

## SUMMARY OF MASTER'S DISSERTATION

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Title A Study on Requirements for Diffusion of Carsharing to Reduce CO2 Emissions			
Abstract <p>To reduce impact on environment, particularly by carbon dioxide emission, it is expected to promote utilization of environmentally-friendly public transportation as well as to improve fuel efficiency of private cars.</p> <p>Carsharing, a system that allows various people to jointly utilize cars, has seen considerable interest in Japan in recent years.</p> <p>However, some concerns that promotion of car-sharing may, on the contrary, cause the increase of passenger cars utilization, which bring about no impact on reduction of carbon dioxide emission.</p> <p>If those who are accustomed to use public transportation such as trains and buses start to use carsharing as it is convenient, it would cause increase of carbon dioxide emission as well.</p> <p>Hence, I present requirements of diffusion of car sharing so as to decrease carbon dioxide emissions in Tokyo's 23 wards considering the mode of public transportation.</p> <p>the following findings were obtained from the calculation of CO2 emission</p> <p>Assuming that the number of Carsharing access points was equal to the numbers of bus stop and car sharing operators introduced gasoline cars as usual, 4 percent of car owners would be necessary to discard their cars to decrease carbon dioxide emissions. The decrease of carbon dioxide emissions is expected to be from -7,300 t - CO2 to 197,000 t- CO2. Assuming that car sharing operators introduced electric cars, 1 percent of car owners would be necessary to discard their cars to decrease carbon dioxide emissions. The decrease of carbon dioxide emissions is expected to be from - 400 t - CO2 to 207,000 t - CO2.</p>			
Key Word(5 words) Carsharing , carbon dioxide emissions, demand forecasting, logit model, transportation			