1. Introduction

1.1 Background

Jakarta is Indonesia’s capital city with 10,162,659 populations. This number increases by around 3 million people during daytime due to commuters from the surrounding cities. About 90% commuters use private transportation that is estimated to cause 6 trillion rupiah loss\(^1\). Jakarta increased the quality of its public transportation by improving the commuter train and the establishment of Rapid Bus Transit (RBT) system. However, commuter survey showed that the number of private vehicle users increases from 33% in 2002 to 50% in 2010\(^2\).

Walking is often the option to cover this distance to move between transportation hub and other place. When people think that the city is unsafe, it means that they do not feel safe on the sidewalks\(^3\). Despite that Jakarta is considered as a dangerous place, the total number of reported crime showed decline in the past three years\(^4\).

It is suggested that fear of crime is among the most important reasons why people choose not to use public transport\(^4\). Fear of crime has more effect on people compared the crime itself\(^5\). Fear of crime is influenced by knowledge and experience of criminal realities, environmental context, and biographical features of a person\(^6\).

Previous researches show that there is a relationship between environmental design features and fear of crime\(^7\). People tend to like places that give them opportunity and safety\(^8\). Lighting and availability of police and escorts are said to give safety, physical features such which are preferable during the day could cause fear during the night\(^9\). Presence of other people gives different perceptions, for example people in charge gives higher perception of safety compared to stranger\(^10\). Places that look unmaintained such as neglected building and empty land lots also give feeling of danger\(^11\).

2. Previous Researches on Perception of Crime

Previous researches suggested that fear of crime is among the most important reasons why people choose not to use public transport\(^11\). Fear of crime has more effect on people compared the crime itself\(^12\). Fear of crime is influenced by knowledge and experience of criminal realities, environmental context, and biographical features of a person\(^13\).

Previous researches show that there is a relationship between environmental design features and fear of crime\(^14\). People tend to like places that give them opportunity and safety\(^15\). Lighting and availability of police and escorts are said to give safety, physical features such which are preferable during the day could cause fear during the night\(^16\). Presence of other people gives different perceptions, for example people in charge gives higher perception of safety compared to stranger\(^17\). Places that look unmaintained such as neglected building and empty land lots also give feeling of danger\(^18\).

3. Methodology

Setiabudi area in South Jakarta is chosen as study area. It is selected because of its location as Jakarta’s primo business area, where the condition of the pedestrian area is expected to play a bigger role compared to community cohesion. The area is also served by three RBT lines, one railway, and other buses.
3.1 Mapping of Crime and Environment Quality

Occasions of street crime and unsocial behavior in the research area are mapped on 200m x 200m grids. Environment condition of the street and pedestrian area such as building and land use, disorders such as littering, graffiti and vandalism, and other qualities such as possible hiding places, lighting, and security personnel are also plotted on the same map.

3.2 Questionnaire

Respondent for the questionnaire on this research is limited to people who are working within the research area and should have private motorized vehicle or deemed to be able to afford one. This limitation is considered because they have options between using public and private transportation.

Respondents are asked to answer which part within the research area is considered dangerous from crime. The questionnaire also measures their Attitude, Intention, Subjective Norm, as well as their perceived easiness on using public transportation. The respondents are also asked if they have been a victim of crime before and to measure their perception of crime on the environmental condition of the pedestrian area, namely, lighting, place to hide, cleanliness, vacant building, graffiti, maintenance, presence of other people such as unknown group of people, street hawkers and buskers, police or security, restaurants and food stalls, as well as CCTV camera.

3.3 Analysis

Finding the relationship between perception of crime and the choice of transportation is done by using model from Theory of Planned Behavior. This theory argues that a person will commence behavior when one has intention and control to do it. Intention is based on people’s Attitude towards the behavior, pressure from other people (Subjective Norm), and the perceived sources and opportunity to perform the behavior (Perceived Behavior Control). As previous researches on perception of crime have suggested, this research categorizes perception of crime as one of the Perceived Behavior Control to use public transportation (Behavior).

People’s travel decision is based mostly on assumptions rather than the actual condition of the area based on observations. Therefore, in order to see what variables are significant to perception of crime, two approaches are done: the first one is by correlating perception of crime of the research area and the assumed environmental quality from the questionnaire, the second one is by correlating the area which respondents feel as dangerous to the actual environment quality as mapped. Further step is by regression analysis to find out which variables has the most significance.

4. Findings and Discussion

Questionnaires were distributed between September 24 and October 15, 2012, to office workers during lunch break. From 150 respondents who agreed to fill the questionnaires, 137 respondents have private vehicle or considered to be able to afford private vehicle; 61 of which are males, and 76 are females. The majority of these respondents (83.9%) are employees of private companies. From the respondents, 68% consider that using public transportation is not safe when asked about disadvantages of public transportation, while only 3% of respondents considered that using public transportation is safer than using private vehicle.

4.1 Crime Mapping and Quality of Pedestrian Area

In this step, quality of lighting was not taken into concern, because at night most of the places are dark and there is very little areas where there is big difference in luminance. The map of crime occurrence and quality of environment in pedestrian area is plotted on the same map.
Regression Control is a significant variable to Behavior of (Table 2), it can be seen that Perceived Behavior becomes the reason.

As the low quality of lighting in the area narrow and irregular shape of the inner roads as roads are dangerous of crime, it is found that the interview with respondents who feel that the inner roads also dispersed in the inner roads. From informal it tends to occur along the main streets compared to where there crime happens (Fig. 3).

From the correlation and regression analysis (Table 2), it is found that areas with public transportation itself. Regression analysis also shows similar result, that hiding place and cleanliness of pedestrian area influences people’s perception if crime in pedestrian area. However, group of unknown people shows no significant result. It has to be noted that the regression analysis only explains 12.8% of variance.

4.4 Perception of Crime and Environment Quality of Pedestrian Area

From Table 3, we can see that areas with public transportation hub are considered as more unsafe. RBT stop area has highest perceived crime compared to others, followed by station of motorcycle taxi. Availability of other bus services has lower but still significant correlation with perception of crime. Data shows that crime occurrence such as snatch and run, pick pocket, and violence often happen in areas where there is RBT top and motorcycle taxi station. It has to be noted, that near an RBT stop, motorcycle taxi station is always present.

Similar to previous result, it is shown that presence of hiding place has high correlation to perceived crime. This shows that reducing places where people can hide will most likely lower perceived crime in the area.
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people’s decision to use public transport. It is
in both correlation and regression analysis. This
shows that to reduce perception of crime, a measure
to reduce crime occurrence is also needed.

5. Conclusion and Proposal
From our finding, we can conclude that despite
not having a significant direct correlation to using
public transportation, perception of crime influences
people’s decision to use public transport. It is
also shown that people’s perception of crime also
has related to actual crime occurrence. This shows
that reducing actual crime can reduce people’s
perception of crime.

It is also shown that areas around transportation
hub have higher perceived crime. Therefore there
is a need for higher concentration in increasing
perception of safety and decreasing occurrence of
crime in these areas. Reducing concealed space
and increasing people’s ability to observe their
surrounding might increase perception of safety
and reducing opportunity for people to accomplish

crime.

One of the approaches that can also be done in
enhancing perception of safety in this area is
by maintenance of pedestrian area, especially on
cleanliness from both litter and graffiti.

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