

Address System in Korea

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ABSTRACT

Address is basic information to find location as a code and an abstract concept for representing a location on the Earth's surface. It is also used in many areas such as public administration, legal and official areas, land titling etc. In Korea, address is recognized as the base information of life for the people as well as the key information of activities for organizations and companies in nationwide. Korea's address system used land parcel numbers which was given to each piece of land for identification since 1918, which was before the introduction of the road name address system. The aim of the study is to find out how Korean address system has changed and how to manage, maintain, and use the address information in Korea.

1. INTRODUCTION

Address are one of the most common ways to unambiguously determine an object for purposes of identification and location. Address reference systems vary from country to country according to their policy, economy, society, culture etc. For example, in the field of intelligent transport systems, an address can be considered as a simplified location system (as opposed to a coordinate reference system), where points of interest and post codes are addressing information applicable for in car navigation. In addition, addresses are used for a wide variety of purposes: postal delivery, emergency response, customer relationship management, land administration, utility planning and maintenance, to list a few. There

are many stakeholders involved in addressing system (activities involving addresses): for assigning the address (local governments, postal operators, etc.); for using addresses in various ways (customer service providers and electronic business, local and national governments, utility service providers, election commissions, etc.); and finding the address (citizens, delivery and emergency response service providers, etc.) (Coetzee and Bishop, 2009; Coetzee and Cooper, 2007).

Geographically, address is basic information to find location as a code and abstract concept expressing a location on the Earth's surface (including postal address). It is used in many areas such as a public administration, a legal, documents, land title etc.

The aim of this study is to introduce the new Korea address system, so called Road Name Address and to present the benefit of new address system.

2. PROBLEM STATEMENT

In Korea, address is recognized as the base of life for people and activities for organizations and companies. Korea's addressing system had used parcel numbers given to each land piece for land identification since 1918 before introduction of the road name address system. But there are many difficulties to find exact location, because the parcel number was given irregularly. To improve this, Korea government promulgated the Road Name Address Act in 2011 which was the first step to follow the international standardization in address systems.

Two addressing systems has been used in 2014. The one is parcel number address system which was based on administrative areas and (jibeon) parcel numbers, while the other one, which replaces the parcel number addressing system from Jan 2014, uses a road name and building number in order to identify unique locations.

With progress in industrialization and urbanization, arrangement of parcel number addresses got disordered and parcel sub-numbers increased. This made it more difficult for people to find locations. Parcel numbers are assigned to land parcels. However, size of parcel vary from few square meter to millions of square meters. In many cases, a single parcel number is unequal to a single building since multiple buildings belong to one parcel number. This made it difficult to mark an accurate location of a place. The continuity of parcel numbers were often broken because parcel numbers were assigned based on the date of land alteration. In Seoul, a meager 18.6% of parcel numbers remained in sequence and continuous. Due to the absence of address signs in most buildings, people could not locate places with parcel number addresses though they were close to the places. With

people using building and landmark names to find locations, instead of using parcel number addresses, various types of address information had been in mixed use.

To improve this inconvenience, the road name address system was implemented to find place easily. In this system, it was required to assign names to every road and install road name plates, give numbers to every building and install building number plates so that each building has a unique address.

3. ADDRESS SYSTEM IN WORLD

The United States has adopted an address system by street system, and the provincial government delegated to the city or county by the provincial government of the street name address, For Washington, the streets parallel to the roads passing east-west and north-south through the center of the city centered on the Capitol are defined as Street, and non-parallel roads are designated as Avenue. In the case of road addressing, first, horizontal lines parallel to the baseline of north and south are assigned sequentially 1, 2, and 3 Arabic numerals in the east-west direction from the road near the baseline, and horizontal lines parallel to the east. In the order of A, B and C in both directions, Buildings are numbered in the order of an odd number in the south and an even number in the north in the case of a building facing east-west roads. In the case of a building facing the north-south direction, the right side is given an odd number and the left side is given an even number. The building number is in block units, but the number of buildings within one block should not exceed 100.

