

Benchmarks for Smart Cities

Sl.No.	Parameter	Benchmark
A	Transport	<ul style="list-style-type: none"> • Maximum travel time of 30 minutes in small & medium size cities and 45 minutes in metropolitan areas • Continuous unobstructed footpath of minimum 2m wide on either side of all street with RoW 12m or more • Dedicated and physically segregated bicycle tracks with a width of 2m or more, one in each direction, should be provided on all streets with carriageway larger than 10m (not ROW) • High quality and high frequency mass transport within 800m (10-15 minute walking distance) of all residences in areas over 175 persons / ha of built area • Access to para-transit within 300m walking distance.
B.	Spatial Planning	<ul style="list-style-type: none"> • 175 persons per Ha along transit corridors. • 95% of residences should have daily needs retail, parks, primary schools and recreational areas accessible within 400m walking distance. • 95% residences should have access to employment and public and institutional services by public transport or bicycle or walk • At least 20% of all residential units to be occupied by economically weaker sections in each Transit Oriented Development Zone 800m from Transit Stations • At least 30% residential and 30% commercial/institutional in every TOD Zone within 800m of Transit Stations
C.	Water Supply	<ul style="list-style-type: none"> • 24 x 7 supply of water • 100% household with direct water supply connections • 135 litres of per capita supply of water • 100% metering of water connections • 100% efficiency in collection of water related charges
D.	Sewerage & Sanitation	<ul style="list-style-type: none"> • 100% households should have access to toilets • 100% schools should have separate toilets for girls

		<ul style="list-style-type: none"> • 100% households should be connected to the waste water network • 100% efficiency in the collection and treatment of waste water • 100% efficiency in the collection of sewerage network
E.	Solid Management Waste	<ul style="list-style-type: none"> • 100% households are covered by daily door-step collection system. • 100% collection of municipal solid waste • 100% segregation of waste at source, i.e. bio-degradable and non-degradable waste • 100% recycling of solid waste
F.	Storm Drainage Water	<ul style="list-style-type: none"> • 100% coverage of road network with storm water drainage network • Aggregate number of incidents of water logging reported in a Year = 0 • 100% rainwater harvesting
G.	Electricity	<ul style="list-style-type: none"> • 100% households have electricity connection • 24 x 7 supply of electricity • 100% metering of electricity supply • 100% recovery of cost • Tariff slabs that work towards minimizing waste
H.	Telephone connections	<ul style="list-style-type: none"> • 100% households have a telephone connection including mobile
I.	Wi-Fi Connectivity	<ul style="list-style-type: none"> • 100% of the city has wi-fi connectivity • 100 Mbps internet speed
J.	Health Care Facilities	<ul style="list-style-type: none"> • Availability of telemedicine facilities to 100% residents • 30 minutes emergency response time • 1 dispensary for every 15,000 residents • Nursing home, child, welfare and maternity, centre - 25 to 30 beds per lakh population • Intermediate Hospital (Category B) - 80 beds per lakh population • Intermediate Hospital (Category A) - 200 beds per lakh population • Multi-Speciality Hospital - 200 beds per lakh population • Speciality Hospital - 200 beds per lakh population • General Hospital - 500 beds per lakh population • 10020 Family Welfare Centre for every 50,000 residents • 1 Diagnostic centre for every 50,000 residents • 1 Veterinary Hospital for every 5 lakh residents • 1 Dispensary for pet for every 1 lakh residents

K.	Education	
1.	Pre Primary to Secondary Education	<ul style="list-style-type: none"> • Area equivalent to 15% of residential area for building hospitals • 1 Pre Primary/ Nursery School for every 2,500 residents • 1 Primary School (class I to V) for every 5,000 residents • 1 Senior Secondary School (Class VI to XII) for every 7,500 residents • 1 integrated school (Class I to XII) per lakh of population • 1 school for physically challenged for every 45,000 residents • 1 school for mentally challenged for 10 lakh population
2.	Higher Education	<ul style="list-style-type: none"> • 1 college per 1.25 lakh population • 1 university • 1 technical education centre per 10 lakh population • 1 engineering college per 10 lakh population • 1 medical college per 10 lakh population • 1 other professional college per 10 lakh population • 1 paramedical institute per 10 lakh population • 1 veterinary institute
L.	Fire Fighting	<ul style="list-style-type: none"> • 1 fire station per 2 lakh population / 5-7km radius • 1 sub - fire station with 3-4 km radius
M.	Others	<ul style="list-style-type: none"> • Use of renewable energy in all sectors • Rooftop solar panels on all public, institutional and commercial buildings as well as multistoried residential housings • Adherence to green building norms • Common ducting for all services • Double entry accounting on real time basis • 3D maps on GIS of property and all services - power, water supply, sewerage etc • Cities to formulate building and parking standards