

The complexities of a biking transition in a car dependent city: Evidence from Kuala Lumpur





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Introduction

- Governments in low cycling countries are promoting utility cycling (cycling for transport) as a means of incorporating physical activity (PA) into people's daily lives and consequently improving their health (Oja et al., 2011) and reducing carbon dioxide emissions (Rojas-Rueda et al., 2011). However, in KL they are more focused on economic aspects and reducing car emissions.
- According to ecological models (Sallis et al., 2006), strategies to increase utility cycling must be multi-level, accounting for individual factors as well as the social and physical environmental context.
- For a substantial population of a car dependent city who are interested in bicycling but never did it, barriers to up take commute cycling may be different than for individuals who already commute by bicycle at least occasionally (Piatkowski & Marshall, 2015).

Aim of the study & Research Question

The main aim of this case study is :

To identify the preferences, effects of cycling interventions and facilities as well as travel behavior in Kuala Lumpur

Research question:

What are the motivations & barriers to uptake cycling in KL with limited cycling infrastructure, traffic jam , etc? Which intervention is more effective? Do attitudes towards cycling is the same as other cities?

Since three decades ago, Kuala Lumpur has become one of the most prominent, modern and sophisticated cities in the South-East Asia.

KL had one of the lowest densities among East Asia capital cities, as the development of the city is responsive to market forces.





A high level of expressway length : (68 meters per 1,000 people)

Richer Singapore is next with 44 meters per 1000 people

Failure in Physical integration between lines and poor accessibility of stations, insufficient interchange stations in LRT.

The centers of activity rarely coincide with public transport nodes





current scenario

Target scenario

Malaysia, with 93% car ownership, placing third in the world. Also 54% of households having more than one car.







Gated-Guarded Communities in KL & Personal Safety







In 2009, Malaysian government has made a commitment to reduce 40% of its green house gases and increasing the quality of life by 2020.





Using the existing Pavements for cycling & Connecting them with blue color



Biking racks in Kalna Jaya LRT station





The first biking lane in KL (5.5 km) & It's extension (altogether around 23 km)





share your talent. **move** the world.





Methodology & Limitations

- Sampling : Socio-demographics and attitudinal data were drawn from a survey of "Car Free Morning" participants in KL, while urban characteristics of KL, infrastructure, cycling interventions, and safety in KL was studied.
- We found 3 motivations concerning cycling, and 2 cycling barriers using factor analysis (direct benefits of cycling, interventions, comfort), (lack of personal safety, and lack of cycling facilities)
- Attitudes, motivations and barriers among different genders, ages, educational level and income groups were examined using T-test and ANOVA
- Factors are used to predict cycling uptake, using binary logistic regression

The sample represents more of a recreational bicycling population, or those who are interested in cycling, but never tried.

Thus demographics, attitudes and behaviors may be different to commuting cyclists. We must therefore caution that our results only pertain to this sampled population.

	Frequency	Percentag	zes
Gender	1		
Female	115	45.6	
Male	137	54.4	
Race		0.,.	
Malay	119	47.2	Domographic
Chinese	88	34.9	Demographic
Indian	45	17.9	
Age		,0	information
18-24	55	21.8	
25-30	83	32.9	
31-44	82	32.5	
45-60	32	12.7	
Highest level of education	02	,.	
Education at university level	151	59.9	
Diploma and lower education	101	40.1	
Monthly household income		,.	
< RM 2500	46	18.3	
RM 2500- RM 4999	93	36.9	
> RM 5000	113	44.8	
Car ownership		,-	
At least one car	99	39.3	
Two cars or more	153	60.7	
Bike ownership			
No bike	133	52.8	
One bike	57	22.6	
Two bikes or more	62	24.6	
Employment status			
Working	207	82.1	
Student	45	17,9	
Know how to ride a bike			
No	35	13,9	
Yes	217	86,1	ove the world

Note: RM 1~ .2 US\$

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Bicycling purpose of cyclists in KL



Attitude, Motivations & Barriers

Motivations

Cycling is environmental friendly	95,2%
Cycling is good for health	94,8%
Cycling is relaxing	94,8%
Cycling is fun	85,7%

I'm/will be cycling because of car free morning	61,1%
I'm/will be cycling because of family/group rides like Kesas ride	56,7%
I'm/will be cycling because of the new bike lane	53,6%

Subjective norms and normative social influence

38,5%
33,3%
20,6%
19,4%
14,7%
EC 70/
50,7%
50,4%
50,4% 42,5%
50,4% 42,5% 86,9%
50,4% 42,5% 86,9% 83,7%

Binary Logistic Regression

- Direct benefits of cycling and lack of personal safety do not influence the decision to use bicycle.
- Provision of bike lane, bicycle rack and speed limit positively influence up taking cycling.
- Short distance, and feeling comfortable to cycle in tropical weather had influence on up taking cycling.

Conclusion

Lack of traffic safety, feeling comfortable with cycling in tropical weather, long distance commuting, and lack of bike lane and bicycle racks, outweigh issues regarding personal safety and direct benefits of cycling in our sample population.

Although the weather condition is a factor that policy makers cannot improve it, but the consequences of that can be changed by providing shady/covered cycling pathways.

Comparing our findings with literature shows that there are some differences between the decisions to start commuting by bicycle and the decision to increase the frequency of cycling in a city.

The big challenge for city officials in KL is to change the cultural norms where cycling is seen as normal and easy mode of travel.

Thank you!

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