United Kingdom has is no statute related to the mark of the address. The name of the road is decided by the local government committee. The building number is given by the post office. The UK is a long-established natural road network structure that gives road names in a variety of ways. Road names include

roads, streets, avenues, lanes, row, etc. to give a variety of names meaning roads. Rural areas use the address system by zip code area without establishing road sections.

France road name address system is based on the "Regulations on Address Indication" is delegated to the local government by the provisions of the Law on Local Autonomy, and the name and address of the street are decided by the Parliament. Depending on the size of the road, names are given as Boulevard, Avenue, Rue, Allee, Impasse, Place du Square etc. The building number is assigned to the odd number on the left and the even number on the right according to the road section. The base number is given at intervals of 15m.

China road name address system is operated by the government administration, the nomination is standardized and issued by the local government, and the road name plate is managed by the Public Security Bureau. The road network is divided into the line type and the zone type, and the hierarchy of the road is composed of weekly leading, secondary trunk road and ordinary road. The road name is the road reflecting the history and the street name is given based on commercial meaning. In the newly developed areas. The starting point and the end point of the road are set from east to west and from north to south depending on the direction of the road. The address notation is made up in the order of name, residence name, road name and building number. The building number is odd numbered on the left side, the area is numbered in English "S" (kwak, 2014)

4 ROAD NAME ADDRESS SYSTEM

4.1 Promotion of road name address

Promotion of the road name address started in 1996 by the National Competitiveness Enhancement Planning Group to give directions to the Ministry of Interior. In 2006, the Act on the Expression of Road Names, etc. was enacted and promulgated. Enforcement Ordinance of the

same Act and Rule of the same Act was enacted in 2007. Its name was changed to Road name address law in April 2009. According to the law, the new address system was implemented on three phases. In the first phase, road name address project conducted as a pilot project to introduce new address system by road system. In the second phase of the project, systematic management of city information and the introduction of computerized system to search the address through internet and to provide location information service was conducted. The third phase of road name address system focuses on the development of additional functions such as tourist guide, real estate transaction, including geographical information, to promote the informatization of the local area and build the information system of citizen center (consumer) to provide information on all buildings and land, including road names, for information sharing with the public sector such as the system and fire emergency command system. As a result of pilot project, Korea government found some problems in the legislation. For this reason, legislation for road name address system was reviewed by Road Name Supporting Group and finally amended "Road Name Address Act was enforced in 2009. Based on the Act, 160,000 roads across the country were assigned road names and all 6.5 million buildings were given numbers, and their corresponding road nameplates and building number plates were installed. The Act also obligated the government to gather people's voices when assigning road names and notify road name addresses to about 34.7 million individual users from March through June, 2011. But the actual enforcement was started in 2014 due to a social customs (Go, 2013).

4.2. Road name Address system

This is the method of expressing the address of the building by the road name, base number, building number, and detailed address. A road name is assigned to a road, and a building

number is regularly assigned to a building in accordance with the road, and the road name, building number, and detailed address

In consideration of straightness and continuity, the road section should be set in the direction of west → east, south → north. Road names are street numbers from east to west, north to south, building numbers to the left are odd numbers, and even numbers are assigned to the right.

Road name is the name given to each section of the road. According to the road classification standard, name are given as Dae ro (more than 40m or 8 cars), Ro (4 to 12m or 2 to 7 lanes), Gil (other roads). Building number is odd number on the left, even number on the right.

4.2.1 Road name Addressing method

The serial number system is a road name system using the serial number according to the order of branching from “road name + serial number + road” to “road” branching from “Dae ro / Ro”, The basic number system is a road name system based on the base number of branching to “road” which is branched from “Dae ro / Ro” to “road name + base number + road”. “Number Road” and “road” are recognized in a similar way, but they actually have different meanings and different locations.

