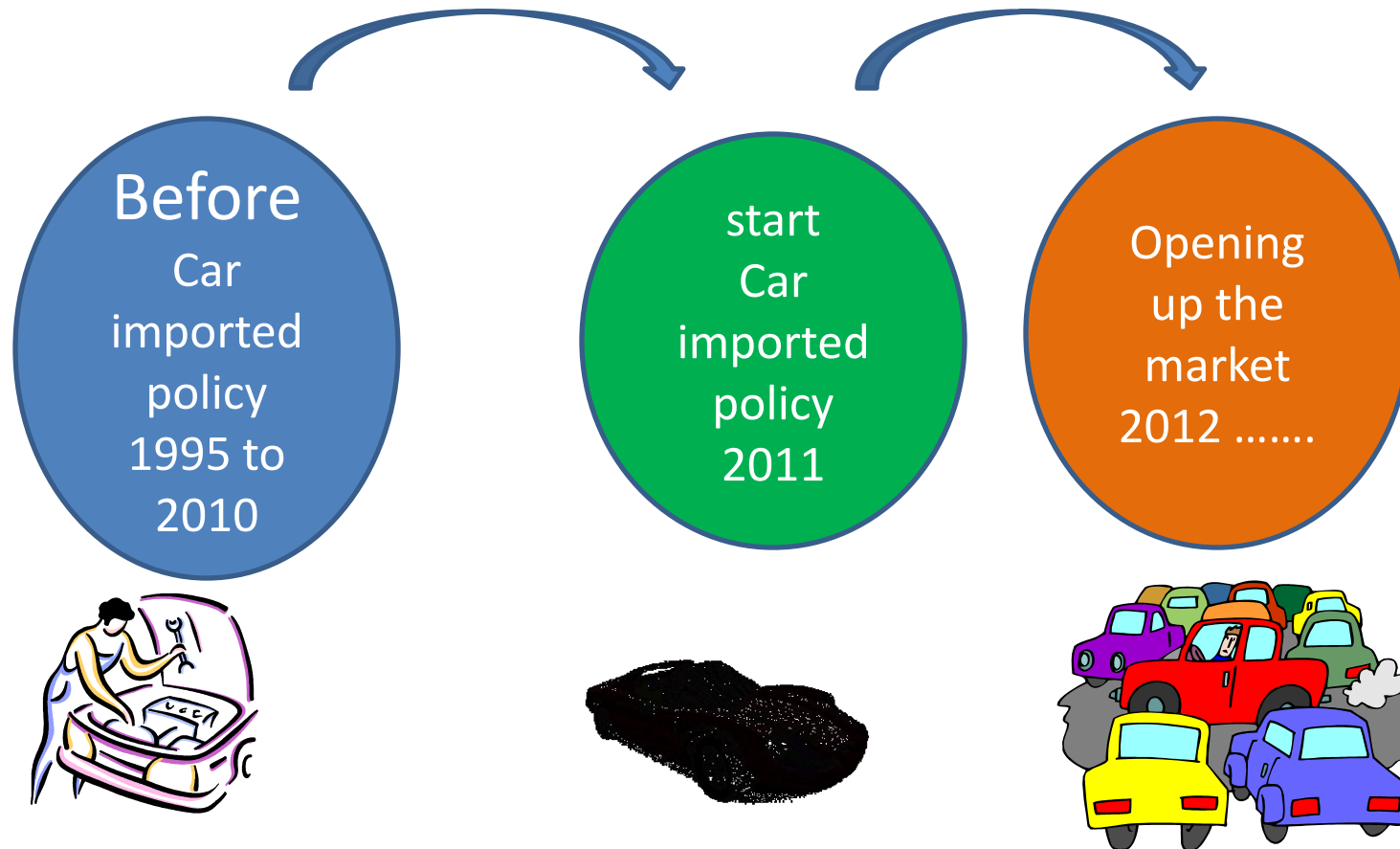
Study of vehicle ownership in Yangon Using Household data

