HISTORICAL TRAVEL AND COMMUNICATIONS
IN FINLAND: PILOT PROJECT DATA

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GENERAL GUIDE

This dataset contains a proof-of-concept GIS database of over 29,000 individual historical road polyline segments as a shapefile dataset, covering over 11,000 km^2 in the western Finland from the city of Turku to northern parts of the province of Satakunta (*see figure*). These polylines capture the regional layout of the overland transport infrastructure of late nineteenth and early twentieth century Finland.

The study of historical travel and communications networks has the proven potential to yield significant new understandings in political, social, economic and cultural history across spatially and temporally extensive scales. A key development that has over the last decade unleashed this promising turn and furnished a wide range of analytical approaches is the adoption of Digital Humanities methods, including Geographic Information Systems (GIS) analysis and Spatial and Social Network Analysis.
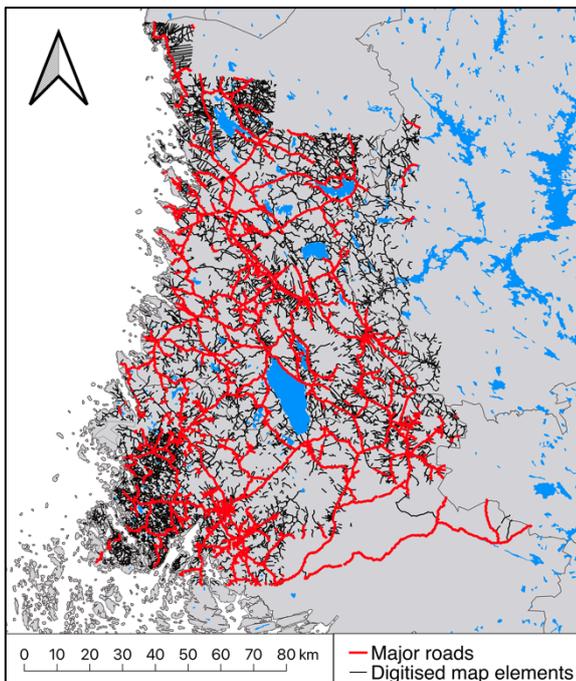
Participating in these scientific developments, the pilot project *Historical Travel and Communications in Finland* (HISCOM) was conducted at the Faculty of Arts, University of Helsinki, from March to September 2022. Eljas Oksanen and Anu Lahtinen co-coordinated the project with Ida Saarenpää as research assistant. The pilot project was funded by a grant from the Faculty of Arts Future Fund. With the study of historical road line digitisation methodologies as its principal focus, this pilot project also produced the data now opened at Zenodo.org as a pre-publication dataset.

The source material for the project was the Senate Atlas, created by the Russian military administration in 1870-1907 at scales 1:21,000 and 1:42,000 and covering southern Finland (Strang 2014, 2020). The Senate Atlas was selected as our methodological case as the oldest Atlas source combining wide coverage with reasonable geographical accuracy.

The roadline digitisation process was based on workflows formulated in *The Occupational Structure of Britain 1379-1911*[1] and the *Travel & Communications in Anglo-Saxon England*[2] projects in the UK, in particular by Stuart Brookes (UCL) and Max Satchell (University of Cambridge). These projects used the principle of chronological map regression, which allows large-scale digitisation projects to be completed within reasonable timescales and significantly reduces the risk of inaccuracies created by manually drawing road lines.

In HISCOM, roadline vector polyline segments by the National Land Survey of Finland topographic map 1:100.000 that depict the modern road network were used as the base reference data.[3] Comparing the Senate Atlas to this data, visually matching road sections were selected and copied to a shapefile layer. The original attribute data fields for the roadline segments were preserved, with one further field (*Tietyypit*, or road categories) added to record road types as per the Senate Atlas symbology used. The road types are: 1 – main roads (*yleiset tiet*); 2 – parish roads (*kirkkotiet*); 3 – village roads (*kylätiet*); 4 – cultivation roads (*viljelystiet*); 5 – paths (*polut*); and 6 – winter roads (*talvitiet*); finally, segments with value of 0 are uncategorised. Roads on the Senate Atlas that could not be matched with modern road segments were reconstructed with reference to satellite imagery, topographical data and other available archaeological and physical landscape data. The new polyline segments can be easily identified as their attribute data value is 0 in the field *Kohderyhmä* (group type). For more, see the metadata document.

It should be noted that this is not a final, edited, cleaned and corrected dataset, but a raw pre-release dataset to open the materials produced during the pilot project for further comments, methodological suggestions and potential end-user feedback. For example, as methodologies and digitisation approaches were tested during the project not all areas were digitized with equal roadline density. Further, a number of other map features, in particular probable control lines created by land surveyors, were also included as the symbology used to depict them are identical to the so-called 'winter roads' (routes across fields and frozen lakes used during winter).

Based in this pilot project, the Academy of Finland has funded (grant decision no. 354314) the four-year research project *Historical Travel and Communications in Finland, c. 1650 – 1917* starting in September 2023 at the University of Helsinki. This project will aim to digitize a complete network of major roads in southern Finland during the Early Modern period, producing both quantitative and qualitative analyses to inform a new assessment of historical change in the character of travel and communications. For further information on these projects, see:

Oksanen, Eljas, Saarenpää, Ida. and Lahtinen, Anu. 2023. The HISCOM Project. Exploring Methodologies for Large-scale Digitisation of Historical Roadways. **SKAS** 2/2022, 8-14.

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For metadata, please see the adjoining document *hiscom2022_metadata.xlsx*. The metadata scheme uses the Archaeology Data Services standard template for GIS datasets.[4]

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[1] Website: https://www.campop.geog.cam.ac.uk/research/occupations/
[2] Website: https://www.ucl.ac.uk/early-medieval-atlas; digital outputs: https://doi.org/10.5284/1055092
[3] Website: https://www.maanmittauslaitos.fi/en/maps-and-spatial-data/expert-users/product-descriptions/topographic-map-series-vector
[4] https://archaeologydataservice.ac.uk/help-guidance/instructions-for-depositors/files-and-metadata/

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