

Beyond zoned land use: Inferring spatial activity patterns from social media posts

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Abstract

Mobile social media posts are often related to place-based activities like recreation, dining, sightseeing, or public events — and the spatial activity patterns that emerge from such data can inform city planning. This research implements a prototype analysis for the city of San Francisco in which we use the text and location content of public, geotagged social media posts to identify place-based themes using a probabilistic topic model of word occurrence across spatial clusters of posts. The resulting patterns (1) are confirmed by zoning data and business listings, and (2) provide information about activities like outdoor recreation and sightseeing that are hard to infer from traditional characterizations of land use. This analysis highlights disconnections such as recreational activity in areas with limited pedestrian facilities and the predominance of “destination” shopping districts in social media.

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