Present by
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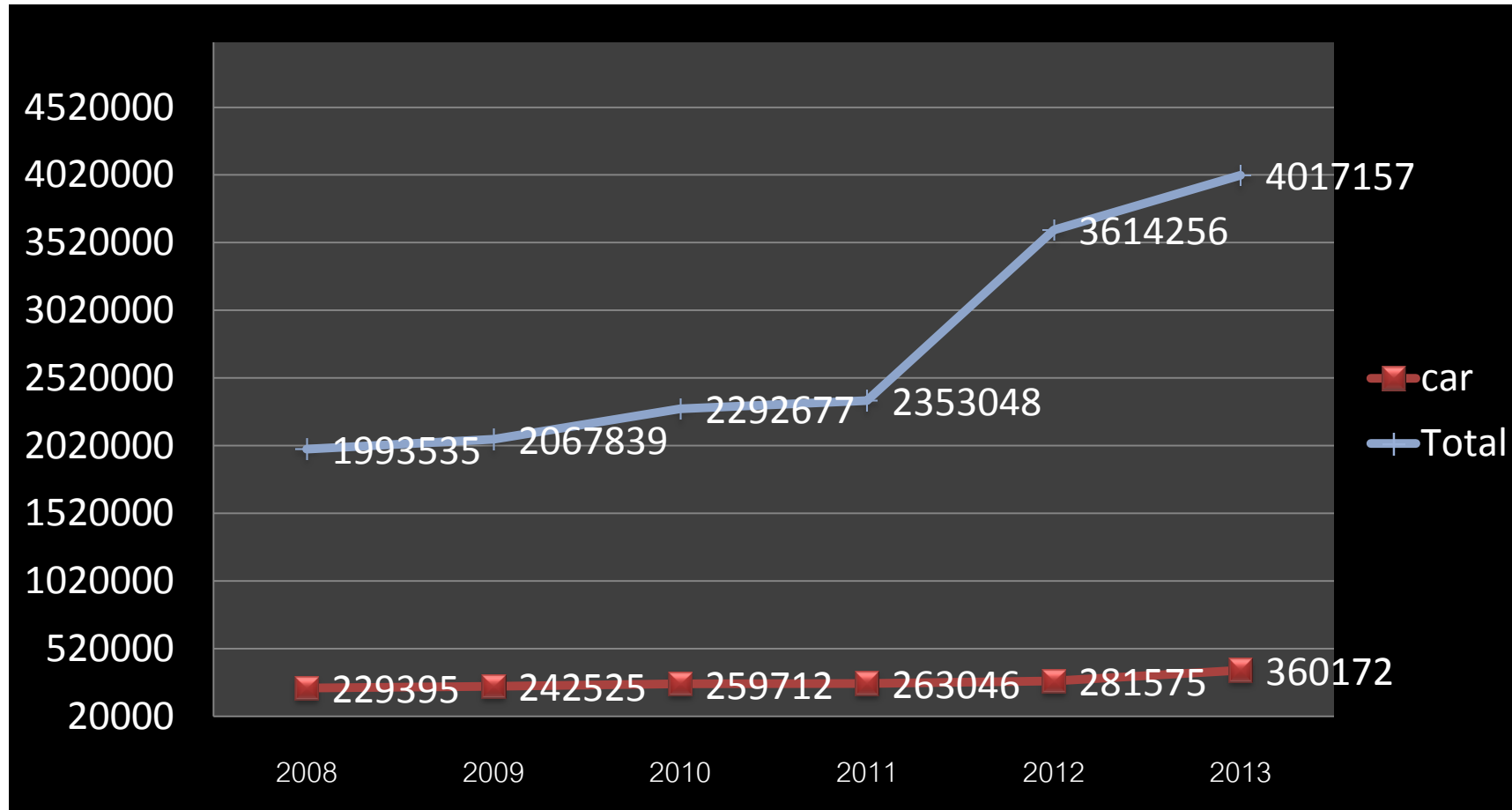
Outline

