

A study on Loading Activities around the Railway Station for “EKINAKA” -In case of “ecute-Shinagawa”-

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Abstract: In Japan, commercial facilities such as retail shops are developed inside of the railway station building which is called “EKINAKA”. These commercial facilities make increasing the demand of logistics around the station. However, there is no analysis for the physical distribution and truck loading for retail shop inside the Station building. These activities may cause the negative impact for the regional transportation around station. Therefore, it is important to understand the actual condition of the logistics that loaded into EKINAKA shops. In this paper, the survey was conducted to understand the parking and loading condition of freight vehicles around the Station buildings.

Keywords: Logistics, Retail shop in Railway Station Building, EKINAKA, Loading Trucks, Logistics Basic Unit

1. INTRODUCTION

In recent years, Japanese railway companies face difficulties to be running the railway business due to decline future population. In order to secure profits, the railway companies developed commercial facilities for small retail shops in the railway station buildings, which is called EKINAKA, has been promoted as a pillar of the new earning and utilization of a station yard. Every year, it has been expanded to the new stations, regardless of inside and outside the ticket gate in the station buildings. However, the truck has been used as means of carrying goods to shop on EKINAKA.

In addition, in order to predict the number of trucks, it has used the basic unit of logistics volume based on the floor area of the “existing” commercial facilities in urban area. So, it is not enough to reflect the feature of EKINAKA, leading underestimation of the truck traffic volume. Moreover, these trucks might affect the other traffic such as buses, taxis and pedestrians. Therefore, the analysis of loading condition for EKINAKA is necessary to reduce the trucks entering the railway station.

In this study, the survey was conducted to understand the characteristics of loading activities that carried into the retail shops in EKINAKA, so that we can find the counter measure to improve the traffic condition around railway stations.

Non-EKINAKA Shopping malls. It was difficult to count the number of cargo because the loading space was inside of the station building where the survey was prohibited. Therefore, we have used the data at north side entrance (Takanawa) to analyze the Logistics Basic Unit for the EKINAKA. Logistics Basic Unit of EKINAKA was higher than Non-EKINAKA from 1.73 to 2.54 times. As mentioned above, there are many smaller shops in the station building (EKINAKA) so that Logistics Basic Unit becomes higher than retail shops in other areas. Moreover, if it was calculated by loading trucks only, Logistics Basic Unit was little lower than all vehicles which parked at loading bay.

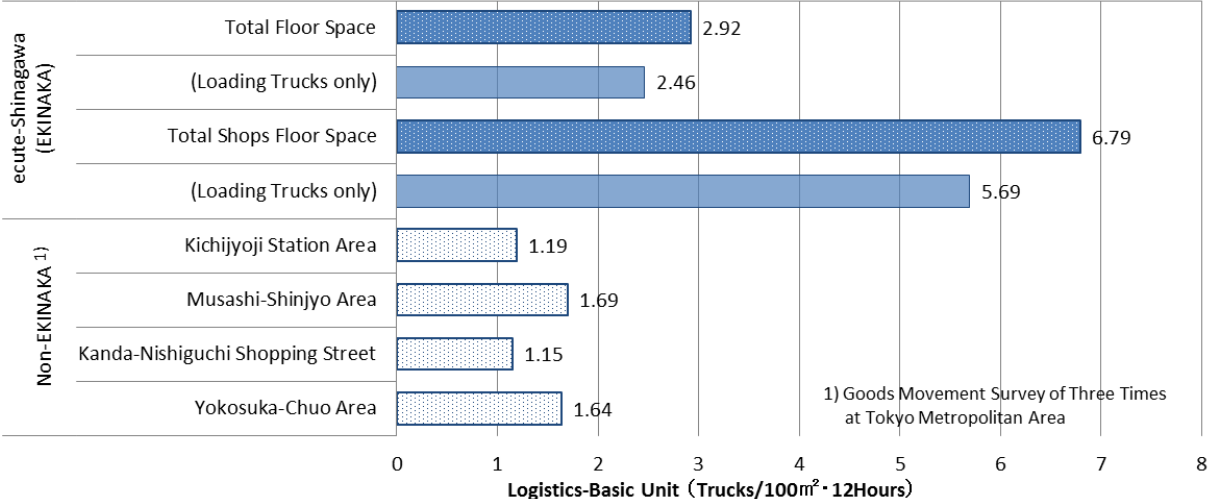


Figure 11. Comparing Logistics Basic Unit of ecute-Shinagawa and Non-EKINAKA

7. CONCLUSION

This study obtained the following knowledge from carried into the shops intended for cargo loading activities on EKINAKA.

- 1) Railway Companies are developing the commercial facility in the station buiding which is called “EKINAKA” and will be increasing logistics demand around the railway stations.
- 2) Logistics-Basic Unit in EKINAKA was up to 2.54 times as high as Non-EKINAKA of shopping malls in commercial facilities.
- 3) Co-operated delivery system has been introduced in ecute-Shinagawa that has advantages reduction of Parking Time but it’s difficult to apply all trucks.
- 4) There was a gap of peak time for carried cargo volume and arrival trucks. Loading cargo to EKINAKA would cause the conflict with passengers on the time zone of rush hours in the station.

From the viewpoints of traffic congestion and environmental problems, arrival trucks at the station must be reduced. Co-operated delivery system was one of the answer to solve the problems but it should be applied to all trucks which were carrying cargo to the station. In addition, it should be applied the counter measure for changing peak time of carried cargo. For the future study, it will be considered to use freight trains to reduce the carrying trucks into station buildings.

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