



Rethinking Numbers in Urban Design: Automated Pedestrian Counts and Social Activities in Dilworth Park

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While urban designers have expanded their research interests beyond conventional public spaces to include non-space and temporal dimensions, their research methods have remained unchanged. Urban design scholars have primarily examined the quality of physical settings and human behavior in public spaces, the most important and unchallenged factors to assess the success of public spaces, through direct observations of users. However, a lack of new research approaches may limit the development of new insights into public use of space.

I explore the potential use of automated pedestrian walk count data in urban design research. The Center City District (CCD) research group used computer vision to collect automated pedestrian walk data from Dilworth Park, Philadelphia. By comparing the count data and participant observations of social activities in the park, we found that the frequencies of social activities in the park could be predicted by the pedestrian count when considering the outdoor thermal comfort index and the types of events taking place in Dilworth Park. By examining correlations among multiple sensors, we found that the entry-exit correlation is a useful indicator to assess how people use public space by estimating the ratio of necessary to optional activities.