Abstract

Public Transport story that Traffic card data tells

This study made "public transportation story" using the transportation card data of the metropolitan area. The public transport story consists of "2018 Gyeonggi-do Public Transport Story", "2018 City and County Public Transport Story" and "Last 9 Years of Gyeonggi-do Public Transport Story". The results of this study made 58 stories combining analysis object time with items.

The "2018 Gyeonggi-do Transit Story" consists of 29 stories. The cities, counties, towns, towns and villages, subway stations, bus stops, and bus routes with the highest traffic volume for public transportation are presented. The study produced three meaningful results. First, Gyeonggi-do has a very poor environment for operating public transportation compared to Seoul. The reason for this is that the amount of public transport purpose traffic per 100 population in Gyeonggi-do is 39, which is 41% of 94 in Seoul, and the concentration rate of the purpose of traffic in Gyeonggi-do is 30.1%, higher than 23.1% in Seoul. Second, public transportation users from Gyeonggi-do to Seoul during the morning rush hours seek to reduce travel time, but convenience for public transportation users moving from Seoul to Gyeonggi-do during the

evening rush hours.. The reason for this is that the transfer rate from the time of commuting to Gyeonggi-do → Seoul public transportation is 53.3%, while the rate of transfer from Seoul to Gyeonggi is 47.4%. Third, Gyeonggi-do's weekend traffic volume is 83.1% of weekdays, and Gyeonggi-do's five cities and counties (Gapyeong-gun, Yangpyeong-gun, Dongducheon-si, Gwacheon-si, and Yeoncheon-gun) have more traffic on weekends than weekdays. These five cities and counties are weekend tourist destinations and are connected by Seoul metropolitan subway lines.

The 2018 City and County Public Transport Stories consisted of 14 stories. By combining the indicators of the subway station, two meaningful stories were drawn. First, the ratio of weekend traffic to weekdays is 95% in Gyeonggi-do, and 50 stations (about 23%) have more weekend traffic than weekdays. Second, the ratio of transit (bus + train) to direct transfers in Gyeonggi-do is 28%, and 9 stations (about 4%) have more transit traffic than direct transfers.

"The story of Gyeonggi-do public transport for the last 9 years" consists of 15 stories. Four meaningful results were obtained through time series analysis of the purpose of public transport traffic. First, for the past nine years, Gyeonggi-do's public transportation traffic peaked in 2014 and after that it has declined. Second, most cities and counties in Gyeonggi-do have increased in public transportation for the past nine years, while six cities and counties (Ansan, Anyang, Gwacheon, Pocheon, Dongducheon, and Yeoncheon) have decreased. Third, the inequality index by the direction of Gyeonggi-do and Seoul time of public transport purpose traffic volume during the morning rush hour has increased for 9 years. Fourth, Gyeonggi-do's public transportation purpose traffic volume has increased in the use of multi-purpose vehicles, and among the multi-purpose vehicles, the usage rules of bus-trains have increased.

Keyword   public transportation, transportation card data