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Background



Number of vehicle increasing In Myanmar



Problem statement

Change car
imported
policy

Increase
Number of
vehicle

Traffic
congestion

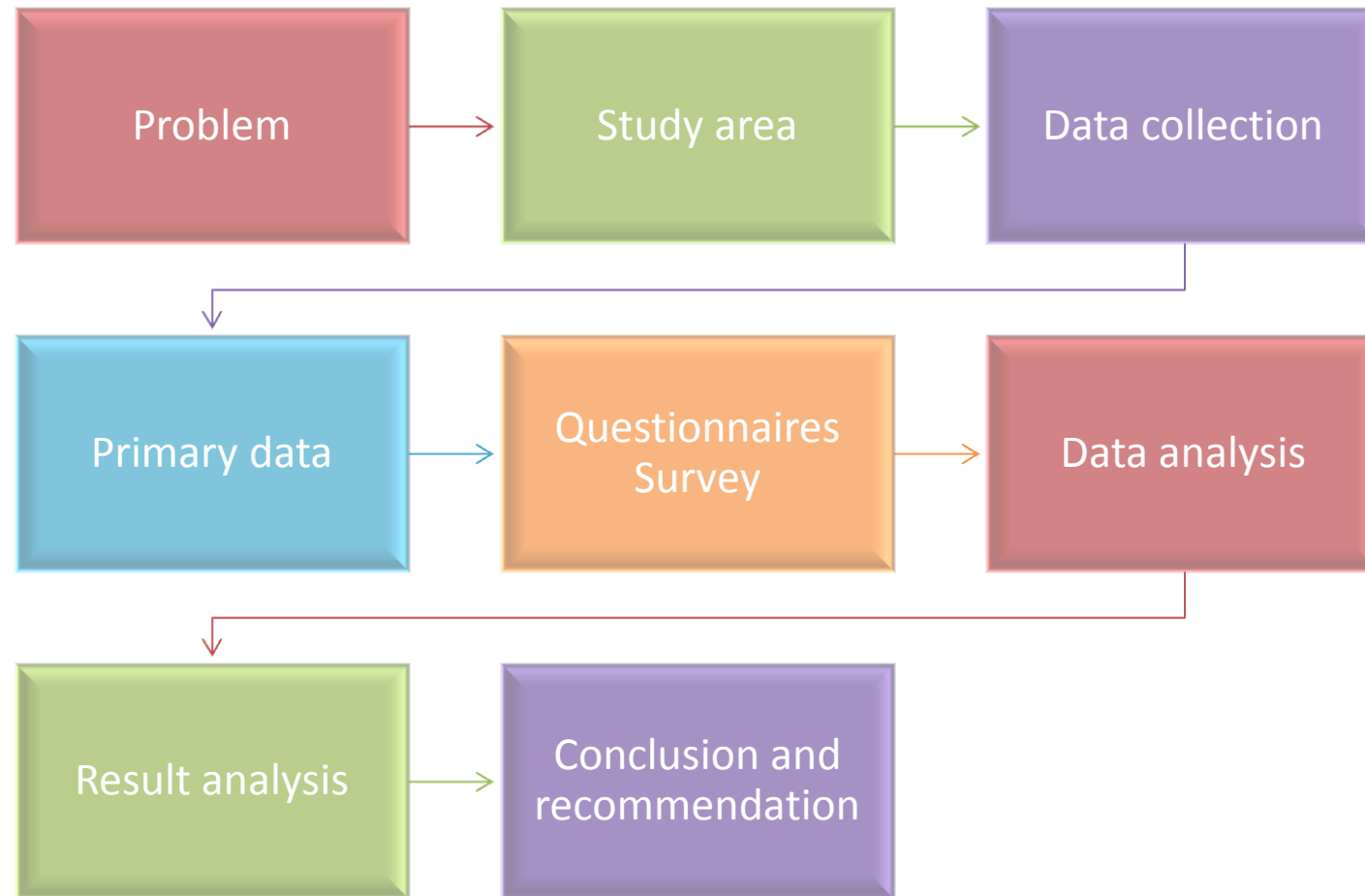


- The public transport service is not available and its quality is very bad
- It leads to the number of private vehicle increase and discourage use of public transport and other sustainable modes

Objective

- The main objective of this study is to examine the factors influencing vehicle ownership in Yangon City with the use of household data.
- The specific objectives are as follows:
 - 1. To understand the fundamental nature of household vehicle ownership;
 - 2. To analyze the elasticities of vehicle ownership; and
 - 3. To provide policy recommendations for controlling a high level of private vehicle use.

Methodology



Study area



- major economic city and the largest city of Myanmar
- population -5998000 (2010)
- Area -231.18 square miles
- 4 districts, 33 townships and 11,144 Wards
- Motor road, rail ways, waterways and airways connect
- It has international airport and sea port
- Number of cars are the highest
- A lot of vehicular activities
- Motorcycle s are prohibited

Data Collection

- primary data will collect by questionnaires survey
- do the direct interviews
- questionnaire survey conducted in different areas in Yangon because people's lifestyles and behavior from different location can be different
- These are Western districts, Eastern districts, Southern districts and Northern.
- These districts combined have a total of 33 townships
- Select the 31 townships to cover Yangon municipal area
- Household data survey
 - Interviewed in the households of Yangon with the help of few other friends and some research assistances.
 - Use direct home interviewed survey
 - 1004 data were collected.

