

SAMPLE REPORT · GEOSPATIAL ANALYTICS

Infrastructure & Urban Analytics Report

Urban Growth, Infrastructure Gap and Accessibility Assessment

Spatial analysis of built-up expansion, infrastructure coverage gaps and mobility accessibility for a sample urban agglomeration (pop. ~380,000). Covers 2013–2023 growth trajectories and service-level deficits.

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Report reference	GSA-IUA-2025-006
Date	July 2025
Status	Sample / Illustrative

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SECTION 1

Urban Growth Analysis (2013–2023)

Study area	Sample Urban Agglomeration — 12 wards + 6 peri-urban villages
Population	378,000 (Census 2021); projected 432,000 by 2031
Built-up 2013	4,820 ha (Landsat-8 OLI classification; OA 89%)
Built-up 2023	6,740 ha (Sentinel-2 MSI; OA 91%) — +39.8% in 10 years
Expansion direction	Primary: south and south-east corridors (NH-58 influence)
Infill vs sprawl	61% sprawl (greenfield), 39% infill (densification)
Avg growth rate	3.4% per annum (compound; 2013–2023)

SECTION 2

Infrastructure Coverage Gap Analysis

Facility Type	Existing Count	WHO/UDPFI Norm	Gap (no.)	Coverage (%)
Primary schools (primary)	42	1 per 5,000	33	56%
Primary health centres	11	1 per 30,000	1	92%
Water supply points	284	1 per 200	606	32%
Bus stops / KSRTC halts	38	400m isochrone	—	47% of area
Public parks (>0.5ha)	7	1 per 15,000	18	28%
Fire station	2	4km response	1	68% covered

SECTION 3

Road Network & Accessibility Analysis

Road network length	1,840 km (OSM 2024; field-verified in 3 wards)
Paved road coverage	68% (estimated from Sentinel-2 spectral classification)
Average block size	3.8 ha (urban core); 12.4 ha (peri-urban)
% area within 400m walk of bus	47% of built-up area
% area within 800m walk of bus	71% of built-up area
Road density (urban core)	18.4 km/km ²
Road density (peri-urban)	6.2 km/km ²

Priority Intervention Zones

Zone	Ward(s)	Primary Gap	Recommended Intervention
Zone A	Ward 8, 9 (south-east)	School + water supply	2 new primary schools; 120 water points
Zone B	Peri-urban village cluster	Bus connectivity	3 new bus stop locations on feeder roads
Zone C	Ward 3 (inner core)	Green space	Convert 2 vacant plots to neighbourhood parks
Zone D	Ward 11 (industrial)	Road surfacing	8.2 km unpaved roads require paving

Infrastructure counts sourced from OpenStreetMap (2024 extract) supplemented by government facility registries. Coverage may undercount informal provision. Field validation recommended before investment planning.