In the other numerical method, use the serial number that matches the regional characteristics in the Ro / road of a certain area, and give it to Sajik 1 Gil, Sajik 2 Gil, Baek Song 1 Gil etc. In case of additional branching, the road name addressing is added to the 'Road' branching from the 'Road' by A, B, C, D of the basic numbering method or the serial numbering method

4.2.2 Building numbering method

The building number is given on the basis of a large road when a doorway comes in contact with two roads. However, it can be selected if the building owner wants it.

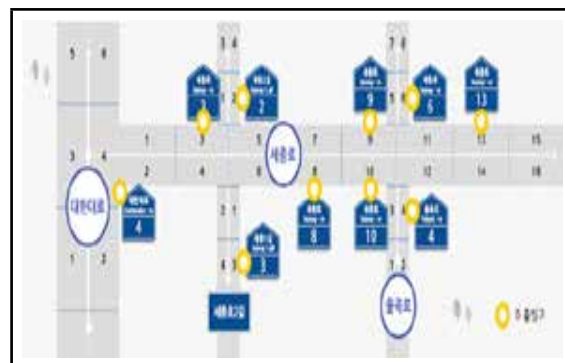


Figure 1 Building numbering 1

If there are several buildings in one section or a dependent section on one section, use the " - " to indicate the building's sub attachment.



Figure 2 Building numbering 2

An underground shopping mall located on the roadway marks the " Underground (Jiha) " in front of the building number.



Figure 3 Underground numbering

The detailed address is the dong, floor, and ho information displayed behind the building number of the addresses. The address is given to buildings renting houses, such as

commercial buildings and residential buildings. If the building's dong, floor, ho are classified separately, indicate 'Dong', 'Floor', or 'ho'. If the meaning of the floor is included in the ho, 'Floor' is omitted. Also, connect the words 'Dong' and '-' instead of 'Ho' and read 'Dong' and 'Ho' when reading.

4.3. Update of road name address information

Korea Address Information System(KAIS) is a system that manages the Lifecycle of addresses related to the national public law that are granted, changed and abolished the road name addresses given by Article 2 of the Road Name Address Act. When a road name or a building is given or changed, a legal address is created by notifying the corresponding owner or occupier and notifying the corresponding street name address. The announced address will be collected in real time and provided on the road name address homepage (www.juso.go.kr). The purpose of operating this system is to support the address business of local autonomous entities such as road name address creation, change and abolition

The KAIS system consists of spatial information such as roads and buildings, and property information such as road names and building numbers. In order to efficiently express geospatial information, land use, lot number and topographical information are used in conjunction with cadastral maps and topographic maps. Information related to land movements and the name of the building is automatically linked with the land register. When a new address is created, the postal code is created in conjunction with the postal business headquarters to manage the street name and postal code together to KAIS system. Also KAIS provides location information of the electronic map to the fire department, police, etc. through spatial information and attribute information, road name address and postal code, and provides a road name code for searching and managing

the address. Provide fast and stable road name address conversion by providing mapped data of road name address and lot number address for efficient address transition to organizations managing branch-based addresses. Also it provides a standard API that can check the road name address corresponding to the lot number address corresponding to the road for citizen use. According to government report, road name address system effect to establish infrastructure to strengthen national competitiveness and to build location system optimized for emergencies such as Firefighting, crime prevention, disaster and other emergency situations, etc. Especially providing free supply of road map is to reduce location-based service market by 49.5 billion won. In addition, It is possible to find the location by road name address, saving time by 30 ~ 50% * compared to lot number (MOIS, 2014).

5. CONCLUSION

Address becomes one of key information to find exact location in Korea. There are many remarkable outcomes for few decades in Korea. such as semiconductor, cars, wireless devices, etc. Changing address system is one of big social issue until now but unchanged fact is impossible to find exact location by parcel based address. As mentioned above, the road name address have positive aspect to find location without maps and any devices. So that the road name address system came out as a only solution. This paper introduced the road name address system in Korea. But there are still some difficulties in address such as expressway rest area, buildings on the river, building over the road, underground market, and parking lot in mega building.

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