Abstract

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Assessment of non-motorized transport infrastructure in Addis Ababa, Ethiopia – A “case of pedestrian and cyclists infrastructure”

The relationship between city expansion and non-motorized transport (NMT) especially walking and cycling cannot be overemphasized in Ethiopia in particular and in the world in general. Cities in Ethiopia particularly Addis Ababa is vulnerable to transportation services, planning and management problem. The occurrence of transportation chaos in Addis Ababa has become an everyday event with severe consequences mostly felt by the urban poor. In general the traffic in Addis Ababa is characterized by very high proportion of pedestrian trips, small number of public transport vehicles compared to the population, relatively less number of bus running lines and large number of medium size private taxis with almost no bicycle path or lane and poor pedestrian walkways. The research paper is on assessing the existing state of non-motorised transport (walking and cycling) on the selected three road segments in Bole-sub city of Addis Ababa in terms of their accessibility, safety and environment. The research will also identify the risk factors for walking and cycling traffic injuries, analyze the current laws and policies governing the non-motorized transport infrastructure, assess and compare the current physical state of pedestrian infrastructure with Africa NMT design guideline and National Association of City Transportation Officials (NACTO) urban bikeway design guideline.

The data's for the study was collected through documentary reviews, questioner, interviews and physical observation of the existing NMT infrastructures. A total 147 road users (pedestrian and cyclists) and 35 policy makers, regulators, funders and promoters were involved in answering the questions. The road user’s and policy maker’s group respondents were selected using simple random sampling and purposive sampling techniques methods respectively. Secondary data was also used as input in order to analysis the risk factors associated with pedestrian and cyclists. During the entire research project, Arc GIS 10 software was used to prepare study area maps, Arc GIS Earth was used to view the start and end points of selected road segments, SPSS 23 software was used to analysis, manage and present data, MS excel was used to prepare and present data and MS word was used to write, assemble and finalise the research paper.

Findings of the study shows that, there is no non-motorised transport policy, strategy and design guide line at national or city (Addis Ababa) level, pedestrians and cyclists face challenges like broken walkways, street vendors, bajaj’s, cars, thieves and narrow walkways and narrow bicycle ways. The road traffic injury rose from 998 in 2010 to 2,191 in 2016. The pedestrian walkway width was greater than the required width stated in African NMT design guide line. However, two-third (66.6%) of bicycle lane width was below the required minimum width (1.5 m). 55.1% of pedestrian crossing facilities and 92.3% of bicycle crossing facilities were in a poor condition.

In order to integrate the NMT mode of transport with other transport modes, it is important to prepare NMT policy, strategy and design guide line, incorporate the NMT in land use map and master plan, create public awareness, increase the recognition of NMT facilities as key element in every city of the nation, connect the NMT network with public transport especially bus stops, prepare a secure parking place for bicycle users, create NMT priority areas and modify the existing road space to incorporate NMT mode.