

Map of Olomouc Changes Over Time

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Abstract:

The city of Olomouc, with its rich military and urban development history, is a prime example of how European cities have evolved over centuries. From its 13th-century medieval stone walls to the bastion fortress completed during the reign of Empress Maria Theresa, the city reflects significant architectural and functional changes. These fortifications, designed by Colonel Pierre Philippe Bechade de Rochepin and private contractors in the 18th century, were expanded following the Prussian siege in 1758 and decommissioned in 1888. Today, remnants of these structures contribute to Olomouc's cultural identity and heritage.

To document and explore this evolution, we developed an interactive web-based mapping application that visualises the transformation of Olomouc across time. The application consolidates over 50 georeferenced historical maps and plans of the city, spanning from the 15th century to the present. This includes historical maps (1643, 1686, 1744, 1756, 1758, 1765, 1769, 1805, 1827, 1833, 1836, 1841, 1842, 1854, 1858, 1867, 1870, 1877, 1899, 1900, 1910, 1919, 1920, 1923, 1930, 1935, 1940, 1946), aerial photographs from the Army of the Czech Republic (e.g., 1927, 1971, 1974, 1978, 1991, 1994), urban development plans (1930, 1955, 1985), and orthophotomaps (from 2000 onwards in two-three-year intervals). One particularly significant addition is the Plan of Olomouc and the Suburbs Before the Construction of the Theresian Fortress (circa 1742–1743), which was recently discovered in archives through collaboration with historians.

The maps were meticulously georeferenced to align with modern cartographic standards, a process that was especially challenging for older maps depicting structures that no longer exist. This georeferenced dataset serves as the foundation for the web application, which was developed using the Leaflet library. Users can interactively compare maps from different time periods using two primary tools: side-by-side multiple views or a swipe function that overlays maps. This functionality allows for direct visual comparisons of Olomouc's historical and contemporary landscapes, providing valuable insights into urban and architectural changes.

Beyond visualisation, the application includes detailed metadata for each map, offering users contextual information about their origins, authorship, and significance. For example, users can learn about historical estimates of building demolition costs or land acquisitions from specific maps. These descriptive elements enhance the educational value of the platform, making it a robust tool for researchers, educators, and the general public.

The project builds on the success of the earlier Olomouc from Above initiative, which showcased the city's historical orthophotos. The new application provides a comprehensive resource for understanding Olomouc's spatial history by integrating diverse cartographic sources. It fosters public engagement with the city's past and supports historical, urban, and cartographic studies by creating an accessible, interactive framework that bridges historical legacy and modern technology. This project underscores the potential of interactive cartography in preserving and promoting cultural heritage.

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