Shared vocabularies: Deriving geospatial data of varying levels of detail

Jagadish Boodala, Onkar Dikshit, and Nagarajan Balasubramaninan
(jaggubreddy@gmail.com, onkar@iitk.ac.in, and nagaraj@iitk.ac.in)

Department of Civil Engineering
Indian Institute of Technology Kanpur
Introduction
Introduction
Data specifications

NMAs and EuroGeographics
NMAs Master data (larger than 1:50K), EBM (1:100K), ERM (1:250K), EGM (1:1M)

ESDIN
ExM large scale (larger than 1:50K)
ExM medium scale (1:100K to 1:500K)
ExM small scale (smaller than 1:500K onwards)

INSPIRE
(Scale Independent)

ELF
(Scale Independent)

OS MasterMap
(1:1250 to 1:10K)

OS OpenData
(1:10K to 1:250K)

(Boodala et al. 2020)
Data specification elements

- Application schema
- Attribute
- Codelist
- Constraint
- Definition
- Feature

- Feature catalogue
- Feature type
- Portrayal
- Portrayal context
- Registry
- Vocabulary

(ISO/TC 211 TMG)
Feature matching

- OS Open Map - Local (1:10K) - *RailwayTrack* (Ordnance Survey 2016)
  - Definition: “*All railways are represented as lines and are broken where they pass under bridges, buildings or other obstructing detail. Railway sidings and the tracks of travelling structures are not included.*”
  - Feature type: “*RailwayTrack*”
  - Geometry: “*GM_Curve*”
Feature matching

• ERM (1:250K) - Railway (BKG-Germany 2017)
  • Definition: “A rail or set of parallel rails on which a train or tram runs.”
  • Feature class: “RAILRDL”
  • Feature type: “Line”
  • Portrayal criteria:
    “ ................
    The length selection is min. 1600 meters.
    ................ ”
  • Selection criteria:
    “ The minimum accepted area size is 0.06 km².
    ......................
    The minimum length of an edge between two connected points should be 50 m .......... ”
Feature matching

• ExM medium scale (1:100K to 1:500K) - *RailwayLink* (Hopfstock 2010)
  - Definition: “A linear spatial object that describes the geometry and connectivity of a railway network between two points in the network.”
  - Feature type: “RailwayLink”
  - Geometry: “GM_Curve”
  - Selection criteria:
    “…………..
    Ending (dangle) railway lines shorter than 1600 m are excluded (if not nationally important and if they are not connected to the railway nodes).”
    “………………
    Minimum accepted area size: 0.04 km².
    Minimum length of a line between two connected points: 50 m.”
Outcome

Workshop - Achieving a shared understanding of concepts 15 April 2021
Observation

• How can we control the codelist values as the level of detail changes?
References


Thank you