The tactual maps which developed in cartography are intended to meet the needs of the people with visual impairments on the spatial representation of geographic phenomena. With the tactual maps, people with visual impairments can read or know the distribution and the relationship between the phenomena in geography with palpate the symbols on the map. To formulate a good tactual map, the symbols, edge information and reproduction of maps need to be designed according to the needs and capabilities of the users with visual impairments. Unfortunately, these provisions have not been standardized in Indonesia, and even internationally. Even though the information provided in tactual map is similar in most countries, it is believed that to apply in Indonesia, some special requirements need to be considered. Based on these problems, this paper will elaborate the design of the tactual map symbols obtained from the modification of existing tactual mapping in the city (Australia, USA, etc.) to be adjusted with the Indonesian social and culture background.

The design of tactual maps symbols derived from these modifications then being applied to develop a tactual map of Yogyakarta, Indonesia, with selected media, such as Swell Paper. This design was subsequently evaluated by interviewing the users (people with visual impairments). There are two aspects evaluated in this study, namely (a) the type of tactual maps needed by people with visual impairments and (b) the level of recognition of those people towards the tactual variable. The result shows that the interview processes to understand the needs of the group of visual impaired person are crucial in developing tactual map in Yogyakarta. Abundant requirement information concluded from the interview result including their needs and recognition to the object in the map were examined carefully to be selected and applied in the final map to determine a specific scale that accommodate the ability of that group to recognize the symbols. The tactual map recognition process also indicates that shape, texture, and size are the main variables that influence the map recognition ability of that group. These variables have high potential to be scientifically explored in developing cartographic symbols on tactual mapping design. This pioneer study on tactual map lead to the conclusion that research on design and production of the cartographic tactual maps in Indonesia should receive more attention by government since it has a road safety concern and high value in use and economic potential.