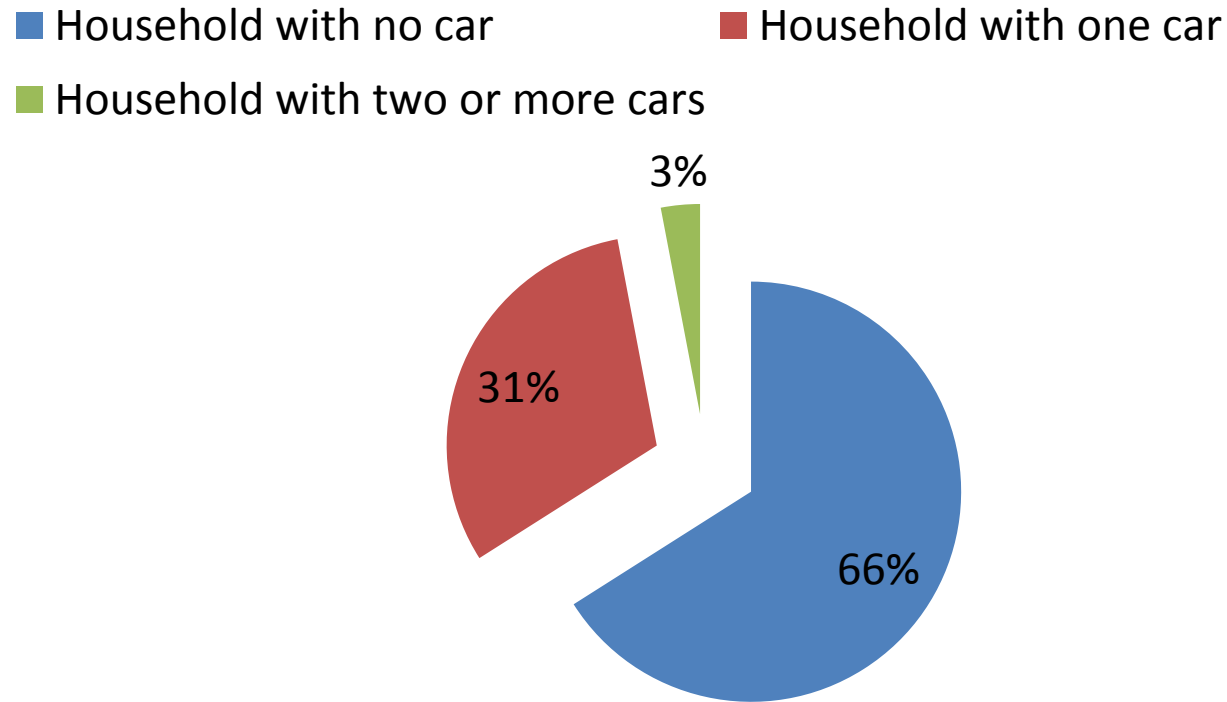


Data analysis

- Analyze with the ordered logit model
- Three auto ownership level alternatives: zero, one, two and two or more cars are specified
- Three broad categories information collected from this study
 - Economic characteristics of the household
 - Demographic characteristics of the household
 - residential property characteristics and detail of vehicle ownership

Percentage of household car ownership

Household car ownership



Socio-economic characteristics of the household and car ownership

Characteristics	Level	Total frequency	Car owner frequency	Percentage
Full time worker	0	608	193	56%
	1	278	87	25%
	2	86	51	15%
	3	17	8	2%
	4	8	5	1%
	≥4	7	2	1%
	Total	1004	346	100%
Part time workers	0	596	252	73%
	1	247	60	17%
	2	96	26	8%
	3	45	4	1%
	4	13	3	1%
	≥4	7	1	0%
	Total	1004	346	100%
HH income (in thousands of Myanmar kyats)	<200	263	14	4%
	200-300	244	49	14%
	300-500	312	151	44%
	≥500	185	132	38%
	Total	1004	346	100%

