Toponym gazetteer system of our country's new address system of the Republic of Korea

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- Backgrounds

- Introducing ‘a new address system of Korea’
  - Land-lot/land parcel name → road and street name

- Toponym gazetteer in the new address system

- Mapping of geographical names of road name system

- Conclusions
Backgrounds

- Geographical names (toponyms, place name) are a signpost to the past (Gelling, 1988), and have been a major source for studying the historical and cultural heritages.

- New address system, which is based on the names of streets and roads, took full effect starting Jan. 1 2014
  - It has replaced land lot number based address that were used for almost one hundred years.

- Toponym database is also serviced in the new address system
  - It contributes advancements in toponymical studies and spatial science
  - It enables to exam spatial patterns of toponyms and their spatial geographical association with other features.
Address and geographical name:
Old address system and new address system in ROK

Old address system

• Land-lot boundary
• Land-lot name
  • -dong as sub-municipal level division

New address system

• Road network
  • -daero (8 lanes), -ro (2~7 lanes), -gil (~ 2 lanes)
• Road name
  • Existing land-lot, historical, administrative, etc
Road Address System - Introduction

Details about Format of Road Name Address

- **Previous Format**

- **Road Name Address**

- **-dong/-floor Apartment name**
  - `equal`

- **-bunji -dong/-ri**
  - `change`

- **-eup/-myun, -city/-gun/-gu, city/-do**
  - `similar`

- **Private House**
  - 6, Banpo-daero 23-gil, Seocho-gu, Seoul

- **Commercial Building**
  - 1403-ho, 209, Sejong-daero, jongno-gu, Seoul

- **Apartment**
  - 505-dong 1402-ho, 5, Yeouinaru-ro, Youngdeongpo-gu, Seoul

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The comparison of the Previous Format and Road Name Address

<table>
<thead>
<tr>
<th>Division</th>
<th>Previous Format</th>
<th>Road Name Addresses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>-bunji -dong/-ri</td>
<td>Building number, Road name</td>
</tr>
<tr>
<td>Use</td>
<td>Land management (Land number)</td>
<td>Position Information (Building number)</td>
</tr>
<tr>
<td></td>
<td>Property protection</td>
<td>Address signification</td>
</tr>
</tbody>
</table>
Examples of road naming in the new address system

- Principle 1 – “All the roads and streets are assigned identifying geographical names.”
- Principle 2 - The road name, mainly –daero (over 8 lanes) and –ro (2~7 lanes), are to be named after a feature in the area
- Such as, ideally, …
- Daehak-Ro (대학로, 大學路, University Street) near a university (대학, 大學)
- Sagik-ro (사직동, 社稷洞, Sagik Street) which lies in Sajik-dong after the neighborhood (dong) where they lie
English notation of Road Name Address

### Notation Format for main districts

**District Name**

Following Romanization rules for Korean letters, district names are written in Romanization.

In case of Seoul (called a special city) and metropolitan cities, -si can be eliminated.

**Road Name Address**

Road Name Address is written in Romanization.

Road Name Address includes '-daero, -ro, -gil(beon-gil)

※ If necessary, English abbreviations (Blvd. St. Rd.) are applied.

<table>
<thead>
<tr>
<th>Example)</th>
<th>Example)</th>
</tr>
</thead>
<tbody>
<tr>
<td>서울특별시 강남구 강남대로 10길 109</td>
<td>경기도 양주시 시민로 5번길 18</td>
</tr>
<tr>
<td>109, Gangnam-daero 10-gil, Gangnam-gu, Seoul</td>
<td>18, Simin-ro 5beon-gil, Yangju-si, Gyeonggi-do</td>
</tr>
</tbody>
</table>
Database structure of the new address system of Korea and road name data files

• The new road name address system has been integrating with GIS

• Four main database schema related to road name – boundary (polygon), building (point, polygon), road (line), district (polygon)

• 11 layers of 4 main schema
  • 4 layers for boundary, 3 layers for building, 3 layers for road, 1 layer for district

• Toponym fieldname is included in the road layers
  • Road name field (Korean and English)
  • Naming reason field: notated with 10 categories on the roads -daero (Boulevard), -ro(Street), -gil(Road)
Naming reason field notated with 10 categories
- Data file structure related to toponym of roads in the new address system

