

The User Perception on Introducing Road Pricing to Enter Colombo City

Tharindu Kumarathunga¹ and Dimantha De Silva²

Abstract

Road pricing is an effective economic instrument to reduce congestion and to limit the growth in private vehicle travel demand. Road pricing has been successfully implemented in cities such as Singapore and London, resulting in substantial improvements in the urban environment and transport system. The largest barrier for road pricing is the public opposition by private vehicle users. Thus, it is important to study about user perception about road pricing before implementation. The aims of this research are, (a) to identify what factors are to be considered when introducing road pricing to Colombo (b) to reveal user perception about road pricing and factors needed to be addressed. The survey questionnaire was designed to derive the participants' opinions about road pricing been implemented in Colombo. Because of pandemic situation due to Covid-19 the questionnaires were distributed randomly using Google Forms. The survey consisted of 17 Likert scale questions about their opinion about road pricing and alternatives that they may use, if road pricing is implemented in Colombo. Scale varied from strongly disagree to Strongly agree with 5 levels. A total of 647 valid responses were obtained. Respondents consist of 318 private vehicle users, out of which 88% owned a vehicle in car/van/suv category, 22% owned a motorcycle and 1% owned a three-wheeler. Sample had a 95% confident level with 5.5% margin. According to the results, only 31% believe that road pricing is required while 53% believes improving public transport alone, is enough to solve the current congestion. A strong opinion that road pricing should be implemented only with improvement of public transport was demonstrated with 78% agreeing. The general mode shift to public transport if road pricing is implemented seems low with only 17% positively ageing to make a model shift while 55% of the respondents demonstrated that they are more likely to pay the toll and still drive while 28% remained neutral. The same observation was demonstrated by 60% responding that they would not change to public transport at current options and service quality. However, it was observed that they are ready to change to public transport with 72%, 73% and 80% responding positively with a modernized bus service, modernized rail service and a new LRT service respectively showing that a modernized rail-based transport has a slight edge over the bus service to attract private vehicle users. According to the study 44% were willing to pay Rs. 100.00 per entry while 36% were willing to pay between Rs 100 and Rs. 150 if congestion will be reduced through road pricing. The sensitivities of the decisions based on the socio demographics based on age group, monthly income, employment status, gender, distance travel per day, main transport mode, number of entries per day to Colombo and typical number of days per month that enter Colombo were also identified. The results shows that private vehicle user's level of acceptance of road pricing, the conditions, and the alternatives that they would choose and shows that the existing public transport must be modernized together with introduction of new transport modes to have successful implementation of road pricing in Colombo.

Keywords: *road pricing, public acceptance, Colombo City*

Authors Details;

1. Undergraduate Student, Department of Civil Engineering, University of Moratuwa, tharukadk329@gmail.com
2. Senior Lecturer, Department of Civil Engineering, Faculty of Engineering, University of Moratuwa, dimanthads@uom.lk