Characteristics	Level	Total frequency	Car owner frequency	Percentage
Household size	1	18	5	1%
	2	81	33	10%
	3	204	90	26%
	4	258	112	32%
	5	200	56	16%
	≥6	243	50	14%
	Total	1004	346	100%
Number of household having children	0	417	172	50%
	1	286	91	26%
	2	186	66	19%
	3	85	13	4%
	4	19	4	1%
	5	6	0	0%
	≥6	5	0	0%
	Total	1004	346	100%
Number of household having old	0	691	277	80%
	1	219	51	15%
	2	86	18	5%
	3	8	0	0%
	Total	1004	346	100%
Driving License	0	516	104	30%
	1	356	171	49%
	2	94	49	14%
	3	34	19	5%
	4	2	1	0%
	5	1	1	0%
	≥6	1	1	0%
	Total	1004	346	100%

Type of dwelling characteristics of the household and vehicle ownership

Characteristics	Level	Total frequency	Car owner frequency	Percentage
Access to public transit	≤2	140	106	31%
	2-5m	322	97	28%
	5-10m	273	76	22%
	10-20m	241	59	17%
	20-30m	27	8	2%
	≥30m	1	0	0%
	Total	1004	346	100%
Ownership	Own	792	311	90%
	Rent	177	25	7%
	Employer provided house	20	7	2%
	Other	15	3	1%
	Total	1004	346	100%
Type of house	Condominium	7	7	2%
	Apartment	293	170	49%
	Pukka	233	102	29%
	Detached	411	63	18%
	Other	60	4	1%
	Total	1004	346	100%
Public transport user	0	0	0	0%
	1	69	28	8%
	2	132	72	21%
	3	234	97	28%
	4	197	55	16%
	5	163	40	12%
	≥6	209	54	16%
	Total	1004	346	100%

Factor effecting on vehicle ownership

Variables	Coefficient	P value
Household size	-0.1850301	0.000***
Bachelor education in household	0.548761	0.001***
Household income	3.97e-07	0.000***
Household type(condominium)	2.74751	0.000***
Household type(apartment)	1.583218	0.000***
Household type (parker)	1.051296	0.000***
Number of members with car license	0.9501136	0.003***
Household living in own	0.963607	0.000***
Number of public transport user	-0.5115022	0.000***
Access to public transit	-0.0492968	0.000***
Household having old people	-0.405322	0.018**
No of observation	1004	
Log of likelihood	-581.80766	
LR chi2(11)	333.68000	
Prob > chi2	0.00000	
Pseudo R2	0.22290	

Significance Level:

** = 5% Level of Significance
 *** = 10% Level of Significance

Elasticity of car ownership

Explanatory variable	Car ownership		
	No car	One car	Two or more cars
Household size	0.248	-0.593	-0.841
Bachelor education in household	-0.083	0.201	0.285
Household income	-0.051	0.122	0.457
Household living in own	-0.211	0.504	0.019
Household type (condominium)	-0.006	0.013	0.457
Household type (apartment)	-0.135	0.322	0.241
Household type (parker)	-0.071	0.170	-0.511
Number of public transport user	0.151	-0.364	-0.511
Number of members with car license	-0.051	0.122	0.173
Access to public transit	0.127	-0.305	-0.432
Household having old people	0.037	-0.088	-0.124

Conclusion

- It is observed that household without having own car is 66 percent, household with one car is 31 percent and household owns two or more cars is 3 percent.
- Moreover, household education, household income, household type, number of licensed driver and household property influence on car ownership
- Access to public transit and household having old people do not contribute to own cars
- However, the impacts of these variables are less on car ownership because the elasticity values are less than one.

Recommendation

- On street parking and quantity of available parking space in the downtown should be controlled.
- Parking fee with sensible rate and time limit should be applied.
- High quality transit service with low fare should be provided.eg BRT
- Separate bus-lane should be installed in the area where land use is dense and existing roads are narrows and difficulty in using private car
- When implementing the new public transit service, park and ride concept should be provided.
- Parking lot should be installed along transit service routs.
- Government should be construct bicycle lane for short distance travelling.
- The government and policy makers should encourage and educate people to understand the advantage of sustainable developed transport system.
- Marketing strategy needs to run along with project campaign and promotion to get people involved and to get final goal of sustainable transportation development in the city

Recommendation for future studies

- Since difficulty in obtaining data, time and budget constraint, there have been many interesting issues found and remaining study to cover the scope of the current study.
- As this study is quite closed to the period of car policy change in Myanmar, it was found that the elasticity of all car ownership categories have less impact to change of these all the factors
- After a certain time of the car policy changes, the factors effect on car ownership may become more realize.
- Based on this study, it is need to do more comprehensive study in the further research to support the good transportation management for Yangon People.

Thank you for your kind attention

