

Public Transport Assignment at Adama City

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Abstract : Adama city, having an area of 29.86 km², is one of the main cities in Ethiopia experiencing rapid growth in business and construction activities which in turn with an increasing number of vehicles at an alarming rate. For this reason, currently, there is an attempt to develop public transport assignment modeling in the city. Still, there is a huge gap in developing public transport assignments along the road segments of the city with operational and safety performance due to high traffic volume. Thus, the introduction of public transport assignment modeling in Adama City can have a massive impact on the road safety and capacity problem in the city. City transport modeling is important in city transportation planning, particularly in overcoming existing transportation problems such as traffic congestion. In this study, the Adama City transportation model was developed using the PTV VISUM software, whose transportation modeling is based on the four-step model of transportation. Based on the traffic volume data fed and simulated, the result of the study shows that the developed model has better reliability in representing the traffic congestion conditions in Adama city, and the simulation clearly indicates the level of congestion of each route selected and thus, the city road administrative office can take managerial decisions on public transport assignment so as to overcome traffic congestion executed along the selected routes.

Keywords : trip modelling, PTV VISUM, public transport assignment, congestion

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