<table>
<thead>
<tr>
<th>테이블명</th>
<th>컬럼명</th>
<th>한글컬럼명</th>
<th>데이터타입</th>
<th>날여부</th>
<th>PK</th>
<th>FK</th>
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</thead>
<tbody>
<tr>
<td>RDS_DPN_SE</td>
<td>도로구간총속구분</td>
<td>VARCHAR2(1)</td>
<td>NULL</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
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<td>기점</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>REP_CN</td>
<td>종점</td>
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<td>No</td>
<td>No</td>
</tr>
<tr>
<td>ROAD_BT</td>
<td>도로폭</td>
<td>NUMBER(9,3)</td>
<td>NULL</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>ROAD_LT</td>
<td>도로길이</td>
<td>NUMBER(9,3)</td>
<td>NULL</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>BSL_INT</td>
<td>기초간격</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>ALWNC_RESN</td>
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<td>VARCHAR2(254)</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
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<td>No</td>
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<tr>
<td>MVMN.DE</td>
<td>이동일자</td>
<td>VARCHAR2(8)</td>
<td>NULL</td>
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<td>No</td>
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<tr>
<td>OPERT.DE</td>
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<td>No</td>
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<tr>
<td>SIG.CD</td>
<td>시군구코드</td>
<td>VARCHAR2(5)</td>
<td>NOT NULL</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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<tr>
<td>RDS_MAN_NO</td>
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<td>NUMBER(12)</td>
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<td>No</td>
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<tr>
<td>RN</td>
<td>도로명</td>
<td>VARCHAR2(80)</td>
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<td>No</td>
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<tr>
<td>RN_CD</td>
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<td>VARCHAR2(7)</td>
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<tr>
<td>ENG.RN</td>
<td>영문도로명</td>
<td>VARCHAR2(80)</td>
<td>NULL</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>NTFC.DE</td>
<td>고시일자</td>
<td>VARCHAR2(8)</td>
<td>NULL</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>WDR_RD_CD</td>
<td>광역도로구분코드</td>
<td>VARCHAR2(1)</td>
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<td>ROA_CLS.SE</td>
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<td>VARCHAR2(2)</td>
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</tbody>
</table>
An example of toponymic data structure – a GIS attribute table
Road network, Cheongju-city, Chungcheongbuk-do, ROK
Road name classification
– broad categories and sub-types

• Four broad categories
  • Human geographical name
  • Physical geographical name
  • **Administrative name**
  • Others

• Six sub-types
  • Historical aspects
  • Topographical features
  • **Current administrative names**
  • Landscape and landmark
  • Other sites
  • Other miscellaneous

• Toponym classification of the new address system
  • Four categories according to the National Atlas of Korea (2007) and national gazetteer of Korea
  • Six sub-types by ten guidelines by Dept. of Interior of Korea

• Spatial distribution and pattern of the geographical names
  • Mapping of specific toponyms and exploration of the concentration
A map of four categories of the road names by ‘National Gazetteer of Korea’

- Human geographical name
- Others
- Administrative name
- Physical geographical name
A map of six sub-types of the road names
Daero (Blvd.) and Ro (Street)
Spatial density map
– 4 toponym categories by ‘National Gazetteer of Korea’
Spatial density map: 4 toponym categories by ‘National Gazetteer of Korea’

- Human geographical name
- Physical geographical name
- Administrative name
- Others
Conclusions

• Although the details of address system have changed dramatically over time, the basic outline of the land-lot based address system is still used in the public as usual, especially communicating with local residents in daily life.

• Approximately 35 percent of the land-lot names used in former address system have not been assigned into the new road name system.

• Many Koreans have noted objections to the elimination of geographical names as neighborhood identifiers, which have been no longer used in the new address system.
Issues to be discussed

• How to tackle the elimination of geographical names in the new address system
  • e.g. confusion, resistance by local residents
  • “A road name is neither my village name nor neighborhood names”

• New road naming
  • Constructing new roads, extending and connecting with other roads
  • Local residents requesting changing road names
Thank you very much for your attention

Questions & Answers

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