Implementing Green Transportation in University Level: a Case Study from Bogor Agricultural University, Indonesia

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Bogor Agricultural University (IPB) has more than 30,000 students with various interests.

IPB Dramaga Campus, Jalan Ramin
Seventeen Villages surrounded IPB Campus Dramaga

- Approximately 300 household with 12,000 people live near IPB Campus
- Road inside Campus as shortcut to reach other villages causing a continuous increase of traffic inside campus
Only 3 km distance, but it takes an hour
IPB Campus Dramaga

Motorized Vehicles that enter the campus has increased significantly from 3,076 motorcycle (2014) to 10,619 motorcycle (2016); more than three times.
Green Transportation

IPB’s Green Transportation Program consists of three major elements:

1. Mass transportation system (electric cars and buses)

2. Encourage non-motorized commuter (pedestrians and rental bicycle)

3. Limiting the use of personal motorized vehicles
Heading to IPB Green Campus 2020.
Mass transportation facilities

- Bus
- Electric carts
Mass transportation system

Commuter Bus

- Five buses owned by IPB & 1 Rented Bus.
- Five Corridors (Fixed Routes) around Campus.
- Custom seat; standing passenger in the middle of the bus.
- Service Charge IDR 1,000 (0.07 USD) per passenger per trip.
Heading to IPB Green Campus 2020.

Mass transportation facilities

- Bus
- Electric carts
Mass transportation system

Electric Carts

- On the beginning designed to support bus in corridor system
- Now Electric cart may serve to wherever destination requested by passengers as long as still within the campus areas
- Electric cart is an interesting transportation, and gain popularity among students
IPB’s Green Transportation Program consists of three major elements:

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3. Limiting the use of personal motorized vehicles
Encourage non-motorized commuter

Pedestrians

• IPB’s Campus Dramaga is designed to connect faculties, department through corridor, wing, and hallways
Encourage non-motorized commuter Pedestrians

- The trees and the natural green habitat of IPB's Campus in Dramaga as natural umbrella
IPB’s *Green Transportation* Program

Encourage non-motorized commuter

**Rental Bicycle**

- The borrower must leave a student identity or an employee card in the shelter
- The number of *bicycles* in IPB’s Campus is relatively sufficient to cover the needs
- The average of borrowing of bicycles by November 2016 reached 78 units of bicycle per day, or about 15% from the available bikes
IPB’s Green Transportation Program consists of three major elements;

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Heading to IPB Green Campus 2020.

Limiting the use of personal motorized vehicles

• Gate Verification System
• Parking System
Heading to IPB Green Campus 2020.

Limiting the use of personal motorize vehicles

Gate Verification System

• Gate Verification System has a function to verify every vehicle that going to enter IPB’s Darmaga Campus Area

• The purposes are to reduce unrelated vehicle enter IPB, and increasing security and minimize carbon emission

Parking System

• In 2015 total parking space accommodate daily up to 2,680 motorcycles and in 2016 increases to 4,660 motorcycles.
By the end of 2016, Green Transportation has:

**Successful**

- **Reduce the amount of Gas emission by 47%**. The research finding by PPLH (unpublished; 2015) showed that the implementation of *Green Transportation* at present has reduced the amount of emission by 47%. In 2020 IPB aims to reduce the amount of emission to 70%

- Electric Cart Gain high popularity.

**Need Improvement**

- Cyclist not popular, The average of borrowing of bicycles by November 2016 reached 78 units of bicycle per day, or about 15% from the available bikes

- Gate verification system, has several conflict with villagers surround campus
Further Development

In IPB’s *Green Transportation* Program

1. Mass transportation system (electric cars and buses)
2. Encourage non-motorized commuter (pedestrians and rental bicycle)
3. Limiting the use of personal motorized vehicles
Further Development

Increase the number of busses

From 6 unit bus up to 10 unit busses in 2017
Further Development
Maximize the use electric Cart
From single source energy to two source
Using Solar cell as a backup energy for main battery
Further Development

Encourage non-motorized commuter (pedestrians)

Changing several spot inside campus
Further Development

Encourage non-motorized commuter (cyclist)

Developed new convenient and trendy bicycle repair shop inside Campus, in order to promote Cyclist Lifestyle
Conclusion

- Green transportation has direct impact in reducing greenhouse gas emission.
- Further strong execution is needed to bring the campus student and entity to obey the decided rules.
- Thus innovative green movement methods could be applied to make students aware and interested in climate changing issues.
Thank You
Terima kasih
Teşekkür ederim