

CITY GEOSPATIAL DASHBOARD

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Introduction

City Geospatial Dashboard is a web based interactive geospatial data analysis platform for city and urban planners by utilizing big data such as mobile call detail record (CDR), GPS trajectory, and data from IoT (Internet of Things) based real-time data collection platform.

Aim

To collect, visualize and analyze big data for urban and transportation planning.

Outcomes

R01: Hourly Grid Population

Hourly 100m square grid population estimated from one-week mobile CDR data with satellite generated land cover and national census.

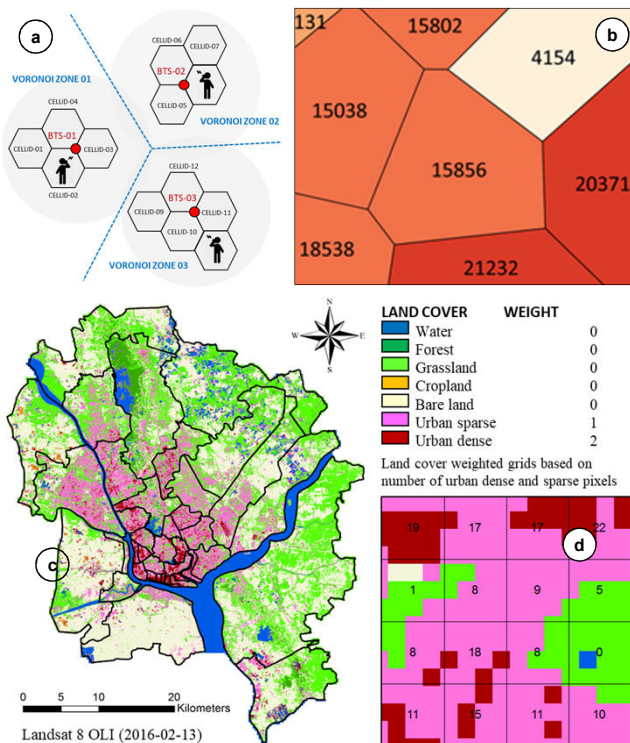


Figure 1: Mobile CDR data disaggregation (a) CDR network; (b) Voronoi diagram aggregated by hourly calls; (c) Land cover generated from Landsat 8; (d) Land cover weighted grid data for CDR data disaggregation

References

- Lwin, K., Sekimoto, Y. and Takeuchi, W. (2018). Development of GIS Integrated Big Data Research Toolbox (BigGIS-RTX) for Mobile CDR Data Processing in Disasters Management. *Journal of Disaster Research*, 13(2). https://www.jstage.jst.go.jp/article/jdr/13/2/13_013/13_013_01
- Lwin, K.K., Sekimoto, Y., Takeuchi, W. (2018). Estimation of Hourly Link Population and Flow Directions from Mobile CDR. *ISPRS-International Journal of Geo-Information*, 7, 449. <https://doi.org/10.3390/ijgi7110449>

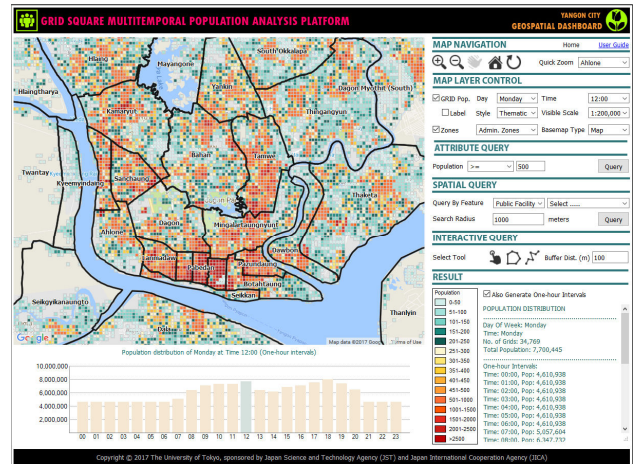


Figure 2: Web GIS for interactive hourly grid population analysis platform <https://harmony-geospatial-analytics.com/geospatial-dashboard/popgrids>

R02: Hourly Link Population and Flow Direction

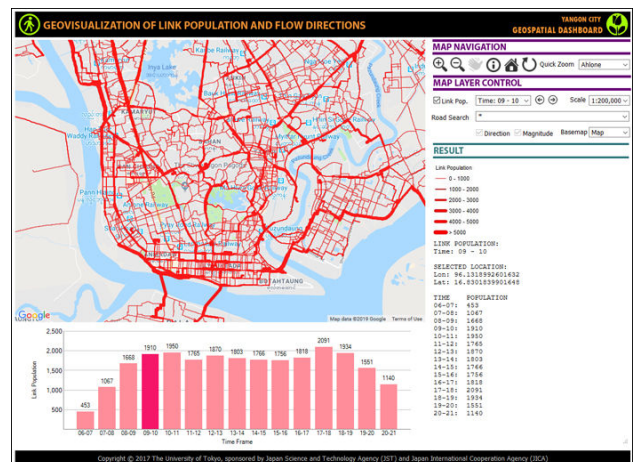


Figure 3: Hourly link population (magnitude) at time between 09:00-10:00 <https://harmony-geospatial-analytics.com/geospatial-dashboard/poplinks>



Figure 4: Hourly link population flow direction at time between 06:00-07:00