

## **The current status and future spread of sharing bicycle used by foreign tourists in Sapporo City**

(札幌市を訪れる外国人観光客によるシェアリング自転車利用の実態と普及)

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### **[Introduction]**

In recent years, sharing bicycle service (SBS) has become widespread in many cities around the world. Environmental benefits provided from SBS are to improve traffic congestion to some extent, utilize public transportation and reduce greenhouse gas emission.

In Sapporo city, the number of foreign tourists is increasing and becoming potentially dominant SBS users. Further spread of SBS requires for understanding their means of transportation, cognization of SBS, desirable attractions with SBS. The aims of this study are to understand intentionality in terms of foreign tourists and to propose effective way to develop infrastructure on local transportation.

### **[Methods]**

Questionnaires and online surveys in 3 languages, Korean, English and Chinese were conducted at 13 major tourist attractions in Sapporo during summer (June 23rd to August 21st), 2018. Total of 415 answers were collected from the tourists from China (103), Korea (73), Taiwan (66), Thailand (42), Hongkong (36) and other 9 countries (95). The question lists were designed for collecting data in terms of publicity and use experiences of local SB, preferable attractions in Sapporo and personal information (nationality, age, etc.). The potential sites for future development of SBS infrastructures were considered, using the Google Earth-based maps, which show attraction spots with popularity of tourist and existing transportation networks in Sapporo.

### **[Results and Discussions]**

More than half of respondents are moving with combined uses of public transportation and walking in and around Sapporo city. The foreign tourist's popularity of local SBS is generally low, although most of them are positive to using SBS. Only 22 respondents cognized SBS from websites and their acquaintances. Social medias as websites, Facebook, Alipay, Line, potentially promote to using local SBS. The most of unrecognized tourists (321) were positive to use it. Old tourists, however, were likely negative.

The respondents identified their desirable 20 attractions, some of which are far from urban area. The Google Earth-based maps showed no SBS parking spots around these attractions, where the tourists access only using public transportations. Considering current utilization of SBS in urban areas, tourist's accessibilities would be improved with SBS parking spots less than 1 km far from public transportation stations. Advertisements of SBS with parking spot maps are also important for increasing the number of tourist's transportation options, e.g., SBS within short distance from the nearest metro stations. Improved SBSs increase the mobility of tourists and improve the effectiveness of combined uses of SBS and public transportations.