

A Study on Operating Conditions and Calculation of Appropriate Fee of Residential Parking Permit Program in Seoul - Based on a Concept of Time Space Occupancy -

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In 1996, some wards of Seoul Metropolitan Government (SMG) started to apply the Residential Parking Permit Program (RPPP). But, there seems to be no theoretical basis for setting the present fee. On street parking affects many aspects of traffic and environmental condition: increase of Time Space Occupancy (TSO), increase of air pollution, hindrance to passing cars and pedestrians by protruding cars, decrease of the car speed, decrease of other road user's safety, decrease of disaster prevention capacity and so on. These effects are different in each residential street and also by each type of vehicles. The findings of this paper are: 1) the concept of TSO is valid to calculate the social cost caused by on-street parking, 2) the unit cost of TSO volume can be calculated based on parking fee and land price approach, 3) we have calculated the social cost of major items only i.e.: the TSO volume, protrusion, time loss, air pollution, and traffic accidents caused by on-street parking, 4) the social cost caused by on-street parking is found to be 1.4 to 4.5 times of current RPPP fee in Seoul.

Estimation of Shopping Destination Choice Models: Some Empirical Evidence

Dae-Sic Yun & Ta-Yeul Kim

No Abstract

Population Size and Sustainable Transportation in Taipei Metropolis

Cheng-Min Feng

The road traffic conditions are normally the function of a variety of factors including population size, the percentage of commuters who use public transit, road physical condition and etc. The basic idea of this paper is to invert this relationship to find or solve for the population size given a set of traffic conditions and percentage transit use. This paper concludes with the appropriate population size of 7.5 million populations, with 65% of public transit share in Taipei metropolis after several simulations and suggests some related strategies to achieve a sustainable transportation system.

An Evaluation Method of the Efficiency of Urban Transportation Involving Mobility and Environment Affects

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Today environmental problems have been caused by excess motorization and it is difficult to reconcile both the improvement of transportation mobility and the control burden. Therefore, efficient transportation plan needs to be made. On the other hand, cost-benefit analysis, which has been used to evaluate transportation plans, cannot be applied to non-monetary factors like environment or society. In this study, we used Data Envelopment Analysis which is often applied to the evaluation of management efficiency at various enterprises. We propose a method to evaluate efficiency

of comprehensive urban transportation on the basis of energy, environment, society, economy, etc. We examined urban transportation levels by DEA in nine cities: Sapporo, Yokohama, Kawasaki, Nagoya, Kyoto, Osaka, Kobe, Kita-Kyushu and Fukuoka. Mobility, cost of transportation, environmental burden and safety are used as factors to assess the urban transportation levels. Of these cities, we preferred those with high efficiency. We selected both better factors and worse factors comparatively in each city. For example, Sapporo has high efficiency and excellent mobility and safety, but it is weak in cost of transportation compared with other cities. And for the cities that are judged inefficient on D Efficient Value of DEA, we proposed an example of how much the factors should be improved.

Implementation Issue for Reforming the Bus Route Networks in Kwanju City, Korea: Citizen Participation

Bonghyun Jeong & Hyecheun Kim

This paper is intended to grasp the citizen participation of bus route planning and to identify its implications in Kwangju City. In this paper, the bus transit system in Kwangju is reviewed, the characteristics and plan of bus route networks analyzed. The citizen participation in bus route planning is identified in the final part.

Citizen participation has become a commonplace element between local governments, planners and citizens. Many techniques employed in citizen participation include neighborhood meeting, public hearings, information meetings, citizen survey, and committee. Public hearings were a useful and valid tool for capturing a reasonably accurate picture of public opinion on the issues of bus route planning. There was no participatory technique that emerges as the most desirable in all situations. Citizen participation program must demonstrate that the planning process is open, accessible, and responsive to citizen concerns.

Forecasting Paratransit Ridership Using Discrete Choice Models with Explicit Consideration of Availability

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The population of elderly and disabled people in most of developed countries is growing rapidly and it becomes more and more important to secure their mobility. On the one hand, new transportation services are being provided by applying emerging technologies. Paratransit service such as dial-a-ride is the one particularly expected to enhance mobility of those people, since it has complementary characteristics to mass transit systems.

In this research, a methodology to quantitatively evaluate the impact of paratransit service on traveler's mode choice behavior is presented. The proposed method is composed of a disaggregate discrete choice model with explicit consideration of availability and linear structural relationship (USREL) model to utilize subjective data and obtain the latent factors to account for taste heterogeneity across individuals. Stated preference (SP) data are also used to elicit preferences for new paratransit services.

The proposed methodology was empirically tested with the data collected in Winston-Salem, North Carolina, and then policy analysis was conducted. The results shows that the developed model represents the characteristics of elderly and disabled people on decision making more precisely and is statistically more efficient than the model using only objective data. Also found is that the paratransit services can draw a substantial share from the other modes.

Assessing the Future of Paratransit Services in Metro Manila in the Context of City Planning

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Public transportation in Metro Manila and other Philippine cities is dominated by the existing paratransit systems. There are many questions to be discussed regarding the future of paratransit such as how to regulate or manage their services to complement mass transit systems under a hierarchical structure. This paper recognizes the need for concrete policies and guidelines for the effective management of paratransit movement; and the lack of pertinent infrastructure to ensure the smooth flow of traffic. More importantly, this paper presents the mechanism for taking into account factors such as road and traffic flow characteristics in the context of planning transit stops. The passenger arrival rates were found to have an effect on the dwelling times of transit vehicles while the influence of passenger behavior is generally reflected in the dispersion of commuters along the roadside in the vicinity of a stop. Computer simulation is presented as a convenient tool for analyzing various configurations of transit stops. With the aid of simulation it would be possible to generate graphs or figures for the reference of planners and engineers. As such, the provision of proper intervals between designated stops as well as the evaluation of existing set-